

City of Milwaukee: Construction Mitigation Program

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Foreword

Students in the master of public affairs program in the Robert M. La Follette School of Public Affairs at the University of Wisconsin–Madison produced this report for the City of Milwaukee’s Department of Administration’s Budget and Management Division. The opinions and judgments presented in the report do not represent the views, official or unofficial, of the La Follette School or of the clients for whom the students prepared the report.

The authors are enrolled in the Public Affairs Workshop, Domestic Issues, the capstone course in their graduate program. The La Follette School offers a two-year graduate program leading to a master of public affairs or a master of international public affairs degree. The workshop provides practical experience applying the tools of analysis acquired during three semesters of coursework to actual issues clients face in the public, non-governmental, and private sectors. Students work in teams to produce carefully crafted policy reports that meet high professional standards within the timeframe of a single academic semester. The reports are research-based, analytical, and when appropriate, evaluative.

This report would not have been possible without the encouragement and leadership of the City of Milwaukee’s dedicated employees. The report also benefited greatly from the support of the staff of the La Follette School. In particular, Outreach Director Terry Shelton contributed logistical and practical support. Karen FASTER, La Follette publications director, edited the report and oversaw production of the final bound document.

This report was generated primarily for the educational benefit of its student authors and the purpose of the project was to improve their analytical skills by applying them to an issue with a substantial policy or management component. This culminating experience is the ideal equivalent of the thesis for the La Follette School degrees in public affairs.

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Construction Mitigation Executive Summary

Municipal construction projects have the potential to engender long-term economic benefits for the surrounding area. But in the short term, many of these projects substantially harm surrounding businesses by limiting access and changing customers' shopping patterns. The City of Milwaukee plans to support economic development through the implementation of construction mitigation services to limit or negate the negative impact construction projects have on surrounding businesses. The purpose of this report is to explain a variety of services provided in various cities across the country and to design a package of services that the City of Milwaukee may implement to improve its construction impact mitigation efforts.

Relatively little research exists on construction mitigation efforts, and even less attests to which, if any, construction mitigation services are efficient or successful. Therefore, to provide a comprehensive set of services to consider, we contacted 46 cities by phone. These cities varied in size and location, as both construction projects and business support programs exist in cities of all sizes across the country. Thirty-three cities responded to our initial phone calls, and their responses form the basis of this report. Each city was asked the same questions and offered a list of potential services they might provide. All cities reported providing at least some construction mitigation services, although the scope and number of these services varied widely. Communication with affected businesses, public meetings, and the provision of signage were the most frequently utilized services. Cities were also asked about implementation methods and the success of all services provided.

Based on our research, we recommend implementing a package of services which includes: public meetings, communication with affected businesses, signage, a website, and business education. We also suggest implementation methods and details specified for each service. Additionally, we recommend that a program liaison coordinate these services. We evaluate this package of services, the Construction Mitigation Service Package, against the status quo based on four goals identified by the City of Milwaukee: cost-effectiveness, ease of implementation, political feasibility, and equity. Moreover, our research uncovered that no cities used a systematic evaluation system for construction mitigation efforts. However, a program evaluation system would be valuable, and we recommend a system for the City of Milwaukee.

By implementing the suggested services, as well as an evaluation system, the City of Milwaukee would create one of the nation's most comprehensive and responsive construction mitigation programs.

Introduction

Municipal construction projects have always had the potential to harm local businesses, but in today's economic climate, already-struggling businesses may suffer even more when public construction threatens access and alters traffic patterns. When reviewing recent media reports, it appears that no one is more aware of that fact than business owners themselves. In Roseville, California, business owners are concerned over the implications of a proposed three-month bridge maintenance project on their ability to do business, claiming that it would be "devastating" (Holst, 2010). These owners fear that the bridge closure will decrease the number of customers who patronize their business and in turn, harm their profit levels (Emard, 2010). Similar reports can be found from Portland, Oregon, to Billings, Montana, to Fraser, Michigan, to Columbia, South Carolina, and from many places in between (Bray, 2010; Click On Detroit, 2009; Kuenzie, 2009; Neves, 2010). In fact, the situation in Roseville is not at all uncommon, as municipal construction projects in cities across the country harm businesses adjacent to the project and the surrounding community. Similar concerns have existed in Milwaukee, from businesses that cite limited access due to public construction as a reason for closure (Walker & Hajewski, 2010) to efforts made by the Wisconsin Department of Transportation zoo interchange project to work at night to avoid affecting commuters (McEwen, 2010). These concerns, combined with the large infusion of construction funds from the 2009 American Recovery and Reinvestment Act, have caused the issue of construction mitigation to rise in the agenda of city officials.

Construction mitigation encompasses a wide variety of efforts to limit negative economic impacts of a construction project. Among other reasons, mitigation activities are needed to help maintain a healthy business community and viable tax base for a municipality. The City of Milwaukee provides some mitigation services such as open public meetings, communication with businesses, and information on the City of Milwaukee's website. However, the City of Milwaukee is investigating ways to simultaneously better support businesses while still meeting necessary construction goals.

This report examines services provided by cities across the nation that the City of Milwaukee could adopt. First, we summarize Milwaukee's specific interests and research questions. We then explain the need to investigate construction impact mitigation options. Next, we present our methodology for data collection and results of our survey of comparative cities. From the results of our survey, we construct a list of potential services. Following this section we identify the status quo of services the City of Milwaukee provides and offer a Construction Mitigation Service Package of services and implementation methods specific to Milwaukee. The package and the status quo are evaluated based on goals identified through our research and consultations. Additionally, we address the justification for a system of evaluation for any services provided. Ultimately, this report provides the City of Milwaukee a recommendation that is practical and effective in accommodating the business sector during the city's construction projects.

Statement of Problem

The City of Milwaukee is developing a comprehensive plan to mitigate the impact of municipal construction projects on surrounding businesses and commercial establishments. Construction mitigation is not a new concern; however, recent developments, such as the unexpected length of several bridge construction projects and Milwaukee's receipt of approximately \$30 million in funding for public construction projects from the American Recovery and Reinvestment Act, ensure that mitigation is an especially timely issue in 2010 and beyond. This report explores the following research questions to help the City of Milwaukee identify and implement a new construction mitigation policy:

- What construction mitigation measures do other cities across the nation undertake? How effective are these measures?
- Which package of construction mitigation measures is most appropriate for Milwaukee?
- How can Milwaukee best evaluate the success of mitigation measures?

No widely agreed-upon definition of "construction mitigation" exists. For the purposes of this work, we will use the phrase "construction mitigation" to refer to any and all measures designed to limit the negative economic impact of construction projects on surrounding businesses, from simple measures such as maintaining access to business entrances, to more in-depth actions such as business education programs. We acknowledge that the impacts of construction projects are not limited to economic impacts on businesses. For instance, construction projects may have adverse social and environmental effects on communities. However, this report focuses on economic impacts for two reasons. First, laws regulating environmental impacts of construction already exist. Second, our clients' primarily expressed interest in mitigating the economic impacts of construction.

The Need for Mitigation

The need for construction mitigation is obvious following a review of existing literature and recent media coverage, as public construction projects have the potential to impose many negative effects on surrounding areas.

Our main focus is on the potential negative economic impacts of public construction projects on local businesses. We define public construction projects as any publicly funded projects that occur on publicly owned property. Of these projects, infrastructure-related construction is likely to have the greatest impact on business activity. These construction projects, as well as any impact of mitigation efforts, relate to the overall goal of economic development.

While many economic development plans focus on bringing *new* businesses to an area, business retention programs became increasingly prevalent during the 1970s and later (Worden, 1993). After all, it may be more efficient for cities to support

the continued success and expansion of established local businesses than to bring in an external firm with no ties to the area and no track record of local success (Worden, 1993). Therefore, construction mitigation measures to help retain businesses may be an efficient way to promote local economic development.

Some construction projects may actually benefit certain businesses, even before their completion, as the importation of construction workers may lead to increased patronage at businesses such as motels, restaurants, and convenience stores (Bovay & Institute, 1991; New York City, 2008). In addition, construction projects may force business owners to streamline or refine their business practices, resulting in long-term, sustainable improvements. However, the benefits of the influx of construction workers and potential for independent innovation may be more than offset by the detrimental effects of traffic flow disruption and reduced access. Given the preponderance of evidence from our interviews and existing literature, it is safe to assume that most construction projects will have a net negative impact on local businesses in the short term.

Although the short-term impact of construction projects on local business is likely to be negative, public construction projects in general (and infrastructure improvement projects in particular) have the potential to engender significant long-term economic benefits, including reductions in transportation costs and increases in economic activity (Forckenbrock & Foster, 1990). Investment in public construction projects may also “expand the productive capacity of an area” (Munnell, 1992). But to enjoy these long-term benefits, businesses must survive for the duration of the construction projects; hence, the need for mitigation efforts.

A major impact of construction projects on local businesses comes from the disruption of traffic patterns and available parking (Chmura Economics, 2004; City of Norfolk, n.d.; Minnesota Department of Transportation, 2007). There may be disruptions to both pedestrian and vehicular traffic flows, thus disproportionately harming businesses that depend on drop-in customers who did not necessarily plan a visit to the business. Construction projects may hamper businesses’ ability to receive shipments from suppliers or ship their own products to other locales. Businesses may be further affected by other disruptions to infrastructure, such as temporary loss of access to water or power (New York City, 2008).

A long-lasting construction project that does not provide for continued access to businesses can even result in permanent behavioral shifts within a community, as residents find alternative sources for goods and services (Exposition Metro, 2009). These residents may then establish entirely different commercial routines and fail to return to businesses at which they previously shopped even after the cessation of construction activities. Small businesses face particularly high levels of risk, evidenced by failure rates that are significantly higher than those of larger businesses. This is partly due to the increased number of competitors most small businesses face (Worden, 1993; Bressler, 2004).

Cities also have strong incentives to ensure the continued success of local businesses. A thriving business community improves the local economy by providing jobs to community residents. In addition, a successful business may draw in customers from other locales who will spend more money in the area, further improving local prosperity. The city itself then benefits, as its successful businesses pay more in taxes. The existence of more successful businesses also expands the city's tax base, reducing the burden on individual businesses and improving the overall financial condition of the city.

Local residents also benefit from continued access to local businesses. Absent an available local source, these individuals would have to travel to acquire goods or services, and this increased travel time would result in lost productivity. Maintaining local businesses may also improve residents' conceptions of their community and their overall quality of life (Besser et al., 2008). After all, local businesses often provide much more than just a place to shop and may sponsor local events or provide a place for social gatherings.

Finally, outreach efforts such as construction mitigation programs might improve public perceptions of the city (Lee, 2009). Public construction projects are sometimes viewed as "being conducted in an atmosphere of secrecy and exclusion" (City of Charlottesville, 2008). Mitigation programs may encourage more positive interactions between government and private residents, as well as remove some of the perceived disconnect between public construction projects and the interests of local residents. These programs may also make the city appear more hospitable to business, thus encouraging more businesses to relocate to the area with the intent to benefit from city services.

Thus, the rationale for implementing programs designed to mitigate the impact of construction projects on local business is exceedingly strong. However, these programs are not cost-free. Any construction mitigation effort will consume resources, so it is important for cities to identify the best possible package of mitigation services, thus maximizing the overall impact on economic development at the lowest possible cost and highest possible level of benefit. The economic and social health of a city depends a great deal on the success of its business community, and the money spent on the best mitigation programs may possibly be repaid many times over if businesses remain open and successful.

Because construction mitigation services may consume additional city resources, we researched alternative funding sources for the City of Milwaukee. We communicated with the Wisconsin Department of Commerce, several departments in Milwaukee and Madison familiar with community development block grants, the Department of Economic Development in the Wisconsin Department of Transportation, the Community Development Grant Administration office in Milwaukee, the Milwaukee Department of City Development, the Milwaukee Development Corporation, the Milwaukee Redevelopment Authority, and the Wisconsin Main Street Program about funding opportunities for construction

mitigation programs. The result of our research into various local, state, and federal sources is that there is no significant, direct source of money available to fund construction mitigation services in Milwaukee. More generally, projects that meet the low and moderate income requirement for block grant funding could access this funding source to pay for the construction mitigation efforts, per Madison's office for community and economic development. According to Milwaukee's Community Development Grant Administration, however, only programs that offer direct technical assistance to businesses, in addition to meeting the low and moderate income requirements, would be considered for funding. Therefore, the City of Milwaukee would need to absorb any costs of mitigation measures or incorporate the expense into contracts.

Certain construction mitigation measures are standard and therefore not regarded as special mitigation measures by city employees. These encompass several "common sense" or "best practice" strategies to maintain access during construction. First, cities and construction contractors typically phase in construction projects by completing sections of the work rather than tearing up the entire road or sidewalk. With completion of the work in sections, the time that the road or sidewalk directly in front of a business is closed is greatly reduced. Additionally, maintaining a flexible schedule that can adjust to the needs of adjacent businesses is an important and common practice. For example, restaurants require open access during lunch and dinner hours, coffee shops prefer no construction in the morning, and other businesses must maintain open access at specific times to receive delivery of supplies and merchandise.

City Selection

Given that scholarly research on construction mitigation has been limited and only incomplete information exists on most municipal websites, we determined that the most effective way to gain an understanding of construction mitigation policy options would be to conduct a series of systematic phone interviews with city officials who are responsible for implementing mitigation programs.

To do so, we identified 40 cities to serve as a sample for this study. We later added six cities in Wisconsin based on a conversation with an individual working for Wisconsin's Main Street Program, bringing the total number of cities in our study to 46. Studies of this nature often include samples that consist of cities that are substantially similar to the city for which the study is conducted. However, for this analysis, the selection of only similar cities is unnecessary and may actually be inappropriate. After all, innovation does not only occur in cities that are similar to Milwaukee, and neither do construction projects. Limiting the impact of construction programs on local business is a universal issue, and although smaller cities may not engage in construction projects that are of the same scale as those in Milwaukee, they do develop innovative mitigation programs with options that may be beneficial when scaled up to accommodate large projects.

Our sample of cities intentionally encompasses a wide variety of geographic locations and sizes. We began our selection process with a list of every city in the United States with a population of more than 100,000. From this list, we selected cities from all areas of the country with populations as close to Milwaukee's as possible. Although innovative construction mitigation options exist nationwide, we oversampled cities that experience a similar climate and similar length of construction season. Therefore, Midwestern cities are deliberately overrepresented in the sample, particularly those in Wisconsin. These cities face weather-related constraints similar to those in Milwaukee and are subject to the same state regulations. We selected several smaller Wisconsin municipalities as well to ensure our interviews captured small-town innovation. We included several cities in our sample that were mentioned in literature the City of Milwaukee provided, as well as cities that interviewees identified during data collection. Altogether, our sample is diverse enough to ensure the collection of a wide variety of construction mitigation options, but it also contains enough cities in close geographic proximity to Milwaukee to ensure that any particular trends or limitations specific to the Midwest will emerge. A full list of cities and further justification for their selection may be found in Appendix A.

Summary of Survey Responses

Thirty-three of the 46 cities responded and provided information for our study, a 72 percent response rate. A city was determined to be non-responsive after three unsuccessful contact attempts. No particular patterns emerged in our non-responsive cities, as our groups of respondents and non-respondents did not appear substantially different. Each of the 33 cities answered the same questions. The survey questions ranged in topic from services provided to funding, management, and evaluation of these services. Additionally, the interviewer listed a series of potential services so that the city interviewee could identify which her or his city provides. Items on the list included options that cities may not have explicitly considered a construction mitigation effort. By using a comprehensive list, we identified what percentage of the cities that responded actually provides each service. Although multiple cities often offer the same basic service, the specific manner in which the service is provided may vary. The variety found in the implementation of services is addressed later, in the "Service Options" section. Appendix B provides a full list of the survey questions asked of each city.

Several patterns stand out in the data. For instance, at least 79 percent of the interviewed cities provide public meetings; communication via email, postal mail, fliers, or phone calls; and/or some form of signage for businesses. Other services are comparatively rare. Fewer than 21 percent of cities that responded reported providing art or direct compensation and collaboration with a local university on mitigation of the effects of construction. Table 1 provides a complete list of the services with a brief definition, the number of cities that provide the service, and the percent of cities interviewed that provide said service.

Table 1: Summary of Construction Mitigation Services

Service	Service Definition	Number out of 33 of cities that provide service	Percentage of responding cities that provide service*
Communication	Mailings, email, flyers, phone with stakeholders	32	94
Public meetings	Open meetings with stakeholders	32	94
Signage	Postings to inform public	27	79
Website/hotline ⁺	Informational telephone operator or updates and information available on the internet	23	68
Program liaison	Position designated to interact with stakeholders	21	62
Parking	Efforts to ensure adequate parking by business staff and customers	18	53
Paid advertising	Fully or partially funded advertising effort by city	13	38
Cooperation with local entities	Inclusion of resources from community organizations or development groups	12	35
Business education	Instruction to assist business operation	10	29
Loan	Public or private loan to business	9	26
Art	Temporary pieces incorporated into construction site	6	18
Cooperation with higher education institution	Inclusion of resources from a college/university	5	15
Direct compensation	Financial resources distributed to business with no repayment expected	2	6
*Rounded to the nearest whole percentage.			
⁺ The survey asked whether a city uses a website or hotline. We have divided the two services hereafter to provide more succinct definitions of each.			

Source: Authors' calculations

Service Options

Our research indicates that cities often provide the same services but implement these services differently. Below is a comprehensive list of services that exist in other cities. This list of services provides an in-depth definition and discussion of each service based on the qualitative data collected. Here, we note the differences in implementation indicated during our interviews. Appendix C contains a comprehensive list of cities offering particular services and methods of implementation.

A. Communication

Communication refers to dissemination of notices about construction projects to property owners and businesses by the city or contractor. It may include electronic or print mailings, leaflets, phone calls, or in-person visits to affected businesses. Communication with property and business owners was identified as a central component to any construction process. Of the 33 responding cities, 32 indicated some level of communication with affected businesses regarding construction projects (for a detailed list of which cities provided these services, please see Appendix C; all services which are not ascribed to a specific city or set of cities will appear in this appendix). Cities, including Kansas City and Cedar Rapids, expressed the importance of communication between the city and business owners and emphasized the need for clear and frequent contact. Sacramento and Monona reported that communication efforts are structured into the project bid and are therefore the responsibility of the contractor. For the remaining 30, communication is implemented by the municipality and coordinated by a construction project manager or public relations employee. Typically, cities integrate multiple levels and modes of communication at different stages of a project to create a comprehensive system. Prior to the start of construction, business and property owners may receive information (electronic or hard copy), informing them of public meetings, what to expect during the project, and whom to contact for inquiries. During the construction process, communication may be maintained to inform businesses of coming phases of the project and alert businesses whenever there is a significant change to construction plans. The forms of these communications vary as some municipalities favor fliers, emails, telephone calls, or in-person visits. However, communication is not limited to distributing information to those affected by the project. For example, four cities also reach out to local media by issuing news releases. There is typically minimal communication following the conclusion of a construction project.

B. Public Meetings

Public meetings serve as a forum for cities to solicit information from stakeholders and address potential problems in advance of, during, and after a construction project. These meetings are led by representatives from the city or project contractor and vary in frequency and format. Ninety-four percent of cities interviewed reported using public meetings as part of their construction process. Sixteen cities explicitly stated that they hold meetings before the construction starts. These meetings are advertised in a variety of ways including through

mailings, news releases, and door hangers (Eau Claire) and through business and neighborhood associations (Minneapolis). Kansas City, Green Bay, and Austin indicated that the type and frequency of their public meetings depends on the scale of the project and the interest expressed by stakeholders. Six cities reported holding regular meetings during construction, although their frequency varies. Monroe, Marshfield, and West Allis hold weekly meetings, and San Jose holds monthly meetings, while Monona holds contractor-led meetings twice a month. West Allis and Portland additionally noted efforts to rotate meeting locations among the various restaurants or coffee shops affected by construction.

C. Signage

Signage refers to signs, banners, or placards to promote the affected business community and encourage access to these businesses. It does not refer to signs that identify alternative routes for motor vehicles or the existence of construction projects, but to signs with a promotional and commercial purpose. These signs may be funded and created by businesses, the city, or the contractor. This service is implemented differently throughout the interviewed cities. Sacramento requires signs noting that businesses are open and accessible in the traffic control plan and leaves the implementation up to the contractor. Four cities relax zoning requirements and allow businesses to place promotional signs in locations where they would not normally be allowed. Seven cities, including Fort Worth and Seattle, reported allowing businesses to place “Businesses are Open” signs in the construction area or physically produce and place these signs themselves. Others focus on promoting the construction area. For example, Osceola created a marketable and recognizable image for the construction project by using signs both before and during the construction project. Portland and West Allis will sometimes include business names or logos on their signs. Lastly, five cities reported using signs to indicate alternate access to businesses, at times including a map.

D. Website

Cities can maintain separate websites containing information about construction projects or pages within the larger city website. These websites may contain information including but not limited to program liaison contact information, project updates, business information, project schedules, and access and parking information, as well as copies of news releases and correspondence with affected businesses. Seven cities provide a list of current or future construction projects on websites. Additionally, Chicago and West Allis provide traffic information including detours. To more directly support businesses affected by construction, West Allis and Portland include business-related information including hours of business or links to the businesses’ websites. Therefore, websites are used as a means of informing stakeholders of which businesses are affected and how to access them. In past years, Portland used webcams to stream video of the construction site online. The webcams have been repurposed and are now used by city engineers. Finally, websites are used as a way to provide businesses with support. Lincoln includes information on how to cope with construction on its website.

E. Hotline

A hotline is a telephone number with an automated or human response system. These hotlines provide information and communication for questions or concerns regarding construction projects. They allow for more immediate response to public concerns than would be expected via electronic communication. The organization responsible for answering the line varies greatly. Some cities like Minneapolis and Sacramento use a 311 number that covers all city departments. Fort Worth requires the program liaison to answer a phone line and act as a hotline operator, while Alexandria requires that the contracted construction company provide a phone number that is publicized on signs around the construction zone and available 24 hours a day. Portland, on the other hand, completely contracts out the answering of the hotline. The city pays for a set number of minutes and the contracted organization uses the city's frequently updated website to answer questions and redirect calls. The cities that provide a hotline emphasized the importance of a service available at all hours to resolve any complications that may arise.

F. Program Liaison

A program liaison is a defined contact person(s) who handle all inquiries related to a construction project and has the ability to influence the construction process to incorporate stakeholders' needs. The number of program liaisons tends to be related to the size of the city and the number of construction projects. The program liaison is not an advocate for the city or the contractor, but rather an individual who may reach out to various groups and consider the needs of multiple stakeholders. The liaison can be housed within different departments or organizations and can strengthen communications with the community by providing a consistent and identifiable contact. The extent of their coordination depends on a number of factors (such as if there is an external consultant on the project). The role of program liaison can begin prior to construction. In Fort Worth, Monroe, and Portland, program liaisons coordinate meetings prior to construction to inform the public about the future project and solicit input on how the project can accommodate the businesses. For nine cities, program liaisons interact directly with businesses and ensure effective ongoing communication between businesses and the contractor, during the construction phase. Finally, seven cities house this position internally in a city department (typically a project manager or engineer). Four cities require contractors to fulfill this role.

G. Parking

Parking-related construction mitigation measures limit the effect of the reduction in available parking during construction projects. They may include minimization of the effect of construction on parking space, the provision of alternate parking locations, or free public transportation into the affected area. Our research revealed three main approaches that cities use to address parking conflicts: relying on contractual obligations, working with contractors informally, and ensuring

alternate site parking. Four cities address parking contractually, often through formal traffic control plans that normally must be approved prior to construction. Cincinnati, Monroe, and Seattle negotiated an informal policy with the contractor to limit the impact construction has on parking availability. Finally, three cities, Marshfield, Portland, and West Allis, attempt to find alternate parking for businesses that lose space because of construction. This approach includes allowing parking in empty lots and other areas not in use. Identifying alternate parking can be more formalized by designating alternate loading zones or allowing businesses to validate parking stubs at nearby parking garages.

H. Paid Advertising

Paid advertising is another way for cities to promote affected businesses. This may include print, radio, or television advertisements that are business- or neighborhood-specific. This type of advertising is distinct from news releases or other media coverage. Advertisements inform the public that establishments are still open for business, despite construction, and encourage individuals to continue use of businesses. For instance, Grand Rapids underwrites the cost of business-specific construction-based advertising up to \$500. Boise distributes advertising ideas and templates to businesses. Five cities take out advertisements in local newspapers or radio to provide construction updates and notices that businesses are still open. Eau Claire runs updates and advertisements on its community access television station, while Portland has placed advertisements on city buses to promote a downtown area under construction.

I. Cooperation with Community Entities or Development Groups

These types of partnerships allow cities to take advantage of existing community resources rather than replicating these resources themselves. Cities may work with local development groups to disseminate information or coordinate with these groups to provide informational workshops and services. Both West Allis and Minneapolis used outside organizations to provide some form of technical assistance to businesses. Five cities reported working with the local chamber of commerce or business association to better communicate with businesses or put the businesses in touch with resources the group offers. West Allis and Minneapolis used outside organizations as a potential lending source for affected businesses. Community organizations offer loans or grants, and both cities offer information about these opportunities to local businesses.

J. Business Education

Business education includes the provision of business development and improvement information. It may constitute informational pamphlets or presentations provided by the city, as well as coordination with external parties to provide such information. It may be tailored to help businesses maintain profit levels during construction projects. Business education is another way to support businesses during construction, particularly small businesses that may be less experienced

in handling revenue loss. Six cities reported providing businesses with construction-specific informational packets, including sections on potential marketing strategies, how to communicate positively with the media during construction, and other suggestions to improve business practices and efficiency. These packets also include information about other places the businesses could turn for resources, including other city departments (like the Department of City Development), the local universities, and business and community organizations dedicated to assisting businesses. Marshfield’s Main Street Program uses these types of information packages, as does Green Bay. Madison provides a “Road Construction Survival Guide,” which West Allis adopted. University of Wisconsin–Extension offers an article entitled “Surviving Road Construction” with practical suggestions for businesses that could also be adapted and utilized. Workshops or technical assistance (such as creating a marketing plan or finding ways to trim expenditure) may also be helpful to businesses, although no cities in our sample reported offering such services directly.

K. Loans, Direct Compensation, and Grants

Loans, direct compensation, and grants are sources of capital infusion that may help businesses persist through periods of construction. Loans would eventually be repaid, while direct compensation and grants would be distributed without expectation of repayment. Eight of the responding cities reported having utilized loans, direct compensation, or grants as a construction mitigation service. Of these, direct compensation to businesses was used in Cedar Rapids and Kansas City. In both instances, the decision to distribute funds directly was made on a case-by-case basis and only if the construction project included unexpected street closures or extended well beyond the scheduled end date. Austin, Minneapolis, and Salt Lake City have public or privately administered loan systems. Monroe indicated that loans are available, but no businesses have accessed this service. San Jose operated a loan system but eliminated it due to low return value — small businesses receiving the loans were likely to fail despite the infusion of funds. Similarly, Portland ceased offering loans after businesses expressed greater interest in other mitigation services. Moreover, grants directly and indirectly related to helping businesses persist through a construction project are available. For example, Monona offers a façade grant that businesses could use to improve the exterior of their location. In theory, businesses may have a better opportunity to renovate or remodel while traffic to their store is reduced as a result of the construction project.

L. Art

Temporary public art may be used to reduce the visually displeasing nature of construction sites. It may be implemented in myriad ways, from simple decorative signage and coverings for fences to promotion of the construction project itself or the surrounding community. This type of art is distinct from more permanent pieces of public art that may be incorporated into the final construction project. In six of the cities interviewed, art has been used to enhance the visual appearance of the construction zone. Though less common than other mitigation services, art

has been incorporated in creative yet relatively limited ways. For example, Cincinnati has decorated footbridges that span gaps in the sidewalk or other exposed construction areas that have foot traffic. Raleigh placed posters around the construction site with an artistic rendering of what the finished project is to look like. Portland created banners to cover construction fences and barricades and used performance art to attract people to businesses in the construction project area. See Appendix D for examples of art.

M. Cooperation with Postsecondary Educational Institutions

Cities may partner with local postsecondary institutions to provide services for affected businesses. These partnerships may be with four-year or two-year institutions and may involve different departments or schools, including business, urban and regional planning, economics, or engineering. Workshops or training through universities could provide opportunities both for businesses to learn new business techniques that help them weather a downturn in revenue due to construction and for students to practice the skills they are acquiring through their education. Portland has partnered with Portland State University to allow businesses to use “student teams” for marketing, inventory, and other practices. This model could exist elsewhere, as students might devise a business improvement plan tailored to a specific business in a construction zone. Minneapolis and the University of Minnesota are considering developing a similar partnership.

Although not tailored toward businesses suffering revenue loss from construction, the University of Minnesota already offers specific types of technical assistance, and Minneapolis has encouraged businesses to use university resources. Whitewater has cooperated with the University of Wisconsin–Whitewater to send construction-related information to incoming students. See Appendix E for an example of a newsletter produced by University of Wisconsin–Extension.

N. Business Promotions

Businesses often use different types of promotions, including discounts, contests, fliers, or special events, to attract customers during periods of low foot traffic. Cities can facilitate the development of these promotions or develop their own promotions to encourage residents to visit local businesses. Promotions can aim to attract customers with low prices. Businesses in San Jose offered discounts the city subsidizes. Marshfield compiled a coupon book for which businesses could voluntarily submit coupons, while Green Bay entered customers who visited affected businesses into a raffle for a big screen TV. Green Bay noted success, as various customers admitted driving out of their way specifically to shop at the business, despite the construction. Portland emphasized events happening downtown to attract residents to the area under construction. Portland additionally hosted parties in the affected area to celebrate the end of construction and created a competition among businesses across the city. Businesses across the city were invited to visit restaurants and stores in the construction area. The business that indicated through receipts that they spent the most money in the area during construction won a gift basket. Monroe hid a toy dump truck around the city square

that was experiencing construction, and the individual who found the toy won \$400 worth of business promotions donated by businesses outside of the construction-affected area. These examples do not encompass the ways in which promotions can be implemented. Rather, this is an area in which great creativity and innovation can exist. The main goal of all of these efforts, though, was to incentivize visiting the businesses affected by construction.

As demonstrated above, the implementation of construction mitigation services varies greatly across municipalities. Each service has positive and negative features and an ideal construction mitigation program may contain all services. However, such a comprehensive program may be cost-prohibitive and infeasible. In the following sections we establish goals for construction mitigation, using them as criteria to evaluate the status quo against an alternative package of services. Based on this comparative evaluation, we will be able to identify which option is the strongest for the City of Milwaukee.

Goals

We will assess each service as it relates to four goals: cost-effectiveness, ease of implementation, political feasibility, and equity. We have operationalized each of these goals for this specific analysis as follows:

- **Cost-effectiveness** considers how well the construction mitigation service helps retain businesses during a construction project relative to expenditure. In our analysis, for increased transparency, we independently evaluate cost and effectiveness on a scale of low, moderate, and high. However, their interaction is important; therefore, we consider them jointly. The ideal service will feature low cost and high effectiveness.
- **Ease of implementation** will examine how much the City of Milwaukee has to do to set up the program and if it will be difficult to maintain. High ease of implementation is best.
- **Political feasibility** evaluates how likely it is for the program to be adopted, and how the business community and residents will perceive the service. High political feasibility is best.
- **Equity** assesses whether the program disproportionately harms any stakeholder (stakeholders considered are businesses, the City of Milwaukee, and the contractor conducting the construction) and if the distribution of benefits to businesses is equitable. High equity is best.

Our research strategy is not designed to generate quantitative data that lend themselves to statistical analyses on goal achievement. Rather, we use a qualitative analysis of mitigation features to evaluate potential services. We rank potential services on a scale of low, moderate, and high. We compare the services based on this ranking. The rankings of each service are evaluated relative to other services. This evaluation is presented in Appendix F. We used the evaluation of each service to identify a Construction Mitigation Service Package and implementation method that is most appropriate for Milwaukee.

Program Recommendation and Evaluation

Below, we evaluate the status quo – the services Milwaukee currently provides – based on our four goals. We then evaluate the Construction Mitigation Service Package.

Status Quo

The City of Milwaukee has several services in place to mitigate the effects of construction projects on businesses. To better understand the services already provided, we interviewed City of Milwaukee officials using the same questions asked of other cities. We found that the City of Milwaukee also offers some elements of the services described above. In this section, we discuss all services the City of Milwaukee offers and the manner in which they are implemented.

Public Meetings

The number of public meetings is not consistent for all construction projects in Milwaukee; rather, the meetings depend on the specifics of the project. Every project is discussed at a meeting of the Public Works Committee, part of the Common Council. All involved parties are invited to this meeting. Assessment hearings in front of the Council are also sometimes required. Although these are not directed at the general public, the City of Milwaukee works to make the public aware of these hearings. Federal and state-funded projects, which make up less than 10 percent of all public construction projects, have a public information meeting in advance of the Public Works Committee meeting. These meetings are usually sponsored by Common Council members. Most federal- and state-funded projects have an additional public meeting prior to the beginning of construction. Projects funded by the 2009 American Recovery and Reinvestment Act require that a meeting be held six months to one year in advance.

Communication

Generally, communications from the City of Milwaukee regarding construction projects are sent to property owners, although typically notices containing information about future construction are sent to business owners a few days in advance. These notices contain information about what the construction project entails along with an expected schedule and the phone number of a city official to contact in the event of problems. In some exceptional cases, such as the Wisconsin Avenue project and a bridge project that was delayed, the City of Milwaukee distributed newsletters around the affected area.

Signage

The City of Milwaukee generally does not use signage as defined in the service options above. In cases with extraordinary circumstances, such as expensive delays, the City of Milwaukee has used signs paid for by the city and specific to the business.

Program Liaison

The City of Milwaukee does not usually have someone in a program liaison role. Planners and designers are in charge of meetings or communications during the design phase of a project. During the construction phase, a city employee acting as construction supervisor has the role most similar to a program liaison. These construction supervisors are not project-specific; instead, each of the four supervisors is assigned projects within a specific quarter of Milwaukee. These individuals address concerns at the end of the design phase and are responsible for ensuring that construction proceeds as planned, as well as answering concerns or inquiries during a project. They also oversee communication during the project. This role has also been contracted out to a program liaison hired from a consulting firm for the recent Wisconsin Avenue project.

Parking

The City of Milwaukee does not provide alternative parking during construction. City staff look for potential off-street parking and encourage contractors to occupy fewer parking spaces during construction to allow for continued customer parking.

Website

The City of Milwaukee has a website with street closures on the Infrastructure Division part of the Department of Public Works page. Further information about each closure can be accessed by clicking specific portions of the map. Some Department of Public Works officials report that the website is not user-friendly and is difficult to update.

Hotline

The Department of Public Works has a call center. Usually, when concerns are construction-related, they are directed to people at the construction site. Project supervisors and inspectors also generally distribute contact information.

Analysis of Status Quo

Rather than evaluate each service individually, we evaluate these services as a package due to their interactions with one another. Our final recommendation of whether to pursue the Construction Mitigation Service Package or maintain the status quo is based on this evaluation. Table 2 presents a summary matrix of the evaluation of the status quo and the package.

Table 2: Construction Mitigation Program Evaluation Matrix

		Construction Mitigation Program Alternatives	
Goals		<i>Status Quo</i>	<i>Service Package</i>
<i>Cost-Effectiveness</i>	<i>Cost</i>	Low cost	High cost
	<i>Effectiveness</i>	Low effectiveness	High effectiveness
<i>Ease of Implementation</i>		High	Moderate
<i>Political Feasibility</i>		Moderate	High
<i>Equity</i>		Moderate	High

Source: Authors' evaluation

Cost-Effectiveness

Due to the limited number of services and the relatively small scope of those offered, current expenditure on construction mitigation efforts is relatively low. However, the effectiveness of the status quo is also low, as evidenced by the City of Milwaukee's dissatisfaction with the number of complaints received. In addition, several projects have extended beyond their expected dates of completion, resulting in negative impacts on businesses that the City of Milwaukee did not originally anticipate.

Ease of Implementation

Ease of implementation is high since these services are already in place. The status quo does not require any additional action by any of the major stakeholders.

Political Feasibility

Based on feedback from the City of Milwaukee, the business community appears to be unhappy with the current provision of services. Due to this, the City of Milwaukee is considering a change in policy. However, because the policy in place has already been implemented and requires no further action, there are no concerns about whether it will be approved. Overall political feasibility is moderate.

Equity

Equity is moderate. The City of Milwaukee does not have a consistent policy in place. Therefore, when the services are used, they are distributed evenly across businesses, but there is uneven distribution across projects. While relatively small, the burden of construction mitigation is entirely on the City of Milwaukee.

Alternative: Construction Mitigation Service Package

We evaluated the 14 service options based on the four policy goals of cost-effectiveness, ease of implementation, political feasibility, and equity. See Appendix G for a table summarizing this evaluation. Based on those evaluations and our professional judgment, we selected five particularly effective services and a recommended method for coordination. These services are public meetings, communication with affected businesses, signage, a website, and business education, with a program liaison to oversee and implement the services. While the City of Milwaukee offers several of these services, this alternative incorporates several changes in implementation, informed by results from our city interviews. All of these services should be offered for each construction project; however, the extent of implementation may vary depending on the complexity of the project and the interests of the stakeholders.

Public Meetings

Fort Worth, Minneapolis, and Raleigh stressed the importance of involving stakeholders early in the construction project process. Sacramento argued that, “half of the battle is opening up the lines of communication and getting input.” However, information from Austin, Kansas City, and Green Bay also suggests that the complexity and level of stakeholder interest should contribute to tailoring of the city’s response. For that reason, the City of Milwaukee should hold at least one public meeting at the start of the design process for construction projects that are likely to affect at least two businesses for more than three business days. More meetings during the design phase may be scheduled based on the response to this first meeting. Another meeting should be held one month before commencement of the project to alert stakeholders of the start of the project, the expected schedule, and to allow stakeholders to voice last minute concerns. These meetings are valuable for all construction projects; however, it is impractical to divert significant resources to meetings for small-scale construction projects. Therefore, regular meetings should be held for projects that meet the criteria set for a design phase meeting: projects that affect two businesses for more than three days. Meetings should also be held as needed during construction to provide a forum for concerns that may arise during construction. For projects that will last more than two weeks, a weekly meeting is appropriate; however, the frequency and length of meetings can vary depending on the project. Additionally, the meetings should be held in the area where construction is taking place, preferably at businesses that are likely to be affected by the construction, to promote participation. They should be advertised initially through mailings or fliers, along with a notice placed on the construction website. Later in the process, they can be advertised to stakeholders who indicated interest in the initial meetings, electronically or through print sources.

Communication

Communication will be most effective if employed through various outlets. One important component of communication is to ensure that all affected parties are reached; many cities report that property owners are frequently the ones that receive notices, while their tenants, who may be even more affected by construction, may not. For this reason, it is critical that any communication policy reach not just property owners but also reach business owners or managers. News releases like those used in Monroe or Eau Claire have the potential to reach a broad audience, but only if the media outlet chooses to pass on the information. More tailored information regarding construction can be disseminated through mailing and email lists, where the recipients are chosen based on their location (near the construction project) or those who signed up for alerts during the public meeting process. Marshfield and Raleigh emphasized the importance of face-to-face communication with those businesses directly affected by construction throughout the duration of projects.

Signage

Signage should be used on every project that affects businesses. Projects that span a larger geographic area will require more signs, but even small projects should have at least one sign. Signs can be generic (not including business names or logos) and indicate that “Businesses are Open” like those used in Fort Worth and Chicago. Generic signs can be reused and their cost can be shared among several projects, as is done in Portland. Minneapolis and Grand Rapids also use signs that indicate alternative access to businesses. The City of Milwaukee should also relax zoning rules during construction to allow businesses to post personally designed and funded signs in areas that would generally be restricted. Several cities, including Monona and Lincoln, use this strategy.

Websites

The City of Milwaukee should maintain an accurate and up-to-date website that serves as a trusted source of information for all stakeholders. The frequency of updates to the website on any given project should be related to the complexity of the project, as well as the number of affected stakeholders. More complex projects affecting a greater number and variety of businesses should be updated more frequently, at least on a weekly basis. Important information must also be included in these updates such as potential utility interruptions or other expected major disruptions to business, such as exceedingly loud noise beyond that expected from typical construction work. Furthermore, this information should also be made readily accessible for businesses and the public. Providing the direct URL on construction project communications and linking the website on the Department of Public Works homepage would promote ease of navigation to the information.

It would be ideal if the website listed the businesses affected by the construction project. However, it is possible that surrounding businesses may be omitted even

though they are affected by the construction. In addition, there are certain businesses that the City of Milwaukee may prefer not to directly market, due to concerns about the city's association with the merchandise or services provided. Therefore, this issue should be discussed further with the city attorney's office. To increase the feasibility of this option, we recommend that the City's website specifically mention the construction project by street name, business district, or most appropriate title and encourage residents to help businesses in the area through difficult construction periods.

Business Education

Both Madison and West Allis find creating a construction survival guide to be a useful and inexpensive tool. This is a packet put together by the city specifically for businesses; that will soon be affected by public construction. The City of Milwaukee should develop its own construction survival guide for broad dissemination to all types of businesses affected by construction. Such a packet should detail what businesses can expect; how a business can prepare itself as well as its customer base, other actions to take before, during, and after construction; and contact information for city employees working on the project.

In addition, the packet should include information on the many additional resources that exist in the Milwaukee area. Development organizations, such as the Wisconsin Women's Business Initiative Corporation offer a wide variety of educational classes available to any business. The corporation also has a micro-loan program for non-realty business expenses that are targeted to business owners who may not be eligible for a loan from local banks. The Community Development Grant Administration in Milwaukee subsidizes the cost of the technical assistance programs the corporation offers to residents of Milwaukee, which makes the classes free or inexpensive for businesses owners.

The various higher education institutions in the greater Milwaukee area offer a plethora of resources for business owners, as well, and the City of Milwaukee should make businesses aware of their various offerings. University of Wisconsin–Extension offers a Surviving Road Construction newsletter that should be made accessible to businesses or incorporated into the City of Milwaukee's own construction survival guide. Marquette University runs a business and research partnership center to address business issues in the local community. Marquette University also has a business community liaison, maintains a directory of faculty experts, places interns with businesses, and runs a mentorship program. Milwaukee Area Technical College also offers business workshops and provides a directory of faculty experts.

Program Liaison

We envision the role of program liaison in Milwaukee to be similar to the current role of construction supervisors. In general, program liaisons would oversee the implementation of all of the services recommended, and ensure an efficient flow of communication between the businesses and the contractor. This role can be ful-

filled by one person who is in charge of every project. However, given the size of Milwaukee and the number of construction projects, it may be preferable to have multiple program liaisons who are each responsible for several projects. The City of Milwaukee's Department of Public Works could hire one or more individuals to act solely as program liaisons for the purposes defined. Additionally, the role of program liaison could be added to the duties of current staff members, like construction supervisors. This format may be difficult as the new position may create too many responsibilities for an already-busy office or individual. This expansion may also be difficult for the City of Milwaukee to implement quickly because there are only four construction supervisors at this time. Therefore, in the meantime, the city could train some of the engineers and planners involved in planning to become more involved during construction, as well as increase the involvement the construction supervisors in the planning and design phase.

The program liaison role should begin before the initial public meetings and span the planning and design phase, as well as the construction phase. Five cities (Fort Worth, Madison, Monroe, Sacramento, and Seattle) emphasized the importance of starting early, and identifying a program liaison early is a way for businesses to voice their concerns. By having the program liaison involved early, these concerns could be heard and addressed specifically, rather than the current method of trying to anticipate issues, including those that might be raised at a public meeting. Lastly, the program liaison could use initial public meetings to gather information about businesses, like particularly busy days or times, and incorporate this information into the construction schedule.

Program liaisons, however, are not necessary for the adoption of any service previously recommended. The duties of a program liaison can be incorporated into job positions across a variety of departments within the City and its contracts or collaborative efforts. Additionally, while we recommend the rest of the services even without a liaison to coordinate these services, we emphasize the convenience of this position for all stakeholders involved.

Analysis of Construction Mitigation Service Package

The following section offers an analysis of the construction mitigation program in terms of cost-effectiveness, ease of implementation, political feasibility, and equity. Refer to Table 2, which presents a summary matrix of the evaluation of the status quo and the Construction Mitigation Service Package.

Cost-Effectiveness

The cost of the alternative package relative to the status quo is high. Some aspects of the package would require an investment of new resources, while others would require a reallocation of existing resources. Effectiveness of this alternative, though, is also expected to be high. The services selected for this alternative were consistently cited as best practices or as highly effective by the cities we interviewed. These services, while influenced by our research of other cities, are tailored to what would be effective in Milwaukee.

Ease of Implementation

Ease of implementation is moderate. The majority of the services in this package are an expansion of services that are already in place in the City of Milwaukee. Therefore, they do not require substantial design efforts prior to implementation. Once implemented, none of the services in the package have large long-term maintenance costs. However, compared to the status quo, the City of Milwaukee would need to dedicate additional time and resources to implementing this alternative.

Political Feasibility

This package of services would likely be well-received by residents and the business community as it is specifically designed to offset common issues experienced by stakeholders during a construction project. The City of Milwaukee has expressed interest in modifying current construction mitigation policy. Therefore, the services outlined above are likely to be viewed favorably. The program liaison role may face higher resistance. The establishment of this role requires organizational restructuring, although it does not necessarily require additional funding, as the role may be filled by current staff members. Overall, political feasibility is high.

Equity

We intend this alternative to be implemented across all projects and tailored to accommodate for differences in location, complexity, and stakeholder interest. Thus, consistency would increase the equitable distribution of benefits in the business community. Therefore, equity is likely to be high.

Recommended Construction Mitigation Program

Based on our analysis of the status quo and the Construction Mitigation Service Package, we recommend the adoption of the package. One of the reasons we undertook this project was to find the most effective construction mitigation measures available to the City of Milwaukee. The alternative program maximizes effectiveness relative to the increased cost. Furthermore, the expected positive impact of these construction mitigation services is likely to outweigh additional cost. As specified, each of these services is tailored to take advantage of existing services in place in the City of Milwaukee. Therefore, while ease of implementation is lower than the status quo, the expected benefits should offset this burden. Due to the current climate of heightened awareness surrounding construction and construction mitigation, the political feasibility of adopting the alternative package is high. Lastly, because of the increased equitable distribution of benefits of the policy alternative, it is superior to the status quo.

Construction Mitigation Evaluation System

Evaluation is a valuable component of any government program. Federal, state, and local governments are increasingly demanding information on how a program's funds are allocated and what results a program produces (Wholey, Hatry, & Newcomer, 2004). Program evaluation helps satisfy these demands by providing information to policymakers or administrators that distinguishes productive programs from inefficient ones and helps revise existing programs to achieve more desirable results (Rossi, Lipsey, & Freeman, 2004).

For the purposes of this project, evaluation is focused on the assessment of a City of Milwaukee's construction mitigation program. Without some form of data collection and analysis mechanism, the City of Milwaukee is unlikely to be able to fully understand how construction mitigation efforts actually affect businesses. Moreover, few responding municipalities across the nation have formal evaluation systems to assess their construction mitigation services. Typically, they rely on informal and inconsistent methods of tracking complaints about a construction project. Therefore, an evaluation process by which information is gathered, analyzed, and used to inform future decisions is a progressive and desirable piece of the city's overall construction mitigation efforts.

Approach to Evaluation

Although other options exist, the most pertinent form of assessment for the construction mitigation program is goals-based evaluation. Goals-based evaluation assesses the extent to which a program meets predetermined goals or objectives (McNamara, 2002). In terms of a City of Milwaukee construction mitigation program, applicable goals may be similar to those used to analyze the status quo and Construction Mitigation Service Package. These include: minimizing costs of services; assisting businesses that may be harmed economically by construction projects; implementing services easily; generating a positive perception of services by businesses and the public; and equitably involving and providing services to stakeholders. Thus, evaluation may focus on how well the City of Milwaukee attains these goals. See Appendix H for additional evaluation methods.

Evaluation Structure

An evaluation should not be concerned with determining the absolute success or failure of a program. Indeed, it is impossible to create a program that delivers services perfectly or fulfills all needs exactly. Rather, evaluation should be viewed as a mechanism to provide systematic and continuing feedback about a program, in this instance the City of Milwaukee's construction mitigation services. This information should then be used to make adjustments and improve the overall quality of the program.

Currently, no evaluation mechanism exists for the City of Milwaukee to assess its construction mitigation efforts. Therefore, we recommend the City of Milwau-

kee adopt a goals-based evaluation system that can be used to assess how effectively construction mitigation efforts achieve the aim of the program. Considering existing time and resource constraints within Department of Public Works, the evaluation structure should not be elaborate or onerous. Rather, we recommend a sequential system that is simple in design, implementation, and continuation.

First, the goal of the program must be established. As outlined above, the primary goal of construction mitigation services should be to effectively assist local businesses and limit the negative economic impacts experienced as a result of construction projects. It is against this goal that construction mitigation services should be evaluated. As the evaluation system matures, it may be appropriate to incorporate more goals of the program to into the evaluation.

The second step is to collect baseline information during the project's first year so specific objectives can be set. Useful data for the Department of Public Works to gather include the number of businesses using mitigation services, the number of complaints made during a project, and business owners' satisfaction with and impression of the mitigation services the city provides. These data can serve as a benchmark for determining positive or negative movement toward obtaining an objective. We recommend data collected in the first year in which the Construction Mitigation Service Package is employed be used to generate aggregate benchmark values for project complaints, usage, benefits, and response by businesses.

With the goal and benchmarks set, progress toward goal achievement should be monitored by tracking attainment of specific objectives. The Department of Public Works can monitor changes in business usage of mitigation services, numbers of complaints and inquiries, and satisfaction with services. More specifically, increasing usage of services could be reflected by a greater percentage of businesses in a construction zone accessing one or more mitigation services. Reducing complaints could be measured in terms of lower total numbers of negative comments by telephone, electronically, or in person. Increasing quality and satisfaction with services could be smaller economic losses and higher positive response rates as reported by businesses that utilized services. Business owners can be asked directly about their impression of city mitigation services.

Data that accurately represent attainment of objectives must be gathered throughout each construction project. Moreover, the evaluation would be administered by the liaison responsible for the specific project. Evaluations should be implemented through clear and consistent techniques across projects. For example, comments and complaints placed via telephone should be registered in a central electronic database by the individual who handled the call. Similarly, inquiries submitted electronically or registered in person with the contractor, inspector, or construction supervisor should be recorded in the same database. Distribution of surveys to businesses affected by a construction project could be an effective way to collect data about usage and quality of services. A survey could be administered electronically or as a hard copy following the completion of the project.

Surveys would solicit information about business characteristics, mitigation service usage, impressions of the mitigation service, and the overall impact of the construction project. See Appendix H for a sample survey.

Once data have been collected, the information gathered should be reviewed, distributed, and acted upon. Analysis of the data would be performed by the program liaison with assistance from Department of Public Works support staff and should focus on identifying trends in complaints, service usage, and benefits of services to businesses, as well as businesses' response to a construction project. Subsequent years of evaluation would then be able to examine data, project-specific and aggregate, against the baseline to better analyze trends. Benchmarks would be adjusted as needed to help the City of Milwaukee meet the goal of helping local businesses limit the negative economic impacts they experience during city construction projects.

Upon concluding analysis of the data, the findings should be reported by the program liaison (or analyst team) to relevant Department of Public Works staff and others who are involved with construction projects and mitigation services. Reporting could be done through formal presentations, the distribution of written documents, or through informal meetings in which the findings are discussed. The assessment could reveal strengths and weaknesses of the services and inform decisions about the program. The system should be considered iterative and through the repetition of the process, efforts should be made to continuously improve construction mitigation efforts.

This sequence of activities comprises the recommended evaluation system and, if implemented together, would allow Department of Public Works staff to assess the effectiveness of construction mitigation services and better inform decisions about the program.

Conclusion

The City of Milwaukee has taken the first step toward supporting businesses during construction projects by identifying a desire and need to do so. Based on our research of 33 cities across the nation, we have found that some construction mitigation services are provided on a nearly universal basis, while others are used infrequently. Although provision of the services we recommend has largely been done before in different ways, our recommended package of mitigation services should be considered progressive in both its scope and makeup. Additionally, while we recommend the package described above, other policy options and services reviewed in this work can be considered if the City of Milwaukee would like to provide additional services or sees particular promise in services not included in our recommended package.

Ultimately, it is possible to efficiently support businesses while moving ahead with construction projects. By indicating an interest in construction mitigation, the City of Milwaukee has already illustrated philosophical choices that many

cities report as the most important element of any mitigation: sufficient attention to the health of the local business sector, and a desire to engage and support local businesses through difficult circumstances. Now, it is up to the City of Milwaukee to move beyond its positive intentions and implement a construction mitigation program that could, with sufficient planning and oversight, become the class of the Midwest.

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Appendix A: Justification for City Selection

Table 3: Contacted Cities and Justification

City, State	Justification for Selection	Completed Interview
Alexandria, Virginia	Similar size	Yes
Ann Arbor, Michigan	Within Midwest and similar climate	No
Austin, Texas	Similar size	Yes
Baltimore, Maryland	Similar size and climate	No
Boise, Idaho	Similar size and climate	Yes
Boston, Massachusetts	Large size and similar climate	No
Cedar Rapids, Iowa	Within Midwest and similar climate	Yes
Chicago, Illinois	Large size, within Midwest, and similar climate	Yes
Cincinnati, Ohio	Similar size and climate	Yes
Cleveland, Ohio	Similar size and climate	Yes
Denver, Colorado	Similar size and climate	No
Des Moines, Iowa	Within Midwest and similar climate	Yes
Eau Claire, Wisconsin	Within Wisconsin	Yes
Fairfax, Virginia	Similar size	No
Fort Worth, Texas	Similar size	Yes
Grand Rapids, Michigan	Within Midwest and similar climate	Yes
Green Bay, Wisconsin	Within Wisconsin	Yes
Houston, Texas	Large size	No
Indianapolis, Indiana	Similar size and climate	No
Kansas City, Missouri	Similar size and climate	Yes
Lansing, Michigan	Within Midwest and similar climate	No
Lincoln, Nebraska	Within Midwest and similar climate	Yes
Madison, Wisconsin	Within Wisconsin	Yes
Marshfield, Wisconsin	Within Wisconsin	Yes
Minneapolis, Minnesota	Similar size and climate	Yes
Monona, Wisconsin	Within Wisconsin	Yes
Monroe, Wisconsin	Within Wisconsin	Yes
Omaha, Nebraska	Similar size and climate	No
Osceola, Wisconsin	Within Wisconsin	Yes
Philadelphia, Pennsylvania	Large size and similar climate	No

City, State	Justification for Selection	Completed Interview
Phoenix, Arizona	Similar size	No
Portland, Oregon	Similar size	Yes
Princeton, New Jersey	Similar size and climate	Yes
Providence, Rhode Island	Similar size and climate	Yes
Raleigh, North Carolina	Similar size	Yes
Sacramento, California	Similar size	Yes
Salt Lake City, Utah	Similar size and climate	Yes
San Jose, California	Similar size	Yes
Seattle, Washington	Similar size	Yes
Sheboygan, Wisconsin	Within Wisconsin	No
St. Paul, Minnesota	Similar size and climate	No
Stevens Point, Wisconsin	Within Wisconsin	Yes
Toledo, Ohio	Within Midwest and similar climate	Yes
Trenton, New Jersey	Similar size and climate	Yes
West Allis, Wisconsin	Within Wisconsin	Yes
Whitewater, Wisconsin	Within Wisconsin	Yes

Source: Authors' research

Appendix B: Survey Questions for Municipalities

1. What construction impact mitigation measures does your city undertake?
2. Who designed these measures/ how were these measures designed?
When were they implemented and why?
3. Who is responsible for implementing and overseeing mitigation policies and procedures? How is this coordinated?
4. How are these mitigation measures funded?
5. How do you evaluate the success of construction mitigation measures?
6. Do you know of other cities with innovative construction mitigation programs/policies? Are your city's policies based off of those of any others?
7. Are any measures particularly successful or unsuccessful?
Does their success vary by situation?
8. How would you suggest improving the current system?
9. Are there different policies in place for different types and scales of construction project?
10. Are mitigation measures tailored for different types of affected parties?
11. Are certain measures or procedures used more often than others?
12. How would you characterize the response to the city's construction mitigation efforts?
13. Have mitigation policies changed over time? Why?
14. Does your city engage in cost-sharing for municipal construction projects?
15. Do you offer the following services?
 - Public meetings
 - Communication (mailings, email, phone, fliers, etc.)
 - Program liaison
 - Signage
 - Art
 - Parking
 - Paid advertising for construction area (print, radio, etc.)
 - Website / hotline
 - Loan (public or private)
 - Business education (accounting, marketing, etc.)
 - Cooperation with university
 - Cooperation with community organizations or development groups
 - Other

Appendix C: Construction Mitigation Services Reported by City

This appendix details, by construction mitigation service and implementation method, groups of cities that are mentioned only numerically in the body (for example, “Six cities reported holding regular meetings during construction, although their frequency varies”). Cities identified by name in the report as providing a certain service are not included in this list.

A. Communication: Alexandria, Austin, Boise, Cedar Rapids, Chicago, Cincinnati, Cleveland, Des Moines, Eau Claire, Fort Worth, Grand Rapids, Green Bay, Kansas City, Lincoln, Madison, Marshfield, Minneapolis, Monona, Monroe, Osceola, Portland, Princeton, Raleigh, Sacramento, Salt Lake City, San Jose, Seattle, Stevens Point, Toledo, Trenton, West Allis, and Whitewater

Issue news releases – Eau Claire, Minneapolis, Alexandria, Grand Rapids

B. Public meetings: *Public meetings prior to construction* – Kansas City, Austin, Fort Worth, Monroe, Sacramento, Princeton, Seattle, San Jose, Green Bay, Eau Claire, Monona, Marshfield, Minneapolis, West Allis, Raleigh, Trenton

Have regular public meetings – Monroe, Sacramento, San Jose, West Allis, San Jose, Monona

C. Signage: *Relax zoning requirements* – Chicago, Lincoln, Eau Claire, Monona

“Businesses are Open” signs – Fort Worth, Seattle, Portland, Chicago, Trenton, Alexandria, San Jose

Indicate alternative access – Austin, Grand Rapids, Minneapolis, Monona, Marshfield

D. Website: Chicago, Des Moines, Eau Claire, Grand Rapids, Marshfield, Monona, and West Allis

E. Program liaison: *Communication during construction between businesses and contractor* – Fort Worth, Sacramento, Portland, Monroe, Green Bay, Marshfield, Minneapolis, Monona, and Raleigh

City project manager or engineer – Fort Worth, Sacramento, Portland, Minneapolis, Alexandria, Eau Claire, and Raleigh

F. Parking: *Traffic control plans/contractual* – Austin, San Jose, Sacramento, Raleigh

G. Paid advertising: *Ads in local newspapers or radio* – Monroe, Marshfield, Monona, Green Bay, and Whitewater

H. Cooperation with local entities. *Work with the chamber of commerce or business association* – Portland, Green Bay, Monona, Marshfield, and Salt Lake City

I. Business education: *Provide informational packets* – Madison, Green Bay, Marshfield, West Allis

J. Loans, grants, and direct compensation: Cedar Rapids, Kansas City, Minneapolis, Salt Lake City, Monroe, Monona, Portland, and West Allis

K. Art: Cincinnati, Raleigh, Minneapolis, Portland, Sacramento, and Osceola

Appendix D: Examples of Art

The following images serve as examples of how art can be integrated into construction projects. These images were provided by Keep Portland Moving, a multi-agency organization that coordinates large construction projects and reduce traffic impacts in Portland, Oregon.

Image 1: Screened banner with contact information on guard rail



Source: Keep Portland Moving, courtesy Ellen Vanderslice

Image 2: Construction fence coverings along sidewalk



Source: Keep Portland Moving, courtesy Ellen Vanderslice

Image 3: Construction fence coverings



Source: Keep Portland Moving, courtesy Ellen Vanderslice

Image 4: Fence coverings outside community festival



Source: Keep Portland Moving, courtesy Ellen Vanderslice

Appendix E: Sample Newsletter from UW-Extension

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Surviving Road Construction

By Patrick Nehring*

Road construction is necessary to maintain and repair underground utilities, enhance the safety and flow of traffic, and to eliminate damaging potholes. The results of road construction are increased safety and an improved image of a community. Road construction can also have a negative effect on the community and the local economy, especially in downtown areas.

Nevertheless, examples from various communities show that road construction does not necessarily have to have negative impacts. The key is that construction requires a change in the usual way of doing business. There are a large number of strategies that, local government, organizations (chambers, Main Street or Business Improvement District programs), and business operators can do to deal with the effects of road construction. These strategies are summarized in seven main groups as presented below.

Planning

The disruption from road construction can be lessened if there is coordination between city officials, contractors and business district representatives. Sometimes the construction work can be phased so that the entire district isn't disrupted at the same time. Phases might include improvements to alleys a rear entrances first, followed by one side of the street then the other. Lastly, sidewalks can be replaced by closing one parking or street lane and installing temporary bridges to provide pedestrian access to the stores. Similarly, it might be possible to limit the number of blocks under construction at one time.

Communication

Communication is important to avoid negative rumors, to assure that there is an end in sight, to address issues as they arise, and to avoid major conflicts. It should include friendly coordination with the construction manager to learn about (and negotiate) work schedules, duration, rerouting of traffic, etc.

Community and business leaders can help by keeping local businesses and residents up-to-date about the construction process through a website, newsletter, block captains, or regular meetings with public officials



and representatives from the state department of transportation or the road construction firm. One community sponsored a weekly "construction coffee" at a local restaurant to strengthen communication.

Another idea is to create something similar to a donation thermometer showing the construction progress. Besides a thermometer, a community may want to use an image related to the road construction or driving, like a speedometer. One community created a mural of downtown, which was unveiled according to the percent of road construction completed.

You can keep people up-to-date on construction through advertisements and public service announcements on local radio stations and in the newspaper or local newsletters. These should include an announcement that local businesses are open and give alternative routes to the community or business district. You can also keep local people informed on the construction progress by informing local clubs and associations through presentations and articles in their newsletters.

Directions

If the usual way to drive to a business district is cut off due to construction, customers may not know how to get there. One solution is to install signs directing people to businesses and alternative places to park. Another way of letting people know how to access local businesses and the community is to use the local newspaper, radio station, or a web site to describe alternative ways to your community or business.



Make the ride interesting and exciting, by highlighting some of the sites or the scenic drive that can be experienced by going this alternative route. Finally, hand out or post maps on how to access businesses and parking during construction.

Promotions

Look at the construction period as a time to develop exciting and unique promotions with a construction theme. For example, pioneer days, an event focused around historical activities that took place in the area before the roads were paved, including activities like horse drawn carriage rides; games, like jacks or marbles; poetry readings; and a community dance in a nearby park, parking lot, or the closed off street with waltzes, polkas, or square dancing. Hold events in the evenings and on weekends to avoid entanglement with the construction. Conduct construction tours and point out what improvements will be made.

Sales, coupons, give-aways or special services can be effective promotions during the construction period. To the extent possible, it is important to convey the appearance of "business as usual."

Consider offering retail promotions to the construction crew. For example, a discount could be offered to anyone showing up wearing an orange reflective vest or create a ready-to-go lunch special timed to take place when the road construction crews are on their break.

Initiate the production of joint advertisements between businesses in the community. Develop an image campaign around the construction, like "Constructing a Better Community" or "Paving the Way for the Future of Main Street." Celebrate the opening of the road when it is complete with a party. Invite the news media to a ribbon cutting "officially" opening the road.

Access

If at all possible, avoid doing construction during peak local shopping or tourism periods, like the Christmas Season or Labor Day Weekend. Make sure access is maintained to every business as much as possible (for both customers and deliverers). Spruce up the side and rear entrances to buildings and encourage customers to use them. Make the alley an attractive, clean, friendly way for customers to access businesses. Provide shuttles to local businesses from parking lots or other communities. Keep sidewalks open to the extent possible. For those loyal customers that find access too difficult, consider home deliveries.

Increased Services

You can make construction more bearable by offering to sweep sidewalks or wash windows of businesses

affected by the construction. Cleanliness is also appreciated by customers and business people alike. Most people appreciate a helping hand. Whether you're a business person or a concerned individual or group, you can offer to make deliveries during the construction to local businesses, or to customers.

Positive Attitude

Have a positive attitude, especially when dealing with the public and customers. People want to have a pleasant experience in your community and its business district. Tell the truth about the construction situation in an upbeat way. Don't apologize for the construction situation, unless you really need to. Have fun with the situation. Everyone knows construction is an inconvenience; you don't need to remind them. Negativism and complaining will drive people away. A positive fun atmosphere will bring them back.

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Appendix F: Service Alternatives Matrix

Table 4: Service Alternatives Matrix

Services	Policy Goals				
	<i>Cost Effectiveness</i> ¹		<i>Ease of Implementation</i>	<i>Political Feasibility</i>	<i>Equity</i>
	<i>Cost</i>	<i>Effectiveness</i>			
<i>Public meetings</i>	Low	High	High	High	High
<i>Communication</i>	Moderate	High	Moderate	High	High
<i>Program liaison</i>	High	High	High	Moderate	Low
<i>Signage</i>	Low	High	High	Moderate	Moderate
<i>Art</i>	Low	Low	Low	Low	High
<i>Parking</i>	Low	Moderate	Moderate	High	High
<i>Paid advertising</i>	Moderate	Moderate	Moderate	Moderate	Moderate
<i>Website</i>	Low	Moderate	Moderate	High	Moderate
<i>Hotline</i>	Moderate	Moderate	Moderate	Moderate	Moderate
<i>Loans, direct compensation, and grants</i>	Moderate	Low	Low	Low	Low
<i>Business education</i>	Moderate	High	Moderate	Moderate	Moderate
<i>Cooperation with a university</i>	Low	Moderate	Moderate	High	Moderate
<i>Cooperation with community organizations</i>	Low	Moderate	High	High	High
<i>Business promotions</i>	Low	Moderate	Moderate	Moderate	High

Source: Authors' evaluation

¹ These categories are measured in qualitative terms. All levels noted above are based *not* on our recommended implementation of these services, but on the most common responses from our study participants. Actual costs and effectiveness will vary depending on implementation.

Appendix G: Alternative Evaluation Approaches

Because evaluation is considered to be an academic and professional discipline, evaluation literature presents a variety of types and methodologies to assess a program. Some evaluations primarily try to assess the needs of the constituents that a program serves. Some evaluations consider the process by which a program is implemented, while others are concerned with the impacts of a particular program (McNamara, 2002). Borrowing from common definitions, we consider program evaluation broadly to be the use of social research methods to systematically investigate the effectiveness, management, and implementation of programs. These program evaluations are also designed to inform future action and improve service provision.

Aside from the goals-based evaluation, two common applications of program evaluation recur in the literature: process-oriented and outcome-oriented. First, process-oriented evaluation is concerned with the input and overall implementation and management of a program. Second, outcome-oriented evaluation examines outputs and assesses a program's impact on participants with respect to attainment of desired results (McNamara, 2002). Addressing different aspects of programs, these evaluations vary in terms of methodology and substantive focus. Hence, no single approach presents all pertinent information about a program. For example, an outcomes evaluation offers explanations of causation, but may reveal little insight into how the implementation practices of a program yield positive or negative results. Therefore, it is important to specify that which is to be evaluated and identify the appropriate methodology for an effective evaluation.

Appendix H: Sample Business Survey

This example was adapted from a sample survey produced and administered by the Minnesota Department of Transportation (2009).

“The City of Milwaukee Department of Public Works (DPW) is seeking your input to help understand and mitigate the impacts of construction projects on local businesses. DPW has identified you as the owner or operator of a business that is near a recently completed or ongoing construction project. DPW is requesting that you share your experiences of doing business during construction. The information gathered in this survey will help us better understand the needs of the business community. Improved communications with businesses before and during construction projects are expected to help reduce negative impacts of construction to businesses. Thank you for your valuable input.”

Contact Information

1. Respondent Information - PROVIDING CONTACT INFORMATION IS OPTIONAL. Personal and business names, email addresses, phone numbers and addresses (with the exception of zip codes) provided in responses to this survey are classified as private or non-public and will not be shared publicly. Name; Business Name; Title; Address; City/Town; State; ZIP/Postal Code; Email; Phone

General Business Information

2. Business type:

- Retail; Services; Wholesale/Distribution; Manufacturing; Construction; Other (If other, please specify)

3. How many employees work at this location?

- Full time; Part time

4. Do you lease or own your business space?

5. How long have you been at your current location?

- 0-2 years; 3-5 years; 6-10 years; 11+ years

Effects of Construction on Business

6. Which of the following construction projects has taken in the last year or is taking place near your business?

- List recent construction projects

7. How long did the construction project last?

8. Was your business affected by the construction project?

- Yes; No

9. How long was your business affected by the construction project?

10. Please indicate how your business was affected by the construction project.

11. Did you experience a loss of business during construction?

- Yes; No

12. Please indicate what you believe caused the loss of business during construction. (Please check all that apply):

- Loss of access; Highway/road closures; Ramp closures; Detours; Less traffic; Length of project; Lack of signs; Poor signs; Other (If other, please specify)

13. Has your business benefited from the results of the construction project?

- Yes; No; Project still under construction; Too soon to know

14. If your business has benefited from the construction project, please indicate how.

Communication and Planning for the Construction

15. Did you know what government agency was in charge of the project?

- Yes; No

16. Did you have a specific contact at the agency you could contact with questions?

- Yes; No

17. Please indicate any other agencies or organizations you relied on for information about the project.

18. At anytime before, during, or after the project, did you coordinate with any of the following groups?

- Chamber of commerce; Community development agency; Economic development agency; Marketing/business consultants; Other businesses; Other (If other, please specify)

19. Did you have enough information to develop and implement an effective plan for operating your business during construction?

- Yes; No

Business Operations during Construction Project

20. What actions did you take to better serve your customers during construction?

21. For the project near your business, did you have enough information about the following topics?

- Timing or phasing of construction; Length of construction; Changes in parking; Changes in traffic routes; Changes in public access; Any other comments

22. Were adequate signs used during construction to direct customers to your business?

- Yes; No

23. For your business, did your need for information change based on the stage of the project? (e.g., before, during, or after construction)

Communication Needs

Please answer the following questions based on your experience during a recent construction project to reflect what you would like see happen on future construction projects.

24. What information would you like to receive?

- Before construction; During construction; After construction

25. How frequently would you like to receive the information about projects taking place near your business?

26. How soon in advance would you like to be notified for a maintenance project (e.g., guardrail repair, crack sealing) or preservation project (e.g., resurfacing, restoration, or rehabilitation)?

- Less than 3 months; 3 to 12 months; More than 12 months

27. How soon in advance would you like to be notified for a reconstruction or construction project (usually requires new right-of-way)?

- Less than 3 months; 3 to 12 months; More than 12 months

28. Please indicate how you'd like to receive information about construction projects affecting your business.

- Telephone; Email; Postal mail; In person; Other

Other Thoughts

29. Please provide any other thoughts you have about how agencies could better communicate with small business owners before, during, and after construction.