PUBLIC PLANNING PROCESSES FOR POST-INDUSTRIAL PLACES:
Recommendations for Madison’s Oscar Mayer site from Milwaukee and Saint Paul

by
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B.A. Studio Art and English
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ABSTRACT

Urban industrial land is dwindling in cities, becoming increasingly in danger of conversion to other uses. The shuttering of factories across the country has led many municipal planning governments to consider how industrial land can be preserved in order to maintain land dedicated to employment for residents. At the same time, market pressures on individual industrial sites have shown that this same industrial land may be able to support a wide range of uses, depending on the level of contamination and its integration with the rest of the city fabric. These dueling pressures come to a head when large, prominent industrial employers close their operations in a municipality, leaving a gap in both the local economy and in the landscape.

Often redevelopment is largely private-sector endeavor, but the prominence of large industrial employers, the size of older industrial sites, the cleanup efforts required, the potential for rezoning these parcels, and the city goals that could be reflected in redevelopment of these sites inspire publicly led redevelopment planning efforts in some cases. Through case studies in Milwaukee, WI and Saint Paul, MN, this research uncovers some of the pressures and forces that guide public land use planning and decision-making on formerly industrial land at the site level.

Through analysis of the planning processes and tools used to respond to these pressures, land use planning recommendations are made for a third city: Madison, WI, where the Oscar Mayer headquarters was located from 1919 until it closed in 2017. Recommended actions for both the city-led committee and the ownership team include the use of scenario planning to model land use outcomes and measure the impact of different land uses through metrics and description; engaging community members in the strategic assessment phase of planning as soon as possible; tying employment goals directly to employment land through redevelopment performance requirements; consideration of mixed-use employment districts; and marketing the vision for the land to potential tenants and developers.
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In 2015, the newly-merged Kraft Heinz announced that its subsidiary Oscar Mayer would be closing its company headquarters and processing facility in Madison, Wisconsin after 98 years of doing business on the city’s East side. The future of the 72-acre site and the 1,000 employees who worked there were immediately a topic of rumor, debate, and speculation in the media, and among residents, interest groups, and city officials. After all, the site is located just over three miles from downtown Madison and the state capitol and is surrounded by relatively dense neighborhood fabric stretching many more miles to the edge of the city. The company itself, of Weinermobile and Weiner Whistle fame, represents an iconic piece of Madison identity and American manufacturing history more generally. Situated 3.5 miles away from downtown, the Oscar Mayer campus represents an opportunity for Madison to reimagine urban manufacturing in the city and address some of the city’s most pressing challenges in the process.

Questions about the implication of the headquarters closing swirled around the capitol city: Who would buy the site, and what other companies might locate there? What else might the land be used for? What would happen to the employees currently working there? Is it possible that Oscar Mayer would sell their urban industrial campus to the city of Madison for one dollar, and should the city buy it (Rath 2016)? What were the clean-up costs, infrastructure needs, and other uncertainties associated with the site itself? Would Foxconn, the Taiwanese company that specializes in manufacturing electronics, consider the Oscar Mayer site for a medical device manufacturing facility despite their known preference for a greenfield site (Beck 2017)?

Eventually, the city decided that the estimated cost of demolishing existing buildings, extending infrastructure to the site, and remediating the land was too great to take on, even if the price of the land itself was only a dollar. Early in 2017, Kraft Heinz announced that it had potential private buyer for the site: Reich Brothers Holdings, LLC. In June of that same year, the remaining employees at Oscar Mayer plant saw the last deli meat and hot dogs roll down the conveyer belt. And finally, after more negotiations with Kraft Heinz, Reich Brothers Holdings officially purchased the shuttered Oscar Mayer site in October 2017 and immediately listed the property on their website, beginning
their search for new tenants for the 1.7 million square feet of industrial and office facility and making plans to auction off equipment and other assets from the property with their new partner, Rabin Worldwide (Aadland 2017; Adams 2017).

Despite passing up the opportunity to buy the land themselves, the City of Madison Common Council approved funds for a Strategic Assessment and a Special Area plan for the Oscar Mayer site in June 2017. The council simultaneously approved the creation of a Strategic Assessment Committee to examine the site and make a plan for its future use and role in the city. According to the resolution, the Special Area plan will “lay out recommended land uses and zoning as well as multimodal transportation connections such as new public streets, bicycle connections, and linkages to transit” (City of Madison Finance Committee 2017). In late 2017, the Oscar Mayer Strategic Assessment Committee (OMSAC) had its first meeting, marking the beginning of a public land use planning process for privately held land. Though as of the writing of this master’s thesis the planning process in Madison has only just begun, there are already plenty of questions about how the process will proceed, and what the resulting Special Area plan will mean both for the City of Madison and for the new owners of the former Oscar Mayer site: What are the planning tools that cities can use to influence land use on urban parcels of this size and prominence, considering both private and public ownership of land? How do city goals affect site-level land use decision making? And finally, how does the planning process itself affect the mix land uses that are planned for a particular industrial redevelopment site?

The reuse, redevelopment, and/or rezoning of a large urban industrial parcel is a land use issue with both economic development and urban design implications for cities, affecting neighborhood character and quality of the public realm as well as availability of jobs in close proximity to city residents. Issues of city identity and memory, equity, and sustainable development principles are often considered at both city and regional scales through these processes, as evidenced by the wide-ranging agenda topics of the first few OMSAC meetings.

The challenge that Reich and Rabin faces to find new tenants or redevelop industrially-zoned land when a former use closes is not altogether uncommon. Despite a widespread trend of deindustrialization in US cities, urban areas can still be attractive sites for industrial firms, especially due to clustering of competing and competitive businesses, access to skilled labor, and proximity of many types of transportation options, and often despite the higher price of urban land in comparison to the urban edge or
rural areas and the potential presence of legacy buildings. These benefits have led to continued demand for urban industrial land, and owners hoping to redevelop and reuse land for industrial uses are often able to find new industrial tenants. What may be less common is that the change in ownership of the Oscar Mayer site would prompt a large-scale public planning process by the city, resulting in a public land use and redevelopment planning process for privately-held land, even as the owner team is working to find tenants for the existing buildings on the site.

One way to understand the possible paths forward for the Oscar Mayer site is to look to other cities who have anticipated plant closures on large parcels of industrial land and have responded with public planning processes. Through case study research of two sites and cities that share similar physical and regional characteristics to the Oscar Mayer site, this master’s thesis seeks to develop a deeper understanding of how other cities have confronted planning for redevelopment and reuse of large industrial sites that have become integrated into the urban fabric over time after their active industrial use ceases.

The two cases examined here are the Ford Site in Saint Paul, Minnesota, a 122-acre site that was formerly home to Ford’s Twin Cities Assembly Plant; and Century City in Milwaukee, Wisconsin, an 85-acre site that was formerly home to A.O. Smith and then Tower Automotive, manufacturers of automobile components. This research concludes with a series of recommendations for the Oscar Mayer site planning process in Madison, Wisconsin based on a distillation of the individual site histories, planning processes, and analytical findings from these two cases.
Data sources: City of Madison, Wisconsin; Dane County, Wisconsin; State of Wisconsin
The Oscar Mayer Site. Image Source: Reich Brothers, LLC (http://reichbros.com/)
Background and Literature Review

Why is industrial land important? What are the pressures on this land?
The history of the spatial distribution of industrial land use in the United States is often discussed with regards to monocentric cities and economic real estate models, the history of transportation, and more recently changing technology in both manufacturing processes and transportation. These historical land use location models hold that industrial uses locate where the combined cost of land and transporting goods was least expensive. Many cities in the US were originally centered around a rich core of industrial and manufacturing businesses and were typically clustered around waterfronts or railroad lines to allow for efficient and inexpensive transportation of goods and raw materials. After WWII, with the rise of the automobile as the preeminent form of transportation and the expansion of highway networks within metropolitan areas and beyond, the resulting fall in transportation costs allowed new industrial development to move to the edge of the city and the suburbs where land was less expensive. The way we use industrial land in continues to move and change, due to companies offshoring jobs and decentralizing their manufacturing operations across the country and landscape.

From peak manufacturing job employment in 1979 through 2010, manufacturing jobs have decreased in the US. Since 2010, both scholarly research and the media has noted a slow turnaround or stabilization in the manufacturing job sector, though the long-term outlook of this trend is unknown and manufacturing jobs represent an ever-smaller share of total employment in the US, even if the Midwest, which has been the region with the largest share of its economy dedicated to industrial production historically (Helper, Krueger, and Wial 2012; Florida 2012).

The relationship of economic trends to the spatial distribution of industrial land in cities and the resulting urban (or non-urban) form of industrial buildings is less clear. Today many industrial firms are choosing to locate at the edge of metropolitan areas or even further away, where land is still less expensive, often exhibiting the monotonous, horizontal typologies of warehouses and logistics (Waldheim and...
Back in the city centers, new land use dynamics are shaping the future of land that was once the place of employment for thousands. Industrial land that was once at the edge of the city has been subsumed by neighborhoods and transportation corridors and is now relatively close to the city center and transit hubs. Academics have noted the pressures that city officials and planning departments are under from the development community to allow industrial land to be converted to residential uses or mixed-use commercial, retail, and office uses, despite the potentially dangerous brownfields conditions in many of these sites (Dunham-Jones 2005; Dunham-Jones and Williamson 2009; Howland 2010). Others have noted that the smart growth practices prevalent in many cities, which champion walkable, dense neighborhoods centered around transit, seem to omit consideration of industrial land (Leigh and Hoelzel 2012) or even characterize its decline as a necessary stepping stone towards a post-industrial, more sustainable and efficient city (Bronstein 2009).

This land-conversion phenomenon may be more pronounced in growing cities where ever-intensifying housing shortages and resulting affordability crises create a pressure and market for dense multifamily housing. Leigh and Hoelzel posit that some of the key planning issues that underlie this trend are ad hoc rezoning of industrial land instead of intentionally creating zoning and land use that fosters a mix of uses and cost competition for industrial land by other uses (Leigh and Hoelzel 2012). They also note that literature about industrial land conversion had, for a while, considered industrial land to be obsolete and a barrier to knowledge-driven economies.

The productive industrial & manufacturing uses that do remain in urban areas are highly valued by contemporary planners and economic development professionals as key sources of jobs, especially because manufacturing jobs have historically been well-paid for the amount of education they require. Because of this, preserving, reusing, and redeveloping industrially-zoned land can become a proxy for preserving industrial jobs in a city, and city officials are digging their heels in to preserve historical industrial zones in an effort to preserve employment centers and districts close to transit and neighborhoods. The fluctuation in the industrial economy nationally and industrial land markets at the municipal and regional level has made this vision of integrated urban employment centers difficult to achieve, leaving many cities with vacant land, factories, and buildings. Some of this vacant land was once home to the biggest employers in cities and towns across the country.

*Can zoning preserve urban industrial businesses?*
Industrial land conversion dynamics are playing out in contemporary urban design and strategy literature as well. Recent literature discussing suburban retrofit and center city design is focused on replacing and updating conventional Euclidean zoning that separates with new regulatory and design tools to make suburban development more urban and dense – while industrial uses are not directly forced out, their conservation is not emphasized in this process (Dunham-Jones and Williamson 2009; Gamble and Heyda 2015). However, strategists that are focused on preserving urban manufacturing uses stress that land that is currently home to industrial jobs should not be rezoned, but that vacant industrial land could be considered for conversion to another use, noting that it is near impossible to rezone urban land to industrial after it has been rezoned for residential or commercial (Bay Area Urban Manufacturing Initiative n.d.).

Academics disagree about the effectiveness of preserving industrial zoning as a tool for preserving industrial uses in the city. A recent study titled Making Room for Manufacturing found that a parcel located in an industrial or manufacturing regulatory zone specifically designed to bolster industrial activity is at less risk for conversion to a different use (Lester, Kaza, and Kirk 2013). Others find that the size of the firm itself, in terms of jobs and sales, is a more important predictor of industrial land conversion in the inner strong industrial markets, positing that concerned policy makers should focus on supporting businesses themselves and should structure industrial land preservation regulation to target the types of land and space needed by growing firms rather than new ones (Chapple 2014).

What is the potential for mixed use industrial areas? Amidst this uncertain backdrop, a new type of hybrid land use is emerging that has the potential to respond to both concerns about industrial land being left out of the Smart Growth zeitgeist and the municipal desire to preserve manufacturing and industrial jobs at all costs. Mixed Use Industrial land use and the resulting zoning is inspired by new models of manufacturing facilities that fit well into urban contexts, as Timothy Love details at an architectural level in his article entitled “A New Model of Hybrid Building as a Catalyst for the Redevelopment of Urban Industrial Districts” (Love 2017). These new facilities are often cleaner, smaller, and quieter than their predecessors. Nina Rappaport, in her work entitled “Hybrid Factory Hybrid City,” extrapolates further into design strategy ideas for the urban hybrid scale, arguing that this hybridity has the potential to contribute to vital urban complexity, highlight innovation, and bolsters a holistic and resilient city through a more diverse and flexible built environment poised for re-purposing and re-use as needed (Rappaport 2017).

Mixed use industrial areas, incorporating commercial,
retail, services, and even residential uses alongside light industry is not exactly a new idea. Housing and public amenities were included in early industrially-centered company towns across the US. Even the Oscar Mayer company, soon after purchasing their new headquarters and processing plant in Madison in 1919, realized the demand for worker housing caused by their employees and built 50 affordable homes in response (Mollenhoff 2003). However, as a tool for retrofitting industrial areas and incorporating industrial land more closely with the surrounding development, these zoning typologies are relatively new.

This master’s thesis seeks to understand what happens to a large urban industrial site when the legacy industrial use ceases operation. If we are to move our cities towards future land uses that can efficiently host good jobs, house growing populations, and contribute to a vibrant public realm, it is important to understand the planning techniques and processes that lead to different land use outcomes on formerly industrial sites. Preserving this urban industrial land is essential in order to ensure that cities can attract potential employers to the city and retain the employers that remain.

Planning for reuse or redevelopment of industrial land at the site-level is not typically a public process. The cases examined here were chosen because they are large and prominent enough to have spurred a public-sector planning processes for industrial land, and so can provide a site-level view of industrial land redevelopment with special attention paid to process and the way the land use planning is implemented.
Planning for Reuse, Rezoning, and Redevelopment

What happens when a plant closes on a large urban site within the city context? Redeveloping large industrial sites surfaces the question—what were these sites before they were planned for redevelopment? What are they now? And, finally, what will they become? Understanding the history and trends industrial land use alongside contemporary urban design and land use theory is an important step towards answering these questions. However, land use planning at the municipal and site level is structured and influenced by several forces, which fall into three general categories: physical characteristics and context, site constraints, and city goals & planning process. These categories all impact the future land use of the site redevelopment, but they also relate to and build on each other. This dynamic is represented in the diagram shown opposite.
Characteristics

How big is the site, where is it, and what is around it?

In many ways, the physical characteristics of a large industrial site that becomes vacant or falls into disuse is the primary lens through which a conversation about potential future land use begins, either at a city level or among developers. Understanding how many acres the site is, and therefore what types of uses could locate in that space, where the site is in relationship to other industrial areas and other related uses in the city, what types of existing buildings remain, and how far away the site is from downtown and other centers of commercial activity are key parts of any analysis of future use. These are characteristics that can be determined through direct observation, measurement, and mapping — through physical analysis.

Another type of physical site characteristic is what Hatuka and Ben-Joseph call the industrial prototype — where the industrial site falls in comparison to other uses and development in the city. The prototypes fall into three categories: integrated industrial space, adjacent, and autonomous. Their research describes these relationships spatially, but also the implications of each type of space. The sites in Madison, Milwaukee, and Saint Paul all fall into the category of an integrated industrial prototype. Hatuka and Ben-Joseph note that one of the one of the inherent characteristics of integrated industrial zones is proximity of uses, and often tensions between businesses and residents caused by that proximity. The benefits of this type of zone also stem from proximity and include access to jobs by residents that live in surrounding areas as well as access to amenities and infrastructure by the industrial businesses themselves. These zones are thus prime for renewal in order to more efficiently use land and generate taxes for municipalities (Hatuka and Ben-Joseph 2017).

These site characteristics directly tie into marketing the land to potential buyers and are commonly used to rationalize land use decision making. This is evidenced in the cases examined in the following chapters, in which the size of the site and its proximity to other uses and neighborhoods is used in one case to advocate for continued industrial use (Century City) and in another case to say that industrial uses are inappropriate due to the large size of the site (the Ford Site).

Constraints

How might site characteristics, city policy, and the market limit the possible land uses on the site?

Some factors that affect the eventual land use plan or site redevelopment plan that are not solely based on physical site characteristics, type of brownfield, or location of the
site in relationship to other uses. Policy and regulations; market demand for industrial land or other uses; and neighborhood context, including demographics, income, and the perception of public safety around the site often directly impact what types of uses are possible on a redevelopment site. Howland argues that the way these industrial sites are redeveloped and transformed is not only a result of what type of brownfield they are, but the neighborhood context and market factors present in each individual case (Howland 2007). Other research has used site constraint factors alongside site characteristics to develop a vulnerability index of industrial land use conversion (Lester, Kaza, and Kirk 2013).

When researchers discuss site conditions of industrial land that is being cleared for redevelopment or reused, the topic of brownfields and contamination is near the top of the list of constraints for redeveloped use. A brownfield is land that contains some type of environmental contamination, or the perception of contamination. Most industrial land that was originally developed before the environmental regulations of the 1980s, such as the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) were enacted have some type of environmental contamination associated with them. While the types environmental contamination conditions of a brownfield may be varied or even simply perceived by the public or the owner, one reason that these conditions become encoded in the redevelopment conversation is because contaminated land is eligible for national funding sources, and sometimes state and local funding, to assist with remediation and clean-up of the site.

Much of the prior redevelopment research of industrial sites and landscapes categorize land by contamination and brownfield status. One prominent example of this type of categorization in academic and design literature are Alan Berger’s Drosscapes, which parse brownfield sites into six types of waste landscapes according to their former uses. This inclination towards categorization may be a result of the national funding structures that are in place to address contamination, or it could reveal a belief that site condition and contamination are one of the most powerful forces in determining future land uses. Building on prior brownfields categorization literature, Loures and Vas 2018 categorize the type brownfields according to their ownership and contamination level, and then argue that redeveloping each type of brownfield results in different dimensions of public benefit. Based on review of brownfield and waste landscape categorization literature, Loures and Vas identify the following sub-categories of brownfield sites, noting that several authors have identified even more nuanced sub-categories (Kim, Miller, and Nowak 2018):
1. Abandoned Land
2. Derelict Land
3. Contaminated Land
4. Underutilized Land
5. Vacant Land

Loures and Vas argue that coming to a consistent definition for each of these types of brownfield sites provides a “crucial step towards better informed decision-making regarding the transformation of these sites” (Loures 2015). Their research maps the potential benefits of industrial site redevelopment to the typologies of brownfield sites that they identified.

The limitations of using categorizations of brownfield contamination as the primary lens through which to evaluate post-industrial sites is that description of historical conditions start to take precedent over plans for future use. While the research discussed above focuses on the types of brownfields themselves and connects typologies of contaminated and vacant to potential benefits of redevelopment, the end-use categories that result from conversion and redevelopment of these spaces are not categorized themselves. However, the benefits of redevelopment are inherently about the resulting end-use of redevelopment. The planning process itself, and the actors involved, are then equally as important as the site’s former use in determining the benefits of the end-use. Process and actors should be a part of the conversation about the benefits of redeveloping industrial sites into new productive or mixed-use sites and may impact the mix of uses.

Process

From Site Analysis to Land Use Planning

Linda McCarthy’s work responds to this context by positing that the challenges to brownfield development fall into two categories: reducing the barriers to private redevelopment, including liability for contamination and the availability of funding for cleanup and redevelopment; and connecting reuse to broader community goals, including Environmental, health, and safety protection, jobs and training, reduced sprawl, and meaningful community participation (McCarthy 2002). This alternative framing forms the basis for this case study investigation.

While the site conditions certainly impact plans for future land use, the redevelopment itself often happens despite prior contamination. The level of remediation that is logistically and financially achievable certainly shapes land use outcomes, but city goals, policy, and planning process also have an impact on the eventual outcome of redevelopment. This is especially true in the cases examined here, which each include some level of city-led planning process...
as opposed to an owner or developer-led process. Even within city-led processes, it is important to understand which agencies are involved in the planning process and community has been engaged in planning, the timeline of the planning process in relationship to redevelopment of the site, and the planning tools and techniques that were used throughout the process.

Moving from site condition and characteristics categorization leads to the following broad research questions:

What are overarching city goals that affect land-use planning for a particular site, and how are those goals reflected in the redevelopment outcomes?

Who is planning for redevelopment or reuse, and what planning tools are used to accomplish this?
THE CASE STUDIES

This master’s thesis presents two cases of large industrial sites, contaminated in part or in whole and integrated into the urban fabric of two different cities in the Midwest, that are many years into public planning processes for site redevelopment and reuse. Century City in Milwaukee, Wisconsin is the 85-acre site of the former Tower Automotive and A.O. Smith manufacturing facility, which produced automotive body parts for Ford and General Motors. The site has been on the market for potential tenants and buyers since 2015 after developing a speculative industrial building on part of the land in 2014 after a ten-year planning and site remediation process. The Ford Site in Saint Paul, Minnesota released the culminating plan of a ten-year land use and redevelopment planning process in the fall of 2017: a rezoning and public realm master plan. Formerly home to Ford’s Twin Cities Assembly Plant, the 122-acre site released a call for master developers in the winter of 2017-2018, and as of the writing of this thesis no decision has been announced.

Both of the case studies are examples of sites that, for the most part, have been cleared of the buildings associated with their former use in anticipation of different future land uses. Their redevelopment has been planned out, land has been remediated, and the sites themselves are currently being brokered for lease or sale by the current owners. However, the planned land-use and redevelopment outcomes are very different. The Century City site’s industrial zoning has been maintained, and the site is planned as an industrial and business park. The Ford Site has been rezoned and is envisioned as a mixed-use residential, employment, and light industrial district, a “21st Century Community.” Why has each formerly industrial site been planned in these different ways, and what are the components of the planning process that led to these different outcomes?

Each case attempts to characterize not only what the site was, but also the planning process that responds to the need for redevelopment and the city’s goals and the planned land use on the site. Evaluating process along with characteristics and constraints provides a more complete picture of a particular case study in order to better understand the forces that drive land use conversion and redevelopment of industrial sites.
This process is impacted by the planning timeline, especially in relationship to changing ownership and the time that the site’s former productive use ceased operation, the city department that leads the effort, the length of time and types of studies that are completed as a part of the planning process, and the resulting vision for the planned new land use on the site. Tracing the history of planning for redevelopment and reuse on each of these large sites uncovers a vast difference in how large formerly industrial areas can be approached by planners, designers, and economic development officials.

Many former industrial areas or brownfield sites are small enough that the city in which they are located does not undertake a planning process specifically for the property. However, when the site surpasses a certain size or is important to the city for some other reason, such as its neighborhood context, the city is often compelled to incorporate land use and redevelopment planning into some sort of public process. In the cases presented here, this process takes on different forms and produces different outcomes based on who was involved and at what point in the planning process, what studies and research were conducted as part of the process, and which planning tools were used to impact land use on the site.
<table>
<thead>
<tr>
<th></th>
<th>the Oscar Mayer site</th>
<th>the Ford site</th>
<th>Century City</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Size of the site</strong></td>
<td>72 acres</td>
<td>122 acres</td>
<td>150 acres</td>
</tr>
<tr>
<td><strong>Type of former use</strong></td>
<td>Meat processing, packing, and office</td>
<td>Automobile assembly</td>
<td>Automobile component manufacturing</td>
</tr>
<tr>
<td><strong>Infrastructure and access points</strong></td>
<td>adjacent railroad and highway</td>
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<td>adjacent railroad</td>
</tr>
<tr>
<td><strong>Distance from CBD</strong></td>
<td>2.8 miles</td>
<td>~5.5 to each (St Paul &amp; Minneapolis)</td>
<td>3.6 miles</td>
</tr>
<tr>
<td><strong>Physical relationship to surrounding land uses (spatial prototype)</strong></td>
<td>integrated</td>
<td>integrated/adjacent</td>
<td>integrated</td>
</tr>
<tr>
<td><strong>Type of brownfield</strong></td>
<td>contaminated land, in parts</td>
<td>contaminated land, remediated in parts</td>
<td>contaminated land, remediated</td>
</tr>
<tr>
<td><strong>Existing buildings</strong></td>
<td>all buildings remaining on site at present</td>
<td>All buildings removed on main site, steam plant and waste water treatment plant remain on the River Parcel</td>
<td>Four remaining buildings: A.O. Smith Admin building, Building 65, Talgo building, and existing daycare structure</td>
</tr>
</tbody>
</table>
CENTURY CITY - Milwaukee, WI

History

In 1921, A.O. Smith opened their new automated automobile frame manufacturing facility in the 30th Street industrial corridor of Milwaukee on the site which would one day become the Century City redevelopment site. The state-of-the-art plant was called the “Mechanical Marvel” because of its ability to produce a complete automobile frame every eight seconds with only 180 employees required to operate it. A.O. Smith, which started as a bicycle manufacturing company, became the largest manufacturer of automobile frames from 1910 until 1997, selling their frames to automotive giants such as Ford and General Motors among others.

In 1958 the “Mechanical Marvel” was closed and demolished. The site itself was home to several other A.O. Smith buildings, and continued to serve as the company’s headquarters for automobile production until 1997 when A.O. Smith sold its Automotive Products unit to Tower Automotive, Inc., another large manufacturer of structural metal components for automobiles (Mead & Hunt 2016; Harrison, Bob 2018).

Tower Automotive operated on the former A.O. Smith site until 2006, when it closed manufacturing on the site after years of layoffs and moving production of its product lines to other plants. The City of Milwaukee had known that the manufacturing jobs and productive land use at N. 27th St and Hopkins were declining since 2001, when Tower Automotive notified the Wisconsin Department of Workforce Development that it would be permanently discontinuing production at its plants unless orders were to increase. At the time of the 2001 announcement, 836 people were employed on the Tower Automotive site.

In 2003, the City of Milwaukee and Tower Automotive contracted the Planning and Design Institute, Inc. to develop a land use concept study of the Tower Automotive Site, imagining the future of the site as an industrial business park. Tower Automotive began selling parts of their 148-acre site in 2004, continuing until they closed in 2006. The majority of the site was purchased by an investment group called Milwaukee Industrial Trade, including the area that would become the Century City project area.
Data sources: City of Milwaukee, Wisconsin; Milwaukee County, Wisconsin; State of Wisconsin
In 2005, the Redevelopment Authority of the City of Milwaukee published a Redevelopment Plan for the W. Capitol Drive and N. 35th Street Century City Project Area. The goal of this plan was to promote land uses in the project area that would lead to capital investment and family-supporting jobs. The Redevelopment Plan specifically calls for a minimum job density of 15 jobs per acre on the site, paying at least $11.58 per hour in 2005 dollars. As of the 2005 Redevelopment Plan, the Milwaukee Department of Public Works had agreed to purchase 24.64 acres of the Tower Automotive site for a Field Headquarters location.

In 2008, S.B. Friedman & Company was contracted by the City of Milwaukee to develop a Tax Incremental District (TID) Economic Feasibility Study for the Proposed N 35th St. and W. Capitol Dr. Tax Increment District to evaluate the market feasibility and resulting increased value of proposed land uses the if it were to be redeveloped according to the city’s Redevelopment Plan and Land Use Concept Study. The TID study was developed in anticipation of the city’s purchase of 84 acres of the Tower Automotive Complex land.

Following the 2009 approval of a Tax Increment District for 293 acres of land in the 30th Street Industrial Corridor surrounding the Tower Automotive site, the Redevelopment Authority of the City of Milwaukee (RACM) purchased 84 acres of former Tower Automotive land from Milwaukee Industrial Trade. Most of the buildings on the site were subsequently demolished, and remediation activities began on the site.

From 2014 – 2015, City of Milwaukee partnered with General Capital, a real estate firm, to develop a speculative industrial flex building on the site called Century City I. This building, along with the remaining buildings on the site, are discussed in the following section, Site and Context Analysis. As of the writing of this thesis, 45 acres of the site are currently available for redevelopment and are being marketed to potential commercial or industrial businesses by Collier, the broker that represents both the speculative Century City I building, the undeveloped area of the site, and the vacant buildings that remain on the site.

**Site Characteristics and Context**

The 84-acre city-owned property on the former Tower Automotive Site is now referred to as Century City. The site currently has three buildings that exist from its former automobile component manufacturing use which were built between 1920 and 1935:
- A.O. Smith Administration Building (Building 1A)
In 2015, the City of Milwaukee in partnership with General Capital developed a speculative flex-industrial building on the northern edge of the site:

- Century City I – 53,160 sf building, can be divided into areas as small as 8,860 sf per user

Buildings IA and 65 are being marketed as potential reuse opportunities. Building 36 is currently home to Talgo, a Spanish company that employees 30 people, which first began leasing the space in 2010 to manufacture railcars for the Milwaukee-Chicago Amtrak line, as well as the then-planned Milwaukee-Madison rail line. When Scott Walker was elected as governor of Wisconsin on a campaign that included canceling the Milwaukee-Madison rail line, federal funding for the route was also cancelled, and Talgo ended their operations in Milwaukee. In 2016, Talgo opted to continue to use the Century City facility to refurbish trains for the Los Angeles Metro system, returning a productive use to the Century City site.

Currently, 45 acres of Industrial Heavy-zoned land are being marketed to industrial or manufacturing tenants for development and can be divided into multiple industrial lots. An additional 4.7-acre lot is planned for development by General Capital in Phase 2 of their development. The Canadian Pacific railroad runs adjacent to the west side of the site from north-south, providing direct rail access to the site.

Categorizing the Brownfield

The Century City site, and entire former A.O. Smith and Tower Automotive site, can be categorized as Derelict Land, and in parts Contaminated Land. The 2005 Redevelopment Plan for the W. Capitol Drive and N. 35th Street “Century City” Project Area noted that there were “environmental contamination problems regarding both soils and buildings,” and noted that although at the time the extent of the contamination problems were not well known, the uncertainty created a disincentive to market re-investment and redevelopment master planning.

Site analysis maps created for the 2008 Action Plan for the Revitalization of the 30th Street Industrial Corridor show that almost all of the Century City site was categorized by the Wisconsin Department of Natural Resources and the 30th Street Industrial Corridor Corporation as contaminated at one point. The TID Economic Feasibility report in 2009 finds also notes that asbestos issues and structural damage in the buildings on the former Tower Automotive site will impact the feasibility of redevelopment on the site. After the City of Milwaukee acquired the former Tow-
At left, the Talgo building, Image source: Google Street View; At right, Century City I, Image source: City of Milwaukee - http://city.milwaukee.gov/CenturyCity
er Automotive site in 2009, most of the buildings on the site were razed and ground remediation began.

As of the writing of the 2015 30th Street Industrial Corridor Greenway Corridor Report, the 84-acre Century City site was the largest brownfield site in the State of Wisconsin. The report also notes that roughly half of the 513 acres of industrial-zoned land in the corridor was either vacant or classified as a brownfield.

The main implications of these types of brownfields sub-category classifications for the Century City site is that remediation was necessary after the land was purchased by the City of Milwaukee before the site could be marketed for redevelopment. The cleanup needed likely impacted the asking sale price of the land and reinforced the use restrictions on the site. However, site contamination is not directly listed as one of the limitations that has impacted planned land use in either the Redevelopment Plan or the Economic Development plan.

Categorizing the Spatial Prototype
The Century City site is part of the 30th Street Industrial Corridor – also known as “The Corridor.” The Corridor is situated in the center city of Milwaukee, running from the central part of the city into the Northwest side along the railroad, sandwiched between residential neighborhoods on both sides. Its distance from the center of the city and its adjacency to other uses leads to its categorization as an integrated industrial zone. Historically, the corridor has been home to some of the largest employers in Milwaukee. Apart from A.O. Smith and subsequently Tower Automotive, anchor employers as Masterlock, Harley Davidson, Esser Paint, DRS Power and Control Technologies, and Glenn Rieder have located in the 30th Street corridor for manufacturing, research, and development, and served as major employers for the surrounding neighborhoods and municipalities. The Century City site represents the largest redevelopment opportunity in the Corridor.

The spatial relationship between Century City site and the surrounding neighborhoods, and the relationship of the Century City site to the rest of the industrial corridor, have played a significant role in the land use decisions and planning processes that have influenced the redevelopment plans for the site. City staff report that over time the Corridor has become more fragmented and carved into smaller parcels in the southern part of the corridor, which is why Century City is the largest redevelopment site available. Size of the parcel is one of the reasons that other vacant sites along the 30th Street Corridor are not suited to redevelopment as industrial sites, but instead are targeted for residential or mixed-use projects (Harrison, Bob 2018; Burton, Kein 2018)
Proximity to neighboring uses, especially residential uses, has played a key role in shaping the planned land use on the Century City site. First, city staff notes that the original idea for a linear park along one side of the Century City site was to act as a natural buffer to the new industrial area and to serve as a new community amenity. The three outlots, which are triangular pieces of land that were used as parking lots, were planned as multifamily housing developments in the 2011 Economic Development Master Plan, again with proximity to residential uses in mind. However, the conflict of proximity of uses in this instance was not ameliorated by the inclusion of residential units, and instead led to greater community involvement and further changes to the planned future land use on these areas of the site, which will be discussed in the following sections.
The Planning Process

The planning process for what would eventually become the Century City site began in 2003, when Tower Automotive announced it would be closing sites in the Milwaukee area. The first city planning document for the site was completed by Planning and Design Institute (PDI), who formulated land use alternatives for future site re-use. Even in these first planning documents, the entire site was envisioned as a new industrial or business park, possibly including part of a university campus.

From 2003 until the publishing of the 30th Street Corridor Economic Development Master Plan in 2011, several different planning efforts and studies were completed to further detail the site conditions and redevelopment plans, including market studies to inform the types of industrial uses that would be suitable for the Century City site.

The planning process has continued after the Economic Development Master Plan was published in a few different ways. First, plans for a regional stormwater management system and greenway public amenity on the site have continued to shape the land use and the way the site interacts with the surrounding uses and neighborhood context. In addition, the planned land use of the out-lots has unofficially been changed to commercial and other types of community amenity uses based on feedback from organized neighborhood groups, though the final use is still “in flux,” and there are planned developments on these areas of the site.

After disinvestment by A.O. Smith and Tower Automotive, and subsequent ownership by Milwaukee Industrial Trade without productive or employment uses occurring on the site, it became increasingly clear to the city that the site would not be redeveloped without market intervention (Burton, Kein 2018). The city created Tax Increment District in a process led by the Redevelopment Authority of the City of Milwaukee (RACM), whose mission is “to eliminate blighting conditions that inhibit neighborhood reinvestment, to foster and promote business expansion and job creation, and to facilitate new business and housing development” (“Redevelopment Authority of the City of Milwaukee” website, n.d.). The redevelopment project has been primarily led by RACM ever since. After initial land use planning activities, all subsequent planning for the site was conducted with RACM’s mission in mind.

As the planning process has continued since 2003, the scope of planning has shifted as well. Many of the planning and redevelopment studies include the entire 30th Street Industrial corridor in their scope, while some are focused on the entire former Tower Automotive site, or only
redevelopment area that the city of Milwaukee owns – the Century City site.

In 2005, the Redevelopment plan for the W. Capitol Dr. and N. 35th St. “Century City” project area called for the zoning on the majority of the Century City site to remain the same – Industrial Heavy (IH) – but with further use restrictions. For example, automobile related uses have been further restricted from the site due to their typically low employment density. Subsequent site planning assumes this same structure of uses.

Approach to Community Engagement

The Century City redevelopment planning process did not include a robust community engagement process at first, possibly because there was no planned rezoning for the site (Burton, Kein 2018). The initial land use scenario plans and redevelopment plans do not include any mention or documentation of community engagement, and city staff report that there was a community perception that the city was making all of the decisions regarding Century City and the former Tower Automotive site.

Over time, a network of community groups and associations formed in the surround neighborhoods as the redevelopment planning processes continued. City staff described this network as an important evolution of their work in the corridor, moving away from single agencies or actor approving development without seeking wider community input:

Part of the problem is that sometimes agencies just make decisions ‘just ‘cause.’ It’s really trying to make that process more thoughtful and deliberative, [ensuring] that they know why they’re approving a project, not just ‘because.’ Because without that deeper understanding, you have a potential to really break that trust with the community. (Burton, Kein 2018).

City staff notes that this process has already guided changes to the land uses planned along the corridor, anecdotally noting examples of gathering feedback “through the grapevine” regarding specific development proposals, which has been useful to city staff in understanding the desires and motivations of the residents living in the neighborhoods around the corridor (Burton, Kein 2018). This dedication to understanding community desires for development seems to have come later in the planning process.

This approach to community engagement highlights one of the key challenges in redeveloping brownfield land as outlined by McCarthy, which is “meaningful community participation” (McCarthy 2002). Although the city’s goals
The Century City Planning Process

A.O. Smith in operation in 30th Street Corridor

Tower Automotive in Operation in 30th Street Corridor

Tower Automotive sells parcels of former A.O. Smith Corporation facility

Land Use Concepts for the Tower Automotive Site - 2003

Redevelopment Plan for the W. Capitol Dr. and N. 35th St. "Century City" Project Area - 2005

Action Plan Revitalizing 30th Street Corridor - 2003
<table>
<thead>
<tr>
<th>Year</th>
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<tr>
<td>2008</td>
<td>Plan for the development of the 30th Street Industrial Corridor - 2008</td>
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<td>2009</td>
<td>Redevelopment Authority of the City of Milwaukee Acquires 84 acres of industrial land</td>
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<td>2010</td>
<td>Building 36 rehabilitated for use as a rail maintenance and construction facility</td>
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<td>2011</td>
<td>TID Economic Feasibility Study: Proposed N. 35th St. and W. Capitol Dr. Tax Increment District - 2009</td>
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<td>2012</td>
<td>Century City I building constructed</td>
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<td>2013</td>
<td>Century City site awarded one million dollars from the idle Industrial Sites program</td>
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<td>2014</td>
<td>Site demolition and remediation</td>
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<td>2015</td>
<td>Century City I building and business park land are marketed to potential tenants</td>
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<td>2016</td>
<td>30th Street Corridor Economic Development Master Plan - 2011</td>
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<td>2017</td>
<td>30th Street Corridor Economic Asset and Opportunity Analysis - 2008</td>
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<td>2018</td>
<td>30th Street Industrial Corridor Greenway Corridor Report - 2015</td>
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for the land and the planning process itself were focused on providing jobs for the surrounding community members, the communities themselves were not consulted or surveyed about what land uses would provide the most benefit and employment to them. Only now are city staff members engaging with the surrounding community members in a way that might result in shared goals and vision for land use at the Century City site.

Selling the site
Currently, Colliers is acting as the real estate broker for the Century City site, including the historic buildings left on the site, the new and speculative Century City I, and the vacant land. The flexibility of both the Century City I building, which can be subdivided, and the land itself, is reflected in the marketing material for the site and re-iterated by city staff. The marketing materials show both a blank site and images of the schematic master plan for an industrial business park, successfully striking a balance between marketing the envisioned future of the site and its potential. As of the writing of this thesis, the Century City site and Century City I site remain undeveloped and vacant, respectively.

Analyzing the Land Use Plan
The planned land use for the site has essentially remained the same from the first planning study done by PDI in 2003 - a sub-divided business park, prioritizing industrial uses, with residential uses occurring on the triangular out-lots. An internal right-of-way subdivides the site and provides access to planned individual lots for individual businesses – the site can accommodate 12 tenants at the most but is flexible to accommodate fewer owners with bigger lots if needed. City staff expressed this flexibility directly – the site plan presented in the Economic Development Master Plan is only a starting point. Subsequent planning studies have not attempted to stray from or complicate the land use ideas presented in this original study, but rather have outlined the policy and financial tools that would be needed to make the land use plan a reality.

The elements of the development and land use plan that have changed over the course of the planning process are the shape and use of the building at the northern most point of the site, which is now the location of Century City I; the proposed use of the out-lots at the edge of the Century City area; and the proposed configuration of the regional stormwater system within the site, in relationship
to newly developed industrial uses. Earlier versions of the plan show multiple commercial buildings in the Century City I location instead of the single industrial flex building that was developed on the site.

The initial land use scenarios that were developed in 2003 and used as the basis for schematic site plan shown in the Economic Development Master Plan in 2011 shows multifamily residential uses being developed in the out-lots of the site as a transition from the business/industrial park to the surrounding single and two-family homes. However, city staff note that new multifamily residential units were not well received by the surrounding communities and are now being considered for a community-centered use, likely commercial.

**Jobs and land use**
One of the primary goals of this redevelopment since the first study in 2003 was to maintain family-supporting jobs in the 30th Street Industrial Corridor and maintain the corridor as an employment center for surrounding neighborhoods. This goal seems to have driven decision making and planned land-use throughout the eight-year redevelopment planning process. City staff note that one of the key reasons that the Century City site was planned for industrial use was that it was one of the only redevelopment sites in the 30th Street corridor that had enough space to redevelop or reuse industrial buildings, and that parcels in the southern part of the district were smaller and more fragmented.

Employment goals continue to drive the land-use process, even apart from the physical zoning of the site itself, through city-mandated employment density and special minimum-wage requirements. The Redevelopment plan for the W. Capitol Dr. and N. 35th St. “Century City” project area outlines a plan objective to promote development that provides a minimum of 15 jobs per acre and compensation of $11.58 or more per hour, based on the 2005 dollar. These requirements will necessarily shape the uses on the site by excluding businesses that can’t afford to pay their employees that wage and or hire employees at that density.

In fact, this has already been occurring at the Century City site, and in the Century City I building. City staff note that RACM and General Capital Group have had several potential tenants express interest in using Century City I as warehouse and storage, but the proposed uses have not met the employment density requirements of the site and were not able to rent the space for that reason (Burton, Kein 2018). As a result, the Century City I building has remained empty since it was completed and went on the rental market in 2016.
The Century City Site Plans

Image Sources from left to right: 30th Street Corridor Economic Development Master Plan, 2011; Century City Timeline, 2013 (GRAEF); Colliers Brokerage Material, c. 2015 and 2016, accessed February 2017
Storm water management and land use
Although stormwater management on the site and in the Corridor did not hold a place as one of the main land-use-shapers from the beginning of the planning process, stormwater BMPs have emerged as one of the major elements of the site that continues to shape planned land use. Goals for storm water remediation on the site have morphed from a mention in a plan objective that was included by requirement, to the following goal from the Economic Development Master Plan: “Connect stormwater Best Management Practices (BMP) systems to the extent possible, to reduce the number of storm sewer connections.” By 2011, stormwater management had become one of the main guiding issues on the Century City site, and the plan noted that provide open space as public amenity on the site could also provide an opportunity for integrated stormwater BMPs. The site plan itself, even in conceptual versions, shows a changing and refining approach to stormwater storage and green infrastructure as an active force in re-arranging the configuration of the redevelopment of the site.

Aside from jobs and employment-focused studies, stormwater studies were the primary avenue for land use planning on the Century City site. This undoubtedly has to do with regional and municipal stormwater regulations, but the effect is that stormwater facilities and planning plays a key role on design and planning of public realm, even on a site that is planned for industrial use. In this case, stormwater management facilities have moved throughout the site in conceptual plans, acting as a key factor in shaping land use and parcelization of the site. The regional facilities included in the plan have alternately formed a long, linear park along Hopkins Street and a more interior water retention pond on the site. The changing configuration of these stormwater facilities can be seen in in the different iterations of the land use plan over the course of the redevelopment planning process.

Community engagement and land use
As described above, community engagement has not played an integral role in the redevelopment planning process. Though community groups and associations are increasingly consulted if a new development is proposed in 30th Street Industrial Corridor area, it is largely to express approval or disapproval of planned or proposed uses. A key way that community engagement and feedback have shaped land use decision on the Century City site is by pushing back against residential uses in the out-lots adjacent to the Century City site, which were originally planned for multifamily residential use, including affordable housing.

City staff note that after receiving feedback from neigh-
neighborhood residents, the latest ideas land-use ideas for what type of use to develop on the out-lot sites include more commercial development, specifically commercial development that serves a community role as well as serving the redeveloped site. Other ideas for redevelopment of the out-lots, or reuse of Building IA or Building 65, including job training facilities or other uses that would tie the economic development activities and uses happening on the redeveloped site directly to the neighborhood residents.

**Conclusions**

The planning process for redevelopment of the Century City site is almost entirely focused on employment and industrial re-use, and does not seek to understand other city goals might intersect with the site through a mix of uses. This singular focus on industrial reuse, which seems to have been the foregone conclusion of the public planning process from the first scenario planning process in 2003, might be attributed to the RACM’s goals and priorities as an agency. It also could be that the environmental condition and contamination of the site itself prohibited residential or mixed-use development of the site, or that these uses were simply not considered because of the legacy use of the site and city officials’ desires to preserve industrial land in these legacy areas. Whatever the reason, the City of Milwaukee’s interest was to restore urban industrial use to the site, and the market feasibility of urban industrial use in Milwaukee was used to justify this decision. Though the industrial land has certainly been preserved on the Century City site, the land largely remains vacant, calling into question the factors that were used to make the decision in the first place.

For example, RACM seems to have decided on an industrial land use without exploring other land use options that might produce similar community-supporting benefits to the neighborhood. One clue to this outlook on the city’s part is the initial Land Use Alternatives study conducted by PDI, which examines three site configurations of urban industrial land with essentially the same land use program in each case. These alternative site plans were evaluated based on the number of units and square feet of space they would support, but they were not evaluated based on any other metrics.

The planned land use for the site has shifted and changed slightly since the initial land use scenario planning in 2003, which also speaks to a few of the limitations of the planning process. First, the out-lots shifting from multi-family residential to community-focused commercial uses speaks to a failure of the planning process to fully engage with community members throughout the process. Open communication and a transparent planning process would
have allowed community members to voice concern and opposition about multifamily residential earlier, giving planners more time to respond or craft a more compelling narrative detailing why the planned housing development should remain adjacent to the industrial site. RACM also did not facilitate a public process to gather ideas and opinions about what the site should be, but instead was forced into a reactionary role when their published schematic site plan and land use plan was contested by the surrounding neighborhood residents.

Finally, because RACM’s scope for the Century City site is primarily re-development into an industrial business park, no re-zoning was needed for the site. Because the City and the land broker want to remain flexible to the desires and requirements of potential industrial business tenants a final site land use plan has not been released, and up to date land use plans are not readily or publicly available.

The planning tools used in the formation of this plan include:

* Urban Industrial site scenario planning to show different schematic site design alternatives
* Market studies to study the viability of industrial business parks, residential uses, and commercial uses in the final land use configuration
History

Ford Motor Company opened their Twin Cities Assembly Plant along the Mississippi River in 1925, just four years after A.O. Smith began their operation in Milwaukee. The 135-acre site was almost equidistant between downtown Saint Paul and downtown Minneapolis. Ford had originally operated a smaller manufacturing operation in St. Paul and Minneapolis and began development of the Twin Cities Assembly Plant in 1923 when assembly-line construction practices demanded larger manufacturing plants throughout the industry. The 200 million square-foot, one-story plant was designed by industrial architect Albert Kahn and during its produced the Model T, armored cars and tanks during WWII, and most recently the Ford Ranger pickup truck.

At its peak, the Twin Cities Assembly Plant employed 1,800 workers who lived in St. Paul and in surrounding communities, some commuting from across the Wisconsin border to the well-paying manufacturing jobs. Ford first announced that the plant would be closing in 2006, starting a one-and-a-half-year count-down clock for employees who would be forced to transfer, retire, or find another job. Closing the Twin Cities Assembly Plant was part of a larger move on Ford’s part to close 14 plants and eliminate 30,000 jobs, which was announced in January 2006 (Maynard and Bunkley 2006). The City of Saint Paul reeled – what would happen to the huge piece of land, an iconic land use on the Mississippi River? Before manufacturing and assembly at the Twin Cities Plant slowed to a halt, a planning process began picking up speed and was well underway in the Saint Paul planning department.

When the city of St. Paul first learned that Ford would be closing the Twin Cities Assembly Plant in 2006, city officials and staff scrambled to coordinate what they thought would be a one-and-a-half-year-long sprint to hire a consultant, convene stakeholders, conduct a public engagement process, and form redevelopment scenarios for the site. The City of Saint Paul Department of Planning and Economic Development began their planning process for the site by convening a Ford Site Task Force comprised of city staff, leaders, business stakeholders, and residents to discuss the future of the Ford Site and what the scope
Data sources: City of Saint Paul, Minnesota; City of Minneapolis, Minnesota; Ramsey County, Minnesota; State of Minnesota
of planning for the site would mean for Saint Paul. This
effort resulted in a Phase 1 report, detailing five different
development scenarios for the site and analyzed each sce-
nario based on economic development and traffic impli-
cations. One of the main motivations for scenario plan-
ing at this early stage in the process was to develop the
scenarios needed for Alternative Urban Areawide Review
(AUAR) – an environmental impact modeling and mitiga-
tion planning process for a large area that supplants the
need for individual Environmental Impact Studies for each
aspect of the development plan as long as it fits within the
scenarios studied. Merritt Clapp-Smith, a former planner
with the city of Saint Paul, noted the utility of this
AUAR process by saying that “it compares different scenarios
for performance instead of just looking at one an evaluat-
ing it; and so we were intentionally setting up a range of
different scenarios to test against one another” (Clapp-
Smith, Merritt 2018).

When the initial scenario planning for the site was finished,
the city still did not know that the planned closure would
be delayed, and that the scenarios that had been quickly
developed with a huge amount of planning effort would
set the groundwork for years of additional studies and
planning process. The findings from this initial phase were
published in a report called the Redevelopment of the
Ford Motor Company Site – Phase 1 Summary Report: 5

Major Development Scenarios.

However, the plant did not close right away. Planners
working at the City of Saint Paul report that Ford delayed
closing the Twin Cities Plant twice after their initial an-
nouncement. The first delay came in 2007 with reports
that the manufacturing location was again profitable,
possibly due to the now bare-bones workforce of 925
employees working a single shift. Two-thirds of these
workers were also employed on a temporary basis with
lower pay than the permanent employees who were re-
mainin. Some of those temporary employees were in fact
former permanent employees who had taken a buy-out
from Ford in 2006, and then returned to work at a lower
pay rate. The second delay in Ford’s closing schedule was
announced in 2009, and continued until December 2011,
when the final Ford Ranger rolled out of the assembly
plant. Shortly thereafter, Ford began the long process of
demolition and site remediation.

Each delay that Ford made in closing the plant afforded
the city more time to work out the details of their own
plan for the site. From 2006 – 2016, the city of St. Paul
conducted 13 additional studies of the site, covering
topics from manufacturing potential and building reuse
scenarios, to open space, transportation, and jobs poten-
tial. Merritt Clapp-Smith, a planner at the city of St. Paul at
the time, described the work from the city’s perspective: The subsequent work over the next couple years was digging in and getting more data and understanding of how to address barriers that had been identified in the first planning, or how to advance priorities. For instance, people said ‘We want a really sustainable site.’ We had to spend some time talking to experts saying, ‘What does sustainability really mean, and what is possible, and how would we know if we got there?’ (Clapp-Smith, Merritt 2018)

Meanwhile, Ford’s plan for remediating, marketing, and selling the site was changing based on their initial site testing and conversations with city officials. Planners with the city of St. Paul noted that in the past Ford had often opted to sell its shuttered manufacturing facilities to a buyer before remediation work had occurred, which could lead to complications down the line, such as developers who over-paid for a site that would need more remediation work than they had anticipated. Both Ford and St. Paul would eventually decide that a different approach might be beneficial to all parties, and Ford agreed to remediate the site to a residential standard in as much of the 135 acres as possible before selling the land.

In 2013, the City of Saint Paul hired a consultant group with funding from the Metropolitan council to conduct a zoning framework study. The Zoning Framework Study for the Ford Plant Site was intended to evaluate the current Saint Paul zoning districts to determine if they could provide for the different scenarios that had been developed in Phase I of the planning process. At this point, no one scenario had been definitively chosen, but changing the zoning of the site to accommodate one of the redevelopment scenarios in order to meet the project goals was inevitable. The Zoning Framework Study recommended both a new set of zoning districts and a Master Plan document, which would describe in written detail and in site-plan the envisioned redevelopment and open space structure. This study marked another phase of their planning effort for the Ford Site, and a new wave of community meetings, reports, and stakeholder engagement processes. In 2017, St. Paul released the culmination of eleven years of planning efforts – the Ford Site Zoning and Public Realm Master Plan. The plan was officially adopted by City Council in September of 2017.

In December of 2017, Ford Land announced that it would begin accepting letters of interest from master developers who wanted to purchase the site, with a deadline of February 2018. This announcement by Ford Land and their broker came as a surprise to staff at the City of St. Paul, who weren’t expecting that the site would go on the market so soon. The City worked to provide information about
the site that would be easily accessible to developers as they put together their bids and letters of interest. As of the writing of this thesis, no new owner or master developer has been announced by Ford Manufacturing Company.

Site Characteristics and Context

The former Twin Cities Assembly Plant land is currently being marketed as the primary 122-acre site and a separate 22-acre site along the Mississippi River, called the River Parcel. There are two buildings that remain on the site:

- The Steam Plant
- The Waste Water Treatment Plant

Both buildings once served the operations on the Ford Site and are no longer in use. According to City of Saint Paul staff, both may be eligible for historical tax credits for redevelopment. Because the parcel itself is on a later schedule for contamination remediation, and because of its proximity to the river and the historic buildings, it is likely that there will not be the opportunity for new construction on the site. However, re-using the two existing buildings for residential or commercial uses may be a possibility for future owners of the site.

The main 122-acre site was the only part of the site included in the public planning process and has been cleared of all buildings, so the prior buildings themselves do not have an impact on the land use planning going forward for the Ford Site. However, local advocates have noted the historical significance of the assembly facilities, and successfully petitioned Ford to retain key parts of the ornamentation and architecture of the historic plant buildings for future educational and ornamentation use on the redeveloped site. As of the writing of this thesis, those artifacts are currently stored in shipping containers to one side of the site as soil remediation and regrading are still being conducted on the main part of the site.

Categorizing the Brownfield

The Ford Site includes several areas of contamination in both the 22-acre River parcel and the larger 122-acre site. The River Parcel is home to a capped area of land under a large parking lot. The larger parcel of the Ford Site should also be categorized as contaminated land in parts, despite extensive remediation efforts.

One notable aspect of the site cleanup and contaminated land designation is the transparency of the process. The city of Saint Paul has hired an outside consultant to review all remediation reports and activities on the site. There are also about 52 reports and surveys that have been generated outlining testing results and remediation plans that have been released between 2007 and 2018. These reports are publicly available on the city of Saint Paul’s Ford
Contamination on the Ford Site land has a few key implications for the resulting land use plan. First, Ford has agreed to conduct site remediation to residential standards on as much of the site as possible, or as much of the site as they feel comfortable with. As discussed in the site history section above, this level of site remediation is not typical for a former Ford Manufacturing location. Through the advocacy on the City of Saint Paul’s part, especially with assistance from consultant developers, Ford has been convinced that the land will be more successfully marketed as mixed-use with some residential uses incorporated throughout the site. However, this is not possible in every part of the site. The resulting land use plan, discussed in more detail in subsequent sections of this chapter, has two “gateway” zones that do not allow residential uses, which is a direct result of site contamination conditions.

Categorizing the Spatial Prototype

Before the Twin City Assembly Plant closed and the buildings were demolished, the large industrial site could have been categorized as an adjacent or integrated industrial zone. Though the site was originally developed with no adjacent uses, the neighborhood of Highland Park and a small commercial area has developed around the site over time. This morphological condition is comparable to the other cases discussed here, both Century City in Milwaukee and the Oscar Mayer site in Madison. However, in this case, the site’s size, location, and proximity to other uses was seen as one of the barriers to redeveloping the site for industrial use instead of a benefit to productive land use. Despite physical proximity to highways and the airport, the logistical realities of accessing the highway from the Ford Site was notably inconvenient – a truck would have to pass through 16 stoplights. The sites does have rail access, but as it wends its way through the rest of the city, it is unable to accommodate oversized loads (“Ford Site Green Manufacturing Reuse Study” 2009)

The Planning Process

Planning for re-use and redevelopment of the Ford Site began in 2006 when Ford Manufacturing Company announced that they would be closing the Twin Cities Assembly Plant. The Phase I public planning process included identification of a vision for the site, as well as goals and redevelopment principles. Most importantly, the resulting Redevelopment of the Ford Motor Company Site Phase I Summary Report: 5 Major Development Scenarios used scenario planning to identify five different land use plan alternatives, as discussed above. The development
The Ford Site Planning Process

- Ford purchases land in St. Paul for the Twin Cities Assembly Plant
- Twin Cities Assembly Plant opens
- Ford announces Twin Cities Assembly Plant will close in 2006
- Ford announces first delay in closing Twin Cities Assembly Plant, until 2009
- Ford announces second delay in closing Twin Cities Assembly Plant, until 2011
- Twin Cities Assembly Plant closes
- Vision, Goals, and Five Redevelopment Scenarios - 2007
- Sustainable Stormwater Management Feasibility Report - 2009
- Ford Site Open Space Guidelines - 2010
- The Roadmap to Sustainability of the Saint Paul Ford Site - 2011
- Green Manufacturing Potential for the Ford Site - 2009

City Planning Process
Twin Cities Assembly Plant in operation (87 years)
Public engagement for the zoning and master planning process

Site decommissioning and environmental remediation

Ford lists site with broker and market site to private master developer

Parkland dedication regulation passes, limiting required open space to 9%

Saint Paul Ford Site Energy Study Report - 2016

Jobs Strategy Report - 2016

Integration of PV Systems in Saint Paul Ford Site's Redevelopment Plans - 2016

Aquifer Thermal Energy Storage (ATES) Feasibility Study - 2016

Ford Site Zoning and Public Realm Master Plan - 2017
and evaluation of these scenarios set the stage for the rest of the planning process. The next study that was developed was the Roadmap to Sustainability Report in 2011, which outlined a series of best practices for the site and how they would be implemented in the Saint Paul context, and after that another series of redevelopment scenarios was created to dig into the possibility of reusing the entire site for an industrial land use. The use of scenario planning in this case allowed the city of Saint Paul to develop consensus around some parts of the redevelopment plan and identify areas for further research without deciding on a final land use plan, site plan, or re-zoning plan right away. This allowed city staff and the Ford Site Task Force to develop knowledge and detail out their ideas before attempting a politically contentious re-zoning plan. Inevitably, the planning process that began in 2013 with the Zoning Framework Plan was contentious and political, leading to increased attention on the site and uncovering opinions about the site’s future uses.

A pivotal moment in the land use planning process was a change in municipal regulation that limited the amount of open space that the city of Saint Paul could require from land owners developing the Ford Site. In 2015, St. Paul passed a parkland dedication ordinance restricting the amount of public park that the city could require from a developer to 9% of the total site area. This was a far cry from the 24-48% of the site that was shown as dedicated to open space in the five original redevelopment scenarios and caused a significant amount of public pushback. In order to accommodate a desire for more open space on the site, the city of Saint Paul was able to designate part of the site for green infrastructure and regional stormwater management that would be integrated into the site as a public amenity.

**Selling the Land**

Examining the broker’s listing for the Ford Site reveals that the listing itself does not fully express the city priorities that have been developed over the past ten years and which are now encoded in new zoning and master planning documentation, especially those priorities and decisions that will have cost implications for developers further down the line. In the broker listing, the site is pictured as one large piece of land, essentially a blank slate. In the accompanying text the broker’s listing notes that the site is zoned for residential and mixed-use development with no reference to the extensive public process and planning efforts that have been underway to shape the future of the site. The discrepancy between the listing and the Master Plan highlights one of the key challenges with a public planning process for privately-held land. Despite publicly-funded studies and processes, the landowner can ultimately develop whatever they want on their land as
long as it is allowed by the zoning code as-of-right. Typical industrial sites fall primarily or completely into one zone, usually industrial, and may be re-zoned all together.

In the case of the Ford Site, the complicated zoning plan begins to shape the future land use of the site in very distinct ways, which will limit and guide, but not mandate, what could be built on the large parcel. City staff also expect that a Master Developer will want to design the site for themselves, despite the intensive schematic site design and planning process that has already taken place, adding another layer of uncertainty to the future of the site.

**Approach to Community Engagement**

Planning staff at the City of Saint Paul express a commitment to community engagement and the general public’s role in planning for the future of the Ford Site throughout the ten-year planning process. Community engagement was conducted in two major parts – first, when the planning process had just begun, and again when the re-zoning plan was being developed. Based on project documentation and interviews with city staff, it seems as though the primary mode of community engagement conducted for the Ford Site was public meetings. During the zoning and public realm planning process the public meetings were centered around specific topic areas, such as storm water or energy, in order to focus discussion and feedback on just one aspect of the complicated plan.

The Ford Site planning process, and the rezoning plan in particular, has received a significant amount of pushback from neighborhood groups and advocates. The most vocal and prominent opponents of the plan are a group called Neighbors for a Livable Saint Paul, a group which formed in response to the Ford Site planning process. They describe themselves as a “grassroots group of neighbors voluntarily working for a smart development of the Ford site which is in harmony with the broader Highland community.” Their opposition extends to more than just yard signs and oppositional voices at community meetings. In October 2017, they launched a petition to put the newly-approved Ford Site rezoning on the ballot in November 2018, but the City Council blocked their efforts in December, citing that they did not have enough valid signatures (Melo, Frederick 2017; Van Berkel, Jessie 2016).

**Analyzing the Land Use Plan**

“a very complicated hybrid”

The final zoning and land use plan as shown in the Ford Site Zoning and Public Realm Master Plan shows a block structure, with two main commercial areas bookending the site at its interface with the surrounding commercial and residential neighborhood areas and residential uses to the
center of the site and towards the Mississippi. Employment-centric “Gateway District” zoning. Residential uses fill the majority of the balance of the site, along with a linear storm water management and open space amenity project. Notable in the land use plan developed by the City of St. Paul are the mixed-use performance zones, which require specific ratios of uses for many of the zones. The final plan is not exactly one of the scenarios that was first explored for the Ford Site but falls somewhere in between a few of the options. Clapp-Smith notes that there was a time in the process when the eventual land use plan started to take shape:

The really robust reengagement started again in 2015, where all of the studies and conversations were driving up towards understanding that there weren’t really like five viable reuse scenarios out there, but all of the information was really starting to drive towards a solution that was a very complicated hybrid of all of the information we’ve been getting. (Clapp-Smith, Merritt 2018)

There are two forces that were cited by city planners in St. Paul as having a particularly influential role in the resulting land use mix for the site: a need for high quality jobs, and an opportunity to centralize on-site storm water management and leverage green infrastructure as an open space amenity.

Open Space & Storm Water Management

After the parkland city ordinance was passed, limiting the amount of park land that could be required of developers on a particular development site, the planning division pivoted its strategy for open space to incorporate a regional storm water management system as an integral part of the public realm plan. This allowed planners to increase the perceived open space to 20% of the total by including green infrastructure as public amenity on the site. A long, linear park runs through the site, connecting the existing commercial center at Highland Village to the Mississippi for pedestrians with minimal road crossings.

This open space axis uses green infrastructure planning to shape the public realm on the site and increase the amount of open space as much as legally possible. The green infrastructure planned for the site was designed to fulfill multiple purposes, including regional storm water management and filtration, but the ones highlighted by the Master Plan itself focus on public realm impacts. Richardson noted the benefits of these impacts: “The way we have it laid out, you would only have to cross one street near Ford Parkway - you could in theory walk without crossing any streets to the Mississippi river through the site, assuming that everything is built the way that we hope it is” (Mike Richardson 2018).
Two of the fifteen studies, reports, and plans that were developed for the Ford Site over the past ten years have been dedicated solely to stormwater strategy, and another solely to open space guidelines. Alongside the feasibility of continued manufacturing use on the site, stormwater management feasibility was the first study conducted after the original redevelopment scenarios were developed. This immediacy of stormwater planning in the land use planning process gives some indication of its prominence in shaping the eventual land use on the site and impacting the shape and layout of zoning districts.

**Employment and Land Use**

From the very beginning of the planning process, emphasis on employment numbers and job creation were present in conversations about redevelopment and land use planning at the Ford Site. The Phase 1 Development Scenarios Report scenario plans were evaluated by the St. Paul Port Authority to determine the optimal mix of job types on the site in order to maximize total employment numbers. The subsequent Jobs Strategy Report published in 2016 used these scenarios and job estimates as the basis of their analysis, citing a mixed-use scenario as the most job intensive option for the site. The job modeling created by the city estimates that the zoning and land use plan would allow for up to 1,500 jobs to be located on the site – almost the same amount as the 1,800 that were lost when Ford closed its plant. City planners note that part of the reason for this intense focus on number of jobs could be sense of local identity and memory of the location being a source of employment for the city. Richardson describes the urgency to create new jobs on the site:

I don’t think that there’s anyone who did not want there to be a strong employment component to the Ford Site moving forward, so before even that Job Strategy report came out, we had two market studies done to look at what the potential for growth could be here and [in]what sectors… we didn’t want the site with just a bunch of coffee shops and sandwich shop employees, not that there’s anything wrong with that, but we wanted a wide range of employment types here, we knew we had to take some intentional action. (Mike Richardson 2018)

Even when speaking about the specific zoning districts that were designed for the site, planning staff refer to the allowed uses for the new zoning districts according to which of them had lowest number of square footage needed per employee. The zoning plan calls for two “Gateway” zoning districts that exclude residential uses as a way to spur larger commercial and office employers to locate on the site.

The line between employment land use and jobs created is blurred throughout the planning process, and in the
Note: Zoning districts extend to the centerlines of Rights-of-Way.

ways that planning staff discuss the zoning plan itself. Richardson states, “we’ve allowed for up to 1500 jobs, so not quite the 1800, but almost that, and determined where we thought it made the most sense for that to happen...we wanted to make sure that there were parts of the site that were dedicated to high quality jobs” (Mike Richardson 2018).

Conclusions

The Ford Site in Saint Paul represents a unique case of public and private cooperation in land use and redevelopment planning. The plant closing and site remediation timeline was such that the City of Saint Paul was able to begin their public planning process before the Ford Site ceased productive use of the site and worked with Ford to time their planning and re-zoning process so that it would correspond with the completion of site remediation and marketing of the site. However, such partnerships are not perfect, as Ford acts in their own best interest while the city ostensibly acts to further the city goals for redevelopment. Continued partnership and cooperation with a master developer will be key for successful implementation of the Public Realm and Zoning Master Plan, but the land use planning process has allowed the city to embed some city goals and values into the fabric of the site even before development is underway.

As discussed above, the two primary drivers of planned land use on the Ford Site were job creation and stormwater management. Site contamination also played a role in shaping land use by limiting residential uses in some areas of the site. While other city goals and constraints certainly played a role in shaping planned land use, these three factors were referenced as primary concerns in forming the resulting Master Plan.

Four primary land use planning tools were used to respond to these land use drivers in the planning process:

- A Task Force of residents, staff, and elected officials that have guided project studies and project planning alongside the Department of Planning and Economic Development
- Scenario Planning (two sets of scenarios in two separate studies) that evaluated alternative land use and redevelopment plans with metrics that correspond to redevelopment goals
- Rezoning the site with new zoning districts that specify flexible ranges of use-mix in some of the zones
- Using regional stormwater management and green infrastructure to mandate “open space” on the site
As of the writing of this thesis, the City of Madison’s public planning process for the Oscar Mayer site in early stages. Though the Oscar Mayer Strategic Assessment Committee has only just begun to meet, the city’s timeline for the process itself as well as its framing of redevelopment objectives are unique from the Ford Site and Century City cases in a few key ways.

First, the public planning process is occurring simultaneously with the private reuse and master planning process. This means that Madison’s Strategic Assessment and Special Area Plan will be made in the context of whatever new tenants the Reich-Rabin ownership team has managed to secure for the existing buildings, and their plans for redevelopment of the site are happening within the same timeframe as the OMSAC. This was not the original intention of the OMSAC planning processes – in fact, when the city first created the OMSAC, it was unclear how long it would take Oscar Mayer to find a potential buyer. The city hoped to complete their two-phase planning process before the next owner took control of the property in order to inform the next owner about possible future land uses or use the plan that was developed to market the site to new users if none had come forward. However, the site was sold to the Reich-Rabin team sooner than the city had anticipated by the city (Fruhling, Bill 2018). The tension that this timing creates in the planning process was exemplified in an OMSAC meeting in April of 2018, when a committee member asked a lawyer representing the Reich-Rabin owner team if they were “dovetailing” their respective efforts and processes in the best way possible: “I’d hate to get to a point where this summer you’re renting up things and you’re kind of developing a plan, and we’re not as far along in developing a city perspective so that we can have those conversations” (Oscar Mayer Strategic Assessment Committee Meeting of April 9, 2018 2018).

One way that the city of Madison is not unique from either of the two cases examined here is in the city’s early expression of redevelopment goals, even before a public planning process had taken place. When asked about city goals that would affect redevelopment of the site, Bill Fruhling, a neighborhood planner from the City of Madison and staff coordinator of the OMSAC, stated: “I think the number one goal of the city has always been that there are good paying jobs that go back on this site”
This sentiment echoes a quote by Mayor Paul Soglin in an article in the Capitol Times: "Up until this point we’ve been pretty much focused on what I would call technical issues. We have a general consensus that the property focus is on economic development and good jobs, and not housing. That’s the first thing" (Rath 2016). There is, however, some indication that a mixed-use site might be palatable to the city as long as jobs are also preserved on the site, but this possibility has not yet been recorded anywhere official; the OMSAC group is only moving towards formulating redevelopment goals and objectives for the site from a city perspective as of June, 2018 after the writing of this thesis.

Reuse and/or Redevelop?
Regardless of what is published in the city’s eventual Special Area plan for the Oscar Mayer site, the Reich-Rabin team is currently seeking to reuse as many of the existing buildings as possible by filling them with tenants before pursuing new development options on the leftover land. Reusing the buildings on their property for the uses allowed by the current zoning is their right as landowners, and thus the city has very little influence over reuse. Redevelopment, however, would require significant city input. In a typical redevelopment process of a larger property, a private developer would buy the land, create a master plan for the site, determine whether the site needed to be rezoned in order to achieve their vision, and then submit their plan for city consideration, feedback, and negotiations before approval and rezoning can occur. Landowners seeking to redevelop land in Madison and many other cities often require extensive city approvals, especially for demolitions, rezoning and land use change, or zoning variances, or for infrastructure funding through Tax Increment Financing (TIF).

This process can go smoothly when the city itself has already planned for the land use change on a particular piece of land, and that change is encoded in a future land use plan or the zoning for the site. The various review boards associated with the approval processes will have considered some of the questions being asked of them before a master plan is brought before them, and there will be an existing vision of the site’s future to weigh against the developer’s plan for their land. In any city, some properties are anticipated to change from one use to another over time based on market pressures or surrounding land use change and are often recorded this way in plans and future land use maps, making this transition process much easier from a city perspective.

However, a city can be caught off-guard by events out of their control that affect land use on a large scale, leaving officials and staff with no plan to follow. The Oscar Mayer
site (and the other cases discussed here) exemplify this phenomenon. None of Madison's neighborhood plans for the areas surrounding the site considered the site as an area of change nor imagined different land-use possibilities for the 72-acre industrial area, and there is no active industrial land use plan for Madison, nor is a land use change for the Oscar Mayer site represented in the Future Land Use map for the city. However, larger national and international economic trends and the decision making of a huge food conglomerate caused a stalwart of the Madison economy, industrial landscape, and city character to grind to a halt.

In all three cities, an announcement of a plant closing on land that had long been used by a single occupant for a single (industrial) use prompted a city process to plan for potential land use change or site redevelopment. What happened after that, especially in terms of timing of the process and ownership of the site, is quite different in each case. In Saint Paul, the mayor envisioned a new, sustainable mixed-use neighborhood on the site, which coincided (or inspired?) Ford's willingness to consider alternative land uses for the site as well. While the extensive, ten-year planning process explored a wide range of building re-use and site redevelopment scenarios, the decision for the eventual site to be a mixed-use development at least in part was ever-present in the planning process. In the end, no buildings were re-used on the main part of the site, and the city was able to plan for land use change and rezone the entire site before the land was sold to a new owner. In Milwaukee, continued industrial land use was planned from the very beginning of the land-use scenarios process, and the city opted to buy the site to ensure that their land use vision would be adhered to, which meant that the marketing and redevelopment process was able to happen after a redevelopment plan was made for the site. A few of the existing buildings do remain on the site and are still to be filled by tenants, but a large majority were demolished as part of the redevelopment process.

Madison is again unique from the other two sites. The land uses that the city will promote and support for this site are as still unclear, and the planning process itself is happening despite a new land owner having already taken control of the land and planning for reuse and redevelopment themselves. Madison's redevelopment goals and the eventual Special Area Plan for the site will be created within the context of this active new owner. Fruhling expressed optimism about the tension in this planning and development process, saying “I think it makes for a better project,” pointing out that developing a plan together with the Reich-Rabin owner team through compromise and negotiation will mean that likely neither side will get exactly the use they want, but the resulting project plan
The Oscar Mayer Site Planning Process

1917 Farmer Packing Cooperative opens to the East Madison, land is annexed by the city

1918

1919

Oscar Mayer and Brother purchases the packing plant in Madison

Oscar Mayer Plant and Headquarters in operation [38 years]

2016

2017

2018

2019

2020

Kraft Heinz announces that it will be closing the Madison Oscar Mayer plant and com- pay HQ

Reich Rabin team purchase the Oscar Mayer plant

Oscar Mayer plant closes

City of Madison convenes the Oscar Mayer Task Force to begin public planning process

City Planning Process

Oscar Mayer marketing site to potential buyers
will be “a ‘go,’” from both the owner’s perspective and the city-approval perspective (Fruhling, Bill 2018). This delicate balance and key moment in the Oscar Mayer site planning process makes it all the more important to look to other land use planning processes and interpret the findings of the cases and literature examined as part of this research as recommendations for the Madison-specific context.
As this exploration of industrial land redevelopment projects demonstrates, successful redevelopment for each city means that the land is not left vacant and should also address the overall city goals for the project in the process itself. The land use planning process can be designed to respond to these site- and city-specific conditions and goals, and often key land-use decisions are determined prior to the initiation of the planning process. Saint Paul’s Ford Site and Milwaukee’s Century City site have each used various planning tools over the past 10-15 years to work towards their project goals, with varying outcomes. The following recommendations represent an interpretation of the two planning processes, and a distillation of lessons-learned, and recommendations for how those lessons can be applied to the Oscar Mayer planning processes in Madison as well as other future industrial re-use and redevelopment processes. These recommendations and interpretations are divided into two parts: for the Oscar Mayer Strategic Assessment Committee (the OMSAC), and for the Reich-Rabin team.

Use scenario planning to model land use outcomes and their impact on community goals for redevelopment and reuse

Scenario planning was used by both the city of St. Paul for the Ford Site and the city of Milwaukee as one the first work products produced by their planning process, though each city took a different approach to this planning tool. With Century City, the 2003 Land Use Concept Study explored different variations of an industrial re-use for the site. The scenarios are essentially iterations of the same site program— a largely industrial site with an industrial/business park, some commercial development at the northern and southern edges of the site, and residential development on the out-lots to the site across the street from the main industrial parcel. Because of the lack of variation among the scenarios, it is as if the land use planning for this site had been completed before the land use concept study was initiated. The primary differences in the land use scenarios in this study stem from speculation of which existing buildings might be reused on the site and how this might affect the site from an urban design
Scenario Planning: the Ford site

Scenario 1: Demolition of all buildings
Scenario 2: Reuse all buildings
Scenario 3: Reuse paint building only
Scenario 4: Reuse "newer" warehouse building only
Scenario 5: Reuse "newer" warehouse building only

Five Scenarios for the Ford Motor Company Site study, 2007
Scenario Planning: the Ford site, cont’d

Four scenarios from the *Ford Site Green Manufacturing Reuse Study*, 2009.
perspective, including variations in street grid and access to the site.

In contrast, at the Ford Site in Saint Paul the initial scenario planning alternatives truly represented different mixes of land uses. The five scenarios included an option that was primarily industrial as a baseline required by the Alternative Urban Areawide Review (AUAR) process, including partial reuse of existing buildings; a mixed-use site with light industrial and flex tech buildings; an office and institutional campus; a mixed-use urban village; and final a high density urban transit village. Though each scenario was mixed use, they represented a significant difference in planned land use for the site.

After the alternative scenarios were developed, metrics were also developed for each Ford Site land use scenario and were used to explain the environmental impact of each one, as required by the AUAR process. However, the scenarios were also used to generate other metrics, including the financial impact of the different scenarios on the city’s budget as a result of taxes generated, and new jobs available to the community. Crucially, the Hennepin Financial Impact Model that produced these metrics was developed not by the city planning department itself, but by the Hennepin County and the Design Center for American Urban Landscape, who adapted an existing regionally-specific model the Ford Site in 2008. The model’s assumptions and limitations were explained in a public presentation and made available to the public on the project website as well. Subsequent market studies added additional information about the potential tradeoffs of each scenario in terms of urban design, land use, and jobs.

There are pros and cons to this type of scenario development and metric modeling approach. On the one hand, through the Ford Site scenario planning process, the planning team and community in general were able to understand the potential implications of different land use scenarios on scale, urban form, open space, type and number of units and buildings, as well as resulting jobs, tax base, transit and traffic, and other environmental impacts. This wealth of information allowed the planning team and the public to understand how the goals of the city could be best achieved through a new land use program.

On the other hand, while modeling can generate quantities, it cannot always generate information about the qualitative aspects of land use. For instance, in the Saint Paul site model outputs, number of jobs are estimated but type of job and resulting compensation is not considered. The subsequent Jobs Strategy Report noted that further analysis and strategic partnership between the city and the master developer was needed to ensure that the busi-
Scenario Planning: the Century City site

Three scenarios from the *Land Use Concepts for the Tower Automotive Site* (Century City), January 2009.

Planning and Design Institute, Inc.
nesses who located in the new development were tax-paying (not tax-exempt) and provide living wages to employees. This finding is consistent with the literature of other brownfield redevelopment case studies – in her 2007 review of brownfields redevelopment literature, Howland notes that little attention is paid to the quality of jobs, the opportunity for upward mobility, or the share of jobs that went to the un- or under-employed (Howland 2007). It is important, then, to think through the implications of model outputs early on, as maximizing various model outputs might not be the best way to achieve some of the more nuanced city goals for site redevelopment. Milwaukee’s Century City site serves as a good example of this- even though more jobs or more tax income may have been able to be generated with a different land use program, an industrial land use program was prioritized because the quality of the industrial jobs anticipated in a redevelopment scenario was one of the main drivers of site redevelopment. However, this land use program has resulted in land that has remained vacant and an empty speculative industrial flex building.

**Recommendation for the OMSAC:** Incorporate land-use and redevelopment scenarios into the planning process to demonstrate the implications of land use decisions and the potential tradeoffs inherent in land use decision making. In particular, scenarios and the metrics used to evaluate them should be directly tied to the city goals for site redevelopment. Though the City of Madison and the OMSAC has not yet released a set of redevelopment goals for the site, it is evident that job creation and employment will be an important goal to consider on this site, as on the Ford Site and Century City site. Evaluating the scenarios based on the potential number of jobs that the land use program could generate would be a worthwhile initial metric to include.

Another way to evaluate the different land-use scenarios explored would be through market viability of the different uses proposed. It is important that this step is rigorous and realistic, and not aspirational, if avoiding a vacant or under-utilized site is another important goal going forward. An ideal but un-realized land use plan program is just as harmful to the surrounding community as if no land use planning process had happened at all. In particular, the market viability of industrial uses that also generate an efficient number of jobs should be closely examined, as the vacant industrial space in Century City warns us.

Finally, model outputs should also be discussed and interpreted to understand the implications of the different redevelopment scenarios from a qualitative perspective, not just quantitative. In addition to estimating the num-
ber of jobs, residential units, or acres of open space, what types of jobs will be created? What types of housing units, at what price points, and who will these units most appeal to? What types of programming and activities will happen in the active open space, and what will be the urban design qualities of the public realm?

Land use scenarios should be carefully coordinated with the owner team so that they represent the most up-to-date building re-use plan for the site and incorporate the owner’s desires as much as possible. However, the scenarios can also be used to generate discussion with the owner team about different programs that they may not be considering.

**Recommendation for the Reich-Rabin team:**
If scenario planning is used by the city to explore different land uses, the owner team should ensure that their own goals are also measured for each land use program considered, preferably by their own analyst team. For example, what density of development or amount of open space will result in a redeveloped site that is marketable and maximizes the value of the site? If OMSAC is not considering a particular iteration of a land use program that the Reich-Rabin team thinks would be successful on the site, the owner team should develop that land-use scenario themselves so that it is comparable with the other scenarios being developed, both in terms of the metrics considered and the methodology used to generate those outcomes.

Engage community members in the strategic assessment process as soon as possible, and consider making the strategic assessment process even more transparent and accessible to community members

One benefit to developing the aforementioned redevelopment and land use scenarios and understanding the implications of them through metrics is that they can be used as the basis for a conversation about trade-offs, priorities, and goals with community members and other stakeholders. This strategy seems to have worked for the Ford Site in Saint Paul – although there are still very vocal and organized community members who oppose the project, city staff state that their goal was to engage community members as partners in decision making as early as possible, from the first year of the process, to understand all of the different opinions and concerns about what the land could be. This early outreach fed into the redevelopment scenario process directly and helped guide the decision to include additional market studies and reports that
addressed the questions and concerns of different stakeholders. Later in the process, once the official closing date of the plant was announced, the planning process was focused on the zoning and public realm plan specifically. City planning staff stated that they tried to demonstrate what they thought was inevitable and why and asked for public comments and engagement when there was room for additional decision making. By the end of the process, city staff and stakeholders realized that there were not five viable redevelopment scenarios to choose from, but that the eventual zoning plan would be based on a hybrid of all the scenarios. Community members in opposition to the new zoning plan for the Ford Site would like to see less intense development overall, more open space, shorter buildings, and fewer new residents. Despite the strong and organized voice of Neighbors for a Livable Saint Paul, the new zoning plan was unanimously supported by the Saint Paul Planning Board and was approved by the City Council in a 5-2 vote.

In Milwaukee, strong connections to the neighborhood and communities surrounding the Century City site seem to have come later in the redevelopment and land use planning process. One clue to this can be seen in the land use plan itself – residential uses were planned for the out-lots first in 2003 and were still depicted in the conceptual redevelopment plan seven years later in 2011, when the
Economic Development Master Plan was released. However, planners express that after further community engagement with the surrounding neighborhood and community organizations, they received feedback that multifamily development and affordable housing would not provide the benefit to the surrounding residents that we needed, and that they are changing the land use plan in these areas to a more “community-focused use,” likely commercial.

The dynamic between city and neighborhood groups in Milwaukee illustrates that even when community members are excluded from land use planning processes initially, they can still have an impact on the eventual plan. It is more efficient to include community groups in the planning process from the beginning so that staff and consultant time is not spent developing a plan that does not resonate with local community members. This is an especially important lesson for the city of Madison’s planning process. Though the OMSAC has met for four initial meetings, an official community engagement process has not been initiated with the surrounding neighborhood groups. However, because the land owner is already planning for reuse and gathering ideas for redevelopment of the site, the neighborhood groups have been in contact with the owner team directly to give input and ideas about future land use of the site.

As it currently stands, Madison neighborhood groups may have a much bigger influence over the eventual land use plan than city officials originally intended at this stage in the planning process because they are working directly with the owner of the site. However, this could also put the city at a disadvantage when negotiating with the owner team about potential land use scenarios, as the owner team will potentially have the neighborhood groups on their side.

**Recommendation for the OMSAC:** Because there is already an owner group conducting community outreach, it would benefit the city’s public planning process to hear the perspectives of community members as well. Partnering with community groups that are embedded within the neighborhoods surrounding the site and the communities that redevelopment will ostensibly benefit is necessary to developing a shared vision of the future of urban land and for understanding how a given land use program will work for diverse stakeholders. Partnerships can work as a way to gather feedback on the program for the site as it develops and are essential if the community and economic development goals that the redevelopment purports to address are to be realized. Community groups have the potential to disrupt planning processes if they are not truly a part of the process or if the process is not transparent to community members. The OMSAC should consider ways that
its meetings can continue to be accessible to community members who will be most affected by the redevelopment of the Oscar Mayer site.

 Recommendation for Reich-Rabin: Continue to work with community groups an ensure redevelopment plans are sensitive to community member's needs. Consider conducting a robust community engagement process to reach out to members of the surrounding neighborhoods that have not come forward of their own volition, or partner with the city to conduct a public engagement process that will be useful to everyone.

 Tie employment goals directly to employment land through performance zoning or redevelopment requirements

In the 2005 Redevelopment Plan for the W. Capitol Drive and N. 35th Street “Century City” Project Area, the project is described as being in a “prominent location in the north central area of the city and provides an opportunity to develop attractive and productive business sites, thus providing jobs for surrounding communities.” In fact, very little is known about the neighborhood community development benefits of actual industrial redevelopment, especially with regards to reduction of poverty, crime, and unemployment, which can again be attributed to the type of data collected from brownfields redevelopment case studies. City staff at the City of Milwaukee speculate that the education level needed to qualify for the types of industrial and manufacturing jobs that might relocate to Century City is higher than the education level that the surrounding community currently has access to, and that further training and community development programming will be needed so that residents can fully take advantage of the redevelopment that might take place at Century City (Burton, Kein 2018).

Again, Howland’s review of brownfield redevelopment literature provides a theoretical framing for the trade-offs and challenges of redeveloping brownfields in neighborhoods that face high rates of poverty, crime, and low education levels. Redevelopment of industrial brownfields sites can both provide jobs in the neighborhoods where they are needed most, but these neighborhood contexts can also be a barrier to redevelopment in and of themselves. This framing is consistent with the Century City site case, as city staff cited the neighborhood, and particularly the high rates of crime, as the primary barrier to redevelopment of the site. In her 2009 paper, Linda McCarthy reviews all of the brownfield sites in Milwaukee, and notes that there is a higher percentage of brownfields in the areas of the city with above-average percentage African Americans, Hispanics, and low-income residents,
but a lower proportion of city-assisted brownfield redevelopments as a proportion of all redevelopments. The 30th Street Industrial Corridor and Century City specifically represent an area-based city strategy that explicitly seeks to address this discrepancy (McCarthy 2009).

Howland also notes that the case studies that successfully act as catalysts for redeveloping blighted areas and creating new jobs and hope for residents often have redevelopment plans that include part of the surrounding neighborhood as well, allowing project funds to be spent across a wider area; include substantial government subsidies and public commitment to redevelopment; and have a location with some physical characteristics that might be appealing, such as access to transit or water (Howland 2007). Redevelopment plans for the neighborhood are not explicitly part of the scope of either the Ford Site or the Century City redevelopment plans.

The Century City planning team is grappling with these issues as an integral part of redevelopment. One way that the City of Milwaukee is attempting to ensure that the redeveloped land supports family-supporting jobs is by requiring that potential tenants on the Century City site employ at least 15 people per acre of land – but as of yet, no potential tenants of either the Century City land or new building have been identified that can meet this requirement. Even so, city staff recognizes that this job density requirement alone will not be enough to ensure that neighboring residents benefit from redevelopment. Currently, city staff are exploring ways that job training and small-scale industry can provide avenues for neighborhood residents to learn skills, start small businesses, and develop into a workforce that is marketable to future tenants in Century City and the 30th Street Industrial Corridor, including land use and development adjacent to the site which could support some of these activities.

RACM is not alone in tackling these issues around Century City. Their partners include The Corridor, which manages the 30th Street Industrial Corridor Business Improvement District (BID) and the Northwest Side Community Development Corporation (NWSCDC) among others, who are also working to extend opportunity into the surrounding neighborhoods through community development and small business support.

**Recommendation for the OMSAC:** Consider including a larger area of the city in the Special Area Plan, especially the parts of the city that are home to a potential future workforce of a redeveloped site, in order to fully understand the different types of support that might be needed to ensure that employment land redevelopment leads to employment opportunity for those who need it most in Madison. This area-based rather than site-specific
approach will allow city staff and stakeholder to engage more critically with the employment access and environmental justice issues and goals that the site must address.

**Recommendation for Reich-Rabin:** Seek out tenants for existing buildings and potential new buildings that will support the city’s goals for the site, especially tenants that will bring jobs to the site. This might mean that some marketable uses, such as warehouse space, should be avoided in order to contribute towards the city’s goals for redevelopment. However, if there are no other marketable uses for a particular part of the site, that should be expressed to the city of Madison directly and demonstrated through market studies, so that the tradeoffs between vacant land and land uses associated with high employment numbers can be weighed against each other.

**Consider mixed-use employment districts if the environmental condition of the site allows**

In the land use plans that have resulted from each of these redevelopment processes, there is still a reticence to mix industrial uses with residential. Whether this is born out of concerns for contamination or property values (though it is unclear to what extent this was a factor in either site), NIMBY attitudes towards dense residential uses from surrounding neighborhood residents (both sites), or the result of market study (St Paul), land use conflict between industrial/productive uses and residential uses is present in the processes and the plan outcomes.

As many researchers and land use strategists have noted, public officials and planners are often concerned with the conservation of employment land above all else (Dunham-Jones and Williamson 2009; Howland 2007; Lester, Kaza, and Kirk 2013; Leigh and Hoelzel 2012). For industrial areas that are redeveloping or transforming after a plant closes, mixed use or commercial development does not have to be seen as a failure of the redevelopment, but could be incorporated into a forward-looking, public space and employment-centered land use plan. An intentionally planned mixed use neighborhood arguably creates more benefit to both the public and the developer/owner than an industrial or employment-focused zone that remains vacant or undeveloped, or transitions to logistics and warehouse uses that employ very few local residents and does not contribute to the surrounding communities a vibrant public realm.

The Ford Site planning process and resulting land use plan revealed that in Saint Paul, the highest possible number of jobs that could be created would be in a mixed-use new-neighborhood district. Even within the new zoning for
the site, however, there are some areas of land that remain single use commercial, office, or light industrial – these zoning areas fall on the parts of the site that were most contaminated and are most difficult to clean to residential standards. In Milwaukee, on the other hand, the Century City site was not considered for mixed-use, and was planned for continued employment and industrial use, purportedly because of the size of the site and its physical proximity to other productive industrial businesses within the northern part of the 30th Street Industrial Corridor. However, the speculatively-built Century City I has primarily seen interest from tenants who would like to use the space as a warehouse, employing very few workers and arguably providing little to no community benefit to the surrounding neighborhoods.

It is difficult to say if planning for a more mixed-use site that would allow for a greater number of uses at Century City would provide a more flexible development environment and attract more potential tenants or not, but the potential for a mixed-use employment district area is worth further consideration, especially if the site remains vacant and undeveloped.

**Recommendation for the OMSAC:** The planning process should carefully consider the types of land, buildings, parcels sizes and configurations, and uses that would be desirable for potential employment tenants and determine if these are mutually exclusive to other uses, such as residential or retail. A mixed-use employment area may be able to attract non-employment uses that would act as catalysts to the employment uses, subsidizing their inclusion in the land use plan, while simultaneously contributing to a more vibrant public realm and creating the possibility of a live-work neighborhood.

In order for this to be a possibility on the Oscar Mayer site, city staff should work closely with the owner team to share information about the environmental contamination of the site or ask the owner team if they can conduct their own environmental assessment of the site. Though there has been some recent reporting at an OMSAC meeting regarding site contamination, it is unclear what types of access the environmental consultants had to the site itself or contamination records. Including residential uses on the parcel or other land uses that might expose people to environmental contamination should only happen if site conditions allow, or the site is remediated so that it is truly safe for all human activities.

If a mixed-use site is being considered by the city even at this early stage, this should be made apparent through the city’s site redevelopment goals and objectives so that the owner team can effectively plan for site reuse. Open and
transparent communication about what land uses may be considered will help the Reich-Rabin owner team know what their redevelopment options are now and may be in the future, which will ease the tension inherent in the simultaneous planning processes that are currently taking place.

**Recommendation for Reich-Rabin:** Communicate potential land use ideas to the OMSAC and city of Madison staff as much as possible to ensure that the possible mix of land uses that are being considered for reuse and redevelopment continue to align with city goals for the site. Frame potential redevelopment scenarios in terms of their effects on the city goals and objectives for site redevelopment whenever possible so that the city knows that the owner team cares about the long-term success of the development and its impact on the city in addition to creating a profitable development.

**Work with land owners and brokers to market the vision, not the land**

All three cases studied here are currently being marketed to potential tenants and master developers as large swaths of land or vacant buildings within urban neighborhood contexts, with varying levels specificity about the planned land use on the sites. The Century City site in Milwaukee is shown in different images on the Colliers brokerage site both as a rendering of a future business and industrial park and as a blank slate of land – presumably to communicate the potential future of the land and the flexibility of the redevelopment plan to the vision of an individual tenant for development. This balance was undoubtedly achieved due to the ownership structure of the land itself – because the city of Milwaukee owns the site, they have been able to work directly with the land broker to determine how the site should be depicted in marketing materials as an area for future development.

In Saint Paul, the conceptual visualizations created of the rezoned and redeveloped Ford Site, including a detailed public realm and stormwater plan, are illustrative of the more than ten years of planning process that has occurred primarily in the public sector, but also in partnership with Ford Motor Company. However, the vision and value that these plans represent do not appear in the land broker’s depiction of the site. Instead, the site is depicted as cleared and remediated land, with no visualizations of the future vision for the site, and only a link to the city’s land use planning and zoning materials.

While it may be more desirable for a tenant or a master developer to purchase, rent, or develop land that has no prescribed program, it is misleading to market the sites
as blank slates for redevelopment. In the case of Century City, the land is in large part in a single zone – Industrial Heavy. However, the new zoning at the Ford Site in Saint Paul will result in a much different type of redeveloped space than the former use. Showing the vision for the space in marketing material will not only allow potential buyers or tenants to have realistic expectations for the land but will also allow them to capture some of the value that has been created by the planning process itself.

Recommendation for the OMSAC and the Reich-Rabin team: As soon as there is a vision for what redevelopment at the Oscar Mayer site could be from the city’s perspective, communicating this vision to the site owners and asking them to communicate it to potential tenants is essential, either through their marketing materials or through conversation. This requires close communication with the Reich-Rabin team and the OMSAC to ensure that the public vision for the site does not diverge from the owners’ own interests and plans, and that they are communicating the common vision to the broker in a way that results in clear marketing material for potential buyers or tenants.
LIMITATIONS

Although I spoke to city staff in each of the case cities about their approach to community engagement, neither of the primary cases examined here published a summary of community feedback. I also was not able to interview community members or community groups about the planning processes from their perspective for the two primary cases examined. This limits my ability to analyze or comment on the quality of the community engagement processes that was conducted for each redevelopment plan. My comments and recommendations based on approach to community engagement are primarily based information from city staff, as well as news articles and the websites of the community groups involved.

I also did not conduct thorough examination of the market conditions for industrial re-use in for each of the sites. Instead, an assumption was made (and confirmed in all cases) that some level of redevelopment market study was conducted for each site, and that the findings of these studies were incorporated into the planning processes.

After examining each of these cases in detail, it has become clear how influential consultants to city staff can be in shaping the future of these sites by providing direct recommendations and assessments of potential land uses with regards to their market potential, urban design, stormwater and open space performance, and potential to create employment. However, I did not interview consultants for this research, but instead focused on city planning staff as the leaders of the public planning processes. Future research might look to project consultants as key participants in planning for land use transformation or reuse of industrial land.

Finally, an additional note about the context of these public planning processes: One key reason why cities might prioritize public planning processes for some sites might be city-wide policy or planning for industrial land overall in the city. Even if there isn’t a plan for industrial land, there are other redevelopment sites in some of these cities that act as important context for site-level decision making. For instance, in Milwaukee, the very successful Menomonee Valley redevelopment into an eco-industrial park provides an important contemporary parallel Century City. The city-wide context was only briefly mentioned in this thesis, and could be examined in greater detail for each site.
While it is important to understand the intricate ways that that process of planning for reuse, redevelopment, or transformation of urban industrial land functions to affect land use outcomes, each process is inherently different and context-specific. Without larger datasets that examine the different site, context, and process variables that might affect redevelopment and land use outcomes, questions about how to develop policy and procedures at a city or regional scale that spur certain land use or redevelopment patterns may remain unanswered. Analysis of a larger dataset of industrial reuse and redevelopments to understand their planning and neighborhood contexts, perhaps compiled at a city or regional scale, would be a fruitful area of research.

Most datasets of redevelopment sites focus on the type of former use, the type of contamination, and whether or not the site was cleaned. Redeveloped land use is sometimes included as a variable, though usually only a one or two-word description of program. A comprehensive dataset might include information about process, ownership, and a more robust description land use outcome, including number of jobs created or some measure of storm water management or public realm impact. Marie Howland notes the need for this type of information in her 2007 literature review, *Employment Effects of Brownfields Redevelopment: What Do We Know from the Literature?*

One difference between the cases examined here was the ownership of the site during the planning process and the city entity that led the planning process. Based on the cases examined here, I suspect that the city entity leading the redevelopment has a substantial impact on what type of land use is planned for the site, and whether that planned land use is eventually developed onto the site. The Ford Site city-led planning process was led by the Planning & Economic Development Department in Saint Paul, while the Century City planning process was led by the Redevelopment Authority of the City of Milwaukee—two agencies with related but very different missions. Still other industrial redevelopments may be entirely led and master-planned by a private developer without a city-led planning process at all. Analyzing a larger dataset to understand both planned land use and developed land use broken down by the primary planning body may uncover some widespread trends that could lead to more success-
ful land-use planning outcomes in future projects.

Analyzing the changing concentrations of employment within industrial land on a city or regional scale would also be a fruitful area of research, especially when correlated with redevelopment projects across the same area. Comprehensive data on how many people work in areas that are zoned for a particular use is not widely available without industrial land and employment surveys that collect data that locate jobs by address or parcel. Understanding the patterns and trends of employment in industrial zones on a local scale would help cities develop better goals and metrics for how many people are and could be employed in a particular city in a particular employment district.

The implications of a dataset like this on city policy could be significant, as the case studies discussed here demonstrate. Planners and city officials in Madison, Milwaukee, and Saint Paul are all concerned with preserving jobs and employment land, and these concerns have played a large role in determining the land use planning outcomes for the three sites examined in this thesis. However, their regulatory approaches to preserving jobs vary considerably, and the land use outcomes are accordingly different. In these cases, it is too early to tell whether their land use plans and employment policies will have the desired outcomes. One step that each of these cities could take is to conduct industrial land surveys to better understand what types of uses are housed on the industrially-zoned land in their cities, how many jobs are associated with each type of use and at what employment density, and who is employed in those jobs. This would remove some of the theory from planning for industrial uses and ground city policy in real data, allowing cities to set better standards and more clearly incentivize the types of employment that they want, and better protect or develop land to accommodate these uses.

Finally, several of the authors referenced in this thesis have noted that mixed-use zones that foster industrial uses or require a prescribed mix of uses that includes industrial are one way that cities are beginning to respond to the loss of industrial land amidst multiple land use pressures. The following list represents an incomplete accounting of municipalities that have enacted some type of mixed-use industrial zoning district:

- New York, NY
- Washington DC
- San Francisco, CA
- Nashville, TN
- Atlanta, GA
- Baltimore, MD
- Minneapolis/St. Paul, MN
- Philadelphia, PA
• Denver, CO
• Battle Ground, WA
• Berkeley, CA
• Boulder, CO
• Corvallis, OR
• Glendale, CA
• Madera County, CA
• Miami, FL
• North San Jose, CA
• Pittsburgh, PA

Understanding the exact mixes of uses allowed in each case, the implementation of these zoning districts, and the land use outcomes of their implementation through a series of detailed case studies would be a useful tool for municipalities looking for creative ways to support industrial uses in their cities without while still allowing for some other types of development.
I would like to extend my sincerest thanks to those who agreed to let me speak with them about industrial site redevelopment in general and in their cities specifically. The insights and information you provided to me were invaluable, and I am so grateful.

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Clapp-Smith, Merritt. 2018. Merritt Clapp-Smith, interview with author, Phone.


Mike Richardson. 2018. Mike Richardson, interview with author.


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