

Maximization of Disadvantaged Business Enterprise (DBE) Participation

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16. Abstract The objective of this study was to maximize participation of Wisconsin Disadvantaged Business Enterprise (DBE) owners and firms in federally funded construction and professional services contracts awarded through the Wisconsin Department of Transportation (WisDOT). To achieve the study's objective, the research team from the University of Wisconsin-Milwaukee (UWM) gathered extensive DBE data using a variety of methods and sources. These included a review of the available literature, a survey of US state DOTs and Wisconsin DBE firms, and a series of interviews with Wisconsin contractor and consultant DBEs, WisDOT's DBE staff, prime contractors, prime consultants, and construction industry leaders in the state. It was found that most DBEs view WisDOT's DBE program and support services as being helpful and effective, but the persons interviewed in this study felt more can be done to enhance the program's outcome. It was discovered that DBE program and firms face a series of barriers to success, with the most significant barriers being a lack of business and management acumen, inadequate financial and human capacity, and a shortage of qualified DBEs in the state. The UWM team has made a series of recommendations in this report to mitigate or remove such barriers. The recommended actions include various steps that should be taken to address specific barriers to DBEs and to create a new strategic educational and pilot training and onboarding program to grow existing DBE firms in the state and develop new qualified DBE firms. Implementing the recommended actions will place WisDOT as the national leader in developing successful DBEs who will significantly contribute to the economic development and growth of the state and the region.			
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EXECUTIVE SUMMARY

According to Title 49, Code of Federal Regulations (CFR), Part 26, each state Department of Transportation (DOT) recipient of USDOT funds is required to develop and implement a Disadvantaged Business Enterprise (DBE) program that conforms to federal standards set forth in 49 CFR 26. Each state DOT is also required to meet eight specific objectives of the DBE program to create a level playing field and remove barriers for eligible DBEs.

Wisconsin Department of Transportation (WisDOT), as a recipient of federal aid, has developed and implemented a DBE program that meets or exceeds the federal requirements and those under the Wisconsin Statutes sections 84.072, 84.075 and 84.076. To streamline the existing operation, ensure a more robust DBE program, and maximize DBEs' participation in federally funded transportation projects, WisDOT initiated this study in January 2022. Research staff at the Institute for Physical Infrastructure & Transportation (IPIT), University of Wisconsin-Milwaukee (UWM), conducted and completed this study.

The research team achieved the objectives of this study by:

- Reviewing available literature on DBE program operation in the U.S.,
- Analyzing available data on DBE contracts and awards,
- Reviewing the standards and requirements of the federal DBE program,
- Learning how WisDOT's DBE program operates,
- Learning how DBE programs at other Departments of Transportation (DOT) operate,
- Identifying challenges and barriers DBEs and state DOT DBE programs face, and
- Identifying how WisDOT could mitigate or remove such barriers.

To gather the required data and general information for the study, the team conducted a series of surveys, telephone conversations, and interviews with staff of various state DOTs, DBEs, prime contractors, prime consultants, and construction industry leaders. The team analyzed the gathered data to reach conclusions on the state of the DBE program operation in Wisconsin and made recommendations to enhance the program and success of DBEs in the state.

The research team has summarized the most significant findings of the study under the following categories:

- Current state of the WisDOT's DBE program
 - The program conforms to all required federal and state standards and statutes,
 - WisDOT has been a national leader in offering a wide array of support services to DBEs with the most helpful support being identified as the Annual DBE Workshop and Networking Summit,
 - The program has met most of its DBE goals over the last several years, but many stakeholders question awarding a highly disproportionate level of DBE contracts to Caucasian owners, and
 - Most DBEs in the state are satisfied with the level of care they have received from the staff of the Support Services Office.

- WisDOT DBE program's areas of need
 - Developing a strategic plan to help set directions for the operation of the DBE program and strategic offering of support services to DBEs,
 - Securing additional resources and programs to offer DBEs more financial and cash flow assistance and to enhance their participation, and
 - Developing qualified DBEs and workers to help meet the needs of the construction and design industries in the state.

- Barriers against DBEs' success
 - A lack of business and management acumen,
 - A lack of access to capital/bonding/insurance,
 - Inadequate financial and human capacity,
 - Inadequate strategic support services,
 - Inadequate guidelines and communication,
 - Not scoping projects manageable by DBEs,
 - Slow payments for completed work, and
 - Inadequate opportunities for strategic networking with peers and primes.

Based on the findings of this study, the research team has developed a set of recommendations to enhance the participation and success of DBEs in Wisconsin. Below is a summary of the most significant recommendations under the following categories:

- Remedy a shortage of qualified DBEs in the state
 - Invest, develop, and implement a new strategic educational and pilot training and onboarding program to grow existing DBEs and create qualified new DBEs in the state. It is recommended to develop the new program by taking advantage of the existing educational and training infrastructure and available human resources in the state and building partnerships with educational institutions and local engineering and construction organizations. Under the recommended program, current and new DBE owners and personnel will have new opportunities to earn certificates and college degrees to gain new skills and sharpen their existing skills. See a more detailed description of this initiative in Chapter 6 of this report.
 - Create a pilot training and onboarding program to identify, train, and link potentially successful DBEs with subcontracts from the upcoming WisDOT's mega projects such as the I-41 highway and I-94 East-West Corridor Expansion construction projects. By working on such pilot programs' contracts while receiving appropriate mentorship, DBEs will develop invaluable on the job experiences that can help them to be successful when working on future contracts with little or no major support. See a more detailed description of this initiative in Chapter 6 of this report.

- Remove barriers to DBEs
 - Develop new strategic educational and training programs with onboarding assistance to grow existing DBEs and develop new qualified DBEs,
 - Identify and recommend projects with appropriate scope for DBEs,
 - Offer strategic workshops and networking opportunities for DBEs,

- Develop strategic approaches to provide financial assistance to DBEs,
 - Require prompt payments to DBEs for completed work,
 - Reduce administrative and paperwork requirements,
 - Increase strategic outreach efforts particularly for newly certified DBEs,
 - Improve negative attitude toward DBEs,
 - Set goals for professional services/consulting projects,
 - Include on the WisDOT DBE's website recorded training sessions on business, management, bidding process, and other helpful topics, and
 - Provide scholarships, financial assistance, and other incentives to DBEs to complete training programs of their choice and attend strategically selected DBE events.
- Additional assistance to DBEs
 - Create a standing committee of WisDOT staff and various stakeholders to develop and help implement a strategic training, outreach, and operation plan that can identify and recommend what types of training and outreach efforts are needed each year and how, when, and where they should be offered,
 - Revise contract award policies, to the extent possible, to provide allowance for DBEs not being the lowest bids, request or recommend certain projects be awarded to DBEs, and structure contracts so that primes pay DBEs upfront money as start-up funds,
 - Enhance the effectiveness of DBEs' networking opportunities with primes at events by revising the current structure and format of how they are held,
 - Assist qualified DBEs by publicizing their business portfolios and highlighting their areas of specialty through DBE newsletters and opportunities for short presentations at DBE events, as well as recommending them to primes for contract awards,
 - Develop a scoring/accreditation system for DBEs who complete various training programs and enter their scores and credentials in a public database to highlight such DBEs' qualification and to promote them for new contract awards,
 - Create a pool of certified DBEs within the state, or nationally, and negotiate with financial institutions for better rates on loans, insurance, and bonding opportunities,
 - Develop and publicize a DBE mobile app to improve the program's visibility and reputation, enhance the ease of access to information including training and reference materials, provide program and new projects' availability and updates for DBEs and other stakeholders, generate interactions among the stakeholders, and provide various directories for the use by primes and DBEs,

SUMMARY OF FINDINGS

Current state of the WisDOT's DBE program

- WisDOT's DBE program conforms to Title 49, Code of Regulations, Part 26 requirements.
- WisDOT has been a national leader in offering a wide array of support services to DBEs in the state, but most DBEs lack participation to take advantage of most of these services.
- The strengths of the DBE program at WisDOT are viewed as having knowledgeable and dedicated staff at the Support Services Office, making strategic partnerships with primes and other stakeholders, and holding primes accountable for meeting DBE goal requirements and minimizing approval of GFE requests.
- Compared with Wisconsin, 20 state DOTs have higher reported percentages of established DBE Goals and 15 state DOTs have higher reported percentages of attained DBE goals (based on average 3-year data until 2019).
- WisDOT has been shown to meet most of its DBE goals over the last several years.
- WisDOT's DBE website is a central location for information relating to the DBE program. The site could be enhanced by making it easier to navigate and find information by DBEs and other stakeholders.
- The DBE certification process has been found to be efficient and most DBEs are satisfied with the staff support and timely progress of their applications.
- WisDOT's initiatives and staff support over the last three years have been helpful to many DBEs' businesses in the state.
- Most DBEs in the state are satisfied with the level of care and support services they have received from the staff of the DBE Support Services Office.
- WisDOT's DBE Support Services staff have exhibited high morale and a spirit of collaboration and are interested in their work.
- Most DBEs and primes view positively the recent efforts to minimize the Good Faith Effort approval by WisDOT.
- Most beneficial WisDOT support services to DBEs are viewed as being the Annual DBE Workshop and Networking Summits and some of the training programs. More than 70% of DBEs who participated in our survey were familiar with the Annual DBE Workshop and Networking Summit. About one-half of the responders knew about some of the trainings and mentor-protégé programs. Most responding DBEs were not aware of the other support services offered by WisDOT.
- The most significant assistance DBE contractor firms seek from WisDOT includes business skill development and onboarding guidance.
- Most primes view DBEs as an asset to the industry and compare them equally with non-DBE firms, except for many new DBEs having challenges in understanding paperwork requirements and lacking business sophistication.
- Larger prime consulting firms prefer to work with more established and qualified DBEs with adequate capacity in broader specialty areas. Other primes prefer to work with DBEs who have skills in niche areas.
- Primes struggle to find qualified DBEs for their projects. This is a major problem for the design and construction industry in the state. Hence, it is important to enhance existing

DBEs' qualification and develop new qualified DBEs with diverse capacity and skill sets to meet the highway design and construction needs in the state.

- There are several opportunities for the DBE program at WisDOT to enhance the success of the state's DBEs and the department's program operation. These include developing and implementing new educational and pilot training and onboarding programs to grow existing DBEs and creating new qualified DBES, having access to a higher level of recent transportation funding and seeking other sources, and having existing educational and training infrastructure and human power in the state to successfully implement the proposed programs. The development and implementation of the proposed educational and pilot training and onboarding programs is a major opportunity that will place WisDOT as the national leader in developing successful DBEs who could significantly contribute to the economic development and growth of the state and the region. Chapter 6 of this report presents a detailed description, planning, and implementation of this initiative for WisDOT.

WisDOT DBE program's areas of need

- WisDOT has not had dedicated resources and efforts to develop new qualified DBEs in the state.
- The WisDOT DBE office staff feel they have been limited in what they could offer but can do more to assist DBEs with additional financial and human resources.
- The weaknesses of the DBE program at WisDOT are viewed as struggling to get DBEs to participate in the program, having limited financial and human resources to help DBEs, not adequately publicizing the services offered, and not setting goals on professional services projects.
- WisDOT and most stakeholders share the view that DBE participation in federally funded contracts and the Department's related activities should be increased from its current level.
- The threats to the DBE program at WisDOT are viewed as potentially losing the current staff to better paying outside jobs, having an inadequate level of financial and human resources, and having an inadequate number of qualified DBEs in the state.
- WisDOT needs to develop a strategic plan to help set directions for the operation of DBE program and strategic offering of support services to DBEs.
- With investment and implementation of the strategic plan for the DBE program, WisDOT can enhance DBEs' participation and success.
- Primes suggest WisDOT could provide allowance for DBEs not being the lowest bids, request or recommend certain projects be awarded to DBEs and structure contracts so that primes pay DBEs upfront money as start-up funds.
- Primes suggest WisDOT work with educators and others to develop new educational and training programs in construction and engineering and attract students to such careers.
- DBE mentors should not be active contractors due to the presence of an inherent conflict of interest.
- Many consultant DBEs and some consultant primes view positively setting DBE goals for professional services/consultants' contracts as such goals will encourage new DBEs to participate in the program.

Barriers against DBEs' success

- As viewed by most stakeholders, the common and persisting barriers DBEs face include a lack of business and management knowledge, access to capital/bonding/insurance, adequate financial and human capacity, strategic support services, adequate guidelines and communication, scoping projects manageable by DBEs, prompt payments for completed work, and opportunities for strategic networking with peers and primes.
- Different DBEs have unique needs to grow and become successful. Hence, it is important to develop a strategic plan to assist DBEs in the state effectively.

Despite meeting goals, many stakeholders question awarding a highly disproportionate level of DBE contracts to Caucasian (white female) owners over the past several years. For example, for the year 2021, female Caucasian DBE owners received about 60% of all DBE contracts, in terms of both the number and dollar amount. Female Caucasian owners constitute 32% of all WisDOT certified DBE owners in the state, which is the largest gender-based and the second largest race-based population among all owners. Black American male and female DBE owners constitute 38% of all of the registered firms, but received about 8.5% of the total awarded contracts in 2021. If the award distribution analysis among DBEs is made by considering only heavy highway work type NAICS codes of certified firms, a different outcome may be achieved.

RECOMMENDATIONS

The primary objective of this study was to maximize participation of Disadvantaged Business Enterprise (DBE) firms in federally funded contracts and services offered by Wisconsin Department of Transportation (WisDOT). To meet the objective of this study, the research team has made the following recommendations:

Remedy Shortage of DBEs

- Address the shortage of qualified DBEs in the state by growing the existing DBE firms and developing new qualified firms. To accomplish this goal, WisDOT should invest, develop, and implement a new strategic educational and pilot training and onboarding program. The new program should take advantage of and utilize the state's existing educational and training infrastructure, and available human resources.
- Create a standing committee of WisDOT staff and various stakeholders to develop and help implement a strategic training and outreach plan that can identify and recommend what types of training and outreach efforts are needed each year and how, when, and where they should be offered. Findings of this study can help guide the development of a strategic plan.
- WisDOT should build partnerships with educational institutions and local engineering and construction organizations in the state to create, manage, and advance the progress of the new program. Under the recommended program, DBE owners and personnel will have new opportunities to earn certificates and college degrees to gain new skills and sharpen their existing skills. This is a major undertaking and a detailed approach for its development and implementation is presented in Chapter 6 of this report.
- Create a pilot training and onboarding program to identify, train, and link DBEs showing potential for success with subcontracts from the upcoming WisDOT's mega projects such as the I-41 highway and I-94 East-West Corridor Expansion construction projects. See a more detailed description of this initiative in Chapter 6 of this report.

Remove Barriers to DBEs

Taking the following actions will help Wisconsin DBEs overcome barriers they normally face in running their businesses:

- Develop new strategic educational and training programs with onboarding assistance to grow existing DBEs and develop new qualified DBEs, offer strategic workshops and networking opportunities for DBEs, develop strategic approaches to provide financial assistance to DBEs, increase strategic outreach efforts particularly for newly certified DBEs, improve negative attitude toward DBEs, and set goals for professional services/consulting projects.
- Develop a scoring/accreditation system for DBEs who complete various training programs and enter their scores and credentials in a public database to highlight such DBEs' qualification and to promote them for new contract awards.
- Address the concerns raised by many stakeholders on awarding a highly disproportionate level of DBE contracts to Caucasian (white female) owners over the past several years.

- Provide scholarships, financial assistance, and other incentives to DBEs to complete training programs of their choice and attend strategically selected DBE events.
- Revise contract award policies, to the extent possible, to provide allowance for DBEs not being the lowest bids, request or recommend certain projects be awarded to DBEs, scope projects that are manageable by DBEs, and reduce administrative and paperwork requirements.
- Structure contracts, to the extent possible, to require primes to pay DBEs upfront money as start-up funds and require prompt payment for completed work to assist DBEs with cash flow issues.
- Create a pool of certified DBEs within the state, or nationally, and negotiate with financial institutions for better rates on financing/loans, insurance, and bonding opportunities.
- Primes recommend DBEs to learn more about projects they are interested in, create, and publicize their business portfolios to highlight their areas of specialty and capacity, be more persuasive in reaching out to primes, and recognize their own worth when negotiating with primes.

Additional Assistance to DBEs

- Set goals for professional services/consultants' projects and include related topics in DBE events to encourage existing and new DBEs to participate more in the program.
- Assist qualified DBEs by publicizing their business portfolios and highlighting their areas of specialty through DBE newsletters and short presentations at DBE events, as well as recommending them to primes for contract awards.
- Enhance the effectiveness of DBEs' networking opportunities with primes and other DBEs at future events. This may be accomplished by managing the organization of future networking programs as follows:
 - Schedule the networking opportunities at the start of any future event (i.e., in a breakfast or ice breaker session) and allow ample time for the program,
 - Station primes as hosts of their own company tables in a large room and have them converse with a small group of DBEs for a 15-minute time period,
 - With the help of a moderator, rotate different DBE groups to other primes' tables after the first time period and repeat the process for the remaining available time for the session, and
 - Allow DBEs to reserve their networking times with different DBEs they desire to meet.

This approach can offer a good opportunity to each DBE to meet and converse with about five or more primes at the beginning of the event and have follow up interactions with the primes in which they find common interests throughout the event. The approach, if adopted for an event, should be publicized in advance to encourage more DBEs to participate in the event.

- Make navigation and searching for information easier when DBEs and others use WisDOT's DBE website.

- Include recorded training sessions on business, management, bidding process, and other helpful topics on the WisDOT DBE's website.
- Develop a DBE mobile app to improve the program's visibility and reputation, enhance the ease of access to information including training and reference materials, provide program and new projects' availability and updates for DBEs and other stakeholders, generate interactions among the stakeholders, and provide various directories for the use by primes and DBEs.

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CHAPTER 1. INTRODUCTION

In 1983, the federal government passed the first bill enacting the Disadvantaged Business Enterprise (DBE) support program. That program required that 10% of contracts on federally assisted state departments of transportation's projects be awarded to minority and women owned businesses. The program also provided similar support to businesses via the US Small Business Administration (SBA). After re-authorization in 1987, the program has continued and it has been amended multiple times with new requirements and rules into its current state. A historical overview of the DBE program is shown at the US Department of Transportation's (USDOT) website (USDOT 2016).

The Disadvantaged Business Enterprise program provides opportunities for companies operated by socially and economically disadvantaged persons to participate in federally assisted highway contracts. According to the federal regulations, a DBE is classified as being a for-profit company and 51% owned by a socially and/or economically disadvantaged person. To be considered disadvantaged, the firm's owner must either demonstrate a disadvantage or be presumed to be as such. Groups that are presumed to be disadvantaged are all women, Asian-Pacific Americans, Black Americans, Hispanic Americans, Native Americans, and Subcontinent Asian Americans. Additionally, each disadvantaged owner must not have a personal net worth of over \$1.32 million, under the current rules. Effective March 1, 2023, the 3-year annual average gross receipts cap for DBEs who participate in Federal Highway Administration (FHWA) - and Federal Transit Authority (FTA)-assisted contracts is \$30.4 million (USDOT 2023). This amount is determined after implementing the annual inflationary adjustment from the previous cap of \$28.48 million. A potentially eligible DBE firm must apply to become a certified DBE to receive support services and benefits and fall into the DBE category for federally funded state DOT projects. The certification process verifies firms' initial eligibility for the DBE program, and DBEs must submit annual affidavits affirming their continued eligibility for the program.

State departments of transportation must administer the DBE program within their state as a condition of receiving federal funds on transportation projects. Each state and local government's role is to develop DBE participation goals tailored to their state's market conditions and upcoming projects. The recipients submit their goals and determination methodology in three-year increments to either the FHWA, FTA, or Federal Aviation Administration (FAA) for approval. Recipients cannot be penalized for falling short of their goal if they demonstrate that a good faith effort has been made to achieve the goal. Recipients must attempt to meet their goals by race- and gender-neutral methods as much as possible, meaning that DBEs are not favored over non-DBEs in the project awarding process.

Title 49, Code of Federal Regulations (CFR), Part 26, requires each state DOT recipient of USDOT funds to develop and implement a DBE program that conforms to federal standards set forth in 49 CFR 26 and to meet the stated eight objectives of the DBE program. These eight objectives are:

1. To ensure nondiscrimination in the award and administration of DOT-assisted contracts in the Department's highway, transit, and airport financial assistance programs,
2. To create a level playing field on which DBEs can compete fairly for DOT-assisted contracts,

3. To ensure that the Department's DBE program is narrowly tailored in accordance with applicable law,
4. To ensure that only firms that fully meet 49 CFR, Part 26 eligibility standards are permitted to participate as DBEs,
5. To help remove barriers to the participation of DBEs in DOT-assisted contracts,
6. To promote the use of DBEs in all types of federally assisted contracts and procurement activities conducted by recipients,
7. To assist the development of firms that can compete successfully in the marketplace outside the DBE program, and
8. To provide appropriate flexibility to recipients of federal financial assistance in establishing and providing opportunities for DBEs.

Wisconsin Department of Transportation (WisDOT), as a recipient of federal aid, has developed and implemented a DBE program that conforms to the standards and objectives of Title 49 CFR 26 and to those required under the Wisconsin Statutes sections 84.072 and 84.076. To streamline the existing operation, ensure a more robust DBE program, and maximize DBEs' participation in federally funded transportation projects, WisDOT sponsored this study that started in January 2022. A research team at the University of Wisconsin-Milwaukee (UWM) completed this study over a 20-month period.

Statement of problem:

While Wisconsin Department of Transportation is among the leaders in the nation in assisting DBEs and achieving high DBE utilization goal rates for awards of federally funded contracts, it has realized several impediments to the success of the Department's DBE program. These include not having a broader participation of DBEs in contract awards or in the Department's support services; DBEs having inadequate technical and managerial skills and capacity, explicitly in certain geographic regions of the state; not having enough qualified DBE firms in the state; and observing disparities in the number and size of contract awards to DBEs, particularly among consultants. These identified impediments have led prime contractors to report having greater difficulty meeting their DBE goals, particularly in sparsely populated regions of the state. Accordingly, WisDOT is interested in identifying the most effective support services it can offer to help DBEs' business development. In addition, WisDOT desires to identify barriers to success for existing, new, and prospective DBE businesses and to find ways to remove such barriers.

Study's objective:

This study's main objective is to maximize the participation of Disadvantaged Business Enterprise (DBE) in federally funded contract awards and support services offered by WisDOT. The research team has focused on identifying barriers to the DBEs' success, determining practices to help remove such barriers, identifying best practices in program administration, and recommending initiatives and the most effective training and support services to achieve the study's objective.

Methodology:

The research team has reviewed the federal DBE program's opportunities and requirements in addition to reviewing and analyzing available literature to assess various state DOTs' DBE programs across the U.S., the results of which are detailed in Chapter 2 of this final report. The research team issued a survey to all the 50 state DOTs' DBE offices. Fourteen state DOTs responded to the survey. The team supplemented the data from the survey responses with available information gathered from the other state DOTs' websites and follow-up phone calls. The research team synthesized a summary of the results, which is also presented in Chapter 2.

The research team worked closely with the staff and technical representatives of WisDOT's DBE Support Services Office to conduct a detailed review of the program and its operation. The team conducted interviews with the DBE office staff to gain a better understanding of the effectiveness of the everyday work of the office and to determine the challenges they face. The research team reviewed the certification application requirements and examined how the DBE office staff processes the application materials for approval. To have a better understanding of the level of difficulty and effectiveness of the process, the team created a virtual DBE firm and entered a trial run with the DBE office to attempt gaining certification for the firm. The research team has summarized and presented the results of its analysis of WisDOT's DBE program in Chapter 3.

One important task of the study was to identify barriers to DBEs' success and determine how they may be mitigated or removed. In addition to a review of available literature and findings from the earlier stages of this study, the research team conducted a survey of 31 Wisconsin DBE firms to get a better understanding of DBEs' experiences and barriers they have faced to succeed and learn how they perceived removing such barriers. In addition, the team interviewed owners of 10 DBE firms to get a more in-depth view of their experiences in managing their businesses. The results from the survey and interviews of DBEs are synthesized and presented in Chapter 4.

The research team reviewed and evaluated promotional materials and outreach efforts made by WisDOT's DBE office and assessed their commonly offered support services. The team synthesized the results from interviews of the DBE office staff and multiple DBE owners and review of best practices by other state DOTs to determine the most effective training and assistance programs. Details of the findings are presented in Chapter 5.

An additional task of this study included performing a general program analysis of WisDOT's DBE operation and making recommendations on design and implementation of a pilot training program to enhance the development and success of Wisconsin DBE firms. In discussion with WisDOT officials and local construction industry leaders, the research team explored various training and onboarding options that showed potential for success in developing a skilled DBE workforce and firms. The focus of this pilot program is to remove the most common shortfalls of DBEs and to enable DBE firms to win sub or prime contract awards on their own merit. This proposed pilot program is discussed in more detail in Chapter 6.

A summary and analysis of the results and conclusions for this study are presented in Chapter 7.

CHAPTER 2 – REVIEW OF FEDERAL AND STATE DOTs’ DBE PROGRAM REQUIREMENTS AND IMPLEMENTATION

The research team reviewed the DBE program at the federal level and requirements each state DOT must meet. The review showed that the USDOT’s DBE program provides many guidelines and best practices for recipients to use. These include a sample program description, tips for DBE contract success, and sample program brochures. The federal DBE program also provides online DBE certification training and links to training opportunities from the FHWA and FTA. Best practices suggested by USDOT also include setting multiple DBE goals on projects such as having one goal for consultants and another for construction (Ohaya 2022); and including DBE requirements in contracts as a deliverable (Ohaya 2022). In addition, USDOT suggests primes submit a plan for DBE participation at the time of proposal and allow for flexibility and the potential for setting higher DBE goals (NASEM - National Academies of Sciences, Engineering, and Medicine 2015).

The USDOT’s DBE program has gone a long way toward mitigating effects of discrimination in the transportation sector and promoting a level playing field in which all firms are able to compete fairly. However, the USDOT DBE program has struggled over the years to be effective in meeting its stated objectives. The Department does not provide sufficient management of the program (USDOT 2013) or have accountability mechanisms and assessment methods to determine whether the program is meeting its goals (Ohaya 2022, USDOT 2013).

Multiple studies have found that most resources provided to recipients are spent on certifying DBEs, but once the DBEs are certified few resources remain to provide them with adequate support services (Ohaya 2022, Holt & Lubart 2018, USDOT 2013). Many recipients are understaffed and underfunded, leading to insufficient compliance monitoring and oversight (Holt & Lubart 2018). Recipients have substantial discretion in structuring their programs, which means programs can differ markedly from one another. This variation results in differing effectiveness in meeting DBE goals and makes it difficult for certified DBEs to operate in multiple states or regions, decreasing their ability to enter the market (Holt & Lubart 2018). The training state DOTs do provide is infrequent or unhelpful for recipients (USDOT 2013). Lack of guidance is a barrier to refinement and improvement of the program (NASEM 2015).

A substantial opportunity for the USDOT’s DBE program to improve is establishing enforceable standards for all recipients to adhere to and monitoring compliance with “the same intensity, as are applied to costs and technical performance” (Holt & Lubart 2018). In addition, USDOT recently issued new rule updates that may significantly affect the DBE program. These changes include updating the personal net worth and program size thresholds based on inflation, modernizing material supplier counting, updating procedure flexibilities enacted during the Covid-19 pandemic, adding program elements to promote usage of DBEs with proactive oversight, updating certification processes for DBEs to provide flexibility to certifiers, and updating certain rules to provide clarifications to certain misinterpreted rules (Federal Registrar, 2022).

The research team conducted a survey of all state DOTs’ DBE coordinators to learn about their challenges, award processes, training and outreach programs, and best practices they have

developed. The questions in the survey also pertained to what support services they offered, how they viewed DBEs' success, and what program guidelines and best practices they implemented or could suggest. A list of survey questions is included in Appendix 1.

During March and April 2022, 14 state DOTs' representatives responded to the team's survey. The research team's extra effort to reach out to states who did not respond to the survey was not successful in receiving their responses or for gathering the required information. A summary of the survey responses is presented below:

- The most common barriers to DBEs' success include lacking access to capital, not being able to acquire adequate bonding and insurance, not having back-office support, not understanding how to prepare and submit a quote/bid, and not being able to "get their foot in the door" to build relationships with prime contractors.
- Some states have made efforts to remove DBE barriers by using scoring in the proposal section of each quote/bid, setting and publicizing project level and participation goals, providing mentoring by experienced businesspeople and successful DBEs, encouraging primes to expand the pool of DBEs they use, offering networking and communication opportunities with prime contractors, monitoring prompt payment, and providing business and bid preparation training.
- States have various strategies for offering support services to DBEs, such as offering training, networking events, vouchers for training services, business development programs, technical assistance and support service consultants, and access to DBE office staff.
- Some states reach out to engage DBEs via web sites, e-mail, regular newsletters, social media, consulting services, virtual meetings, regularly held workshops, and training classes on relevant topics.
- Most states allocated more than 90% of their federal funds to construction contracts and less than 10% to professional services contracts. The Wisconsin allocation rates are about 85% and 15%, respectively.
- Several states allocated between \$100k and \$500k to programs dedicated to developing new DBE firms. Wisconsin has not allocated funds for developing new DBE firms.
- Most respondents stated that their states meet federal DBE goals through both neutral and race/gender-based measures.

State DOTs often consider DBE annual goal and attainment as important measures of effectiveness and success of their programs. A more complete goal and attainment data could not be gathered from our state DOTs' survey due to a lack of more participation. Accordingly, the research team reviewed websites for various state DOTs and gathered the respective data, as available for the most recent years, see Figure 1 below. In the Figure, the goal and attainment data are from Fiscal Year 2022, unless indicated otherwise. The latest available 3-year goal attainment rates, between 2014 and 2021, for most states are shown in Figure 2. For Wisconsin, the data shown in Figures 1 and 2 are from 2017 to 2019. The 2020 to 2022 three-year average goal and attainment rates for Wisconsin are 12.38% and 13.0%, respectively. For the states that did not respond to our survey, the team was not able to retrieve all needed information from their respective websites. However, for most states, the available data gathered were helpful in

providing information regarding the established and achieved goals, and the frequency of meeting such goals.

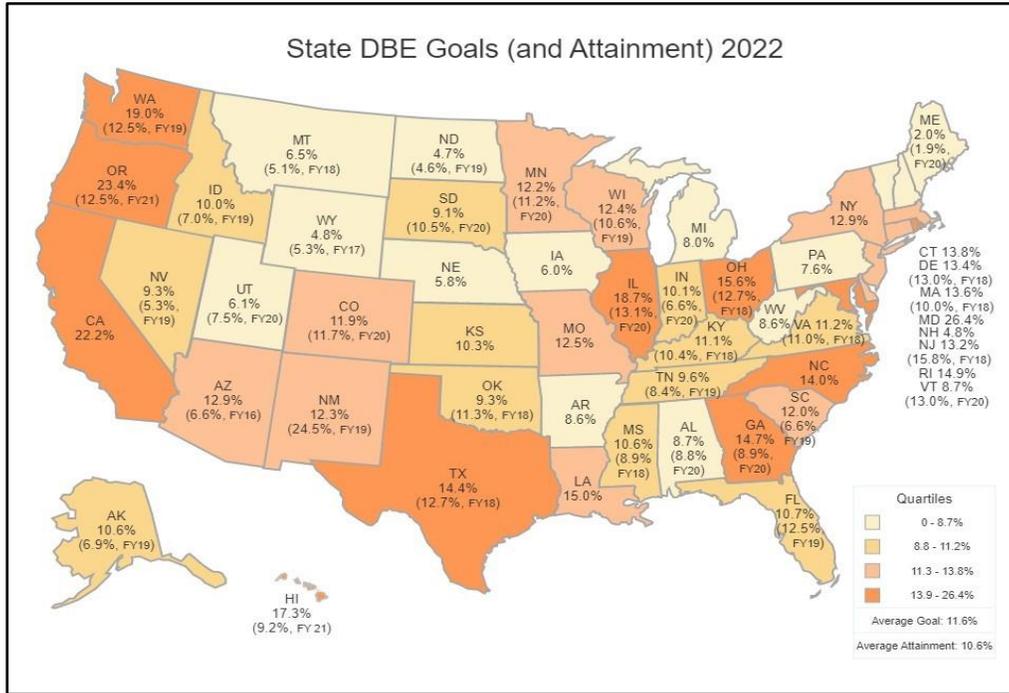


Figure 1 - State DBE goals and attainment (2022 data unless noted otherwise)

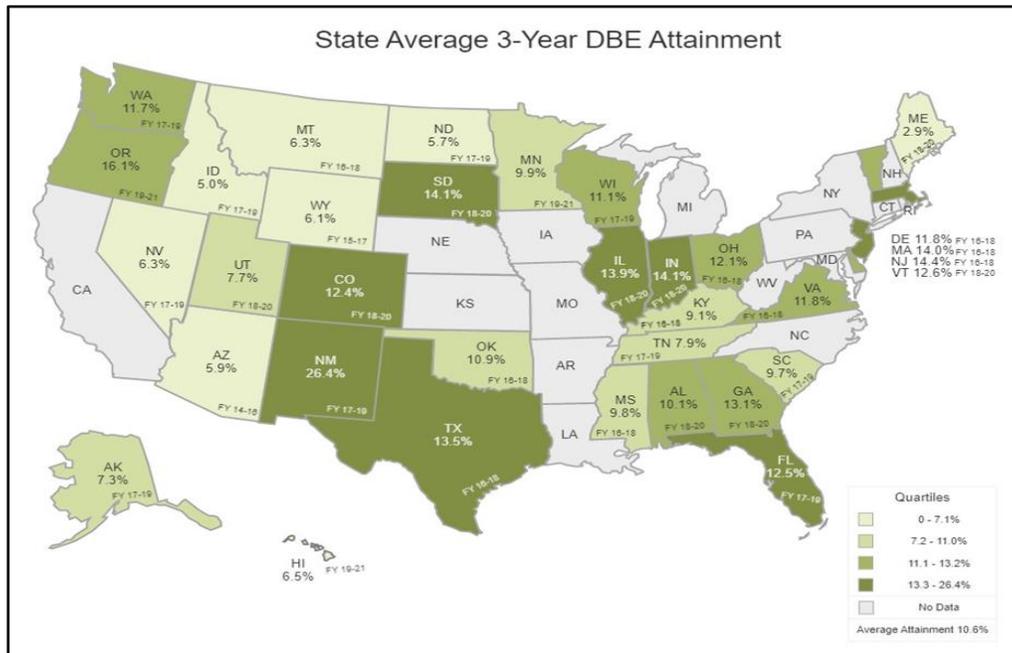


Figure 2 - DBE goals 3-year average attainment (2014 to 2021)

The research team also reviewed all publicly available DBE Disparity Studies conducted by several state DOTs. In total, the team acquired 19 studies that covered the whole US geographically. The team focused on the topics of the DBEs' barriers to success in each state, best practices for DBE programs, details on the contracting processes, and active programs to develop and grow DBE firms.

Most state DOT responders reported that DBE firms have experienced many of the same barriers to entry and success in the industry. Such barriers included discrimination, a lack of capacity, and a lack of communication on multiple fronts. The Covid-19 pandemic affected all firms across the industry, but some states reported that the financial effect on DBEs was more severe than on larger prime contractor firms. This effect might be due to the slower pace for awarding of DBE contracts, supply chain blockages, and the lower amount of available cash on hand for smaller businesses to weather unexpected events such as Covid-19. Other states reported that meeting DBE goals was a challenge due to a lack of certified and qualified DBEs, particularly in certain geographic locations within their states. One state correlated this challenge with a culture of questioning the competency of DBE firms and a lack of networking opportunities for new DBEs to leverage for new contracts.

Some states had implemented practices to make their DBE office run smoothly. One state reported that it sends inspectors unannounced to DBEs' job sites to verify that all paperwork, tax forms, and daily operations are being conducted as required. That state also offers mediation services between primes and DBEs in the event of contract disputes. A few states offered services to break subcontracts into smaller pieces to make certain jobs more manageable for small and new DBE firms. Firm development programs are not federally required but are important to maximize utilization and participation. Many states reported conducting networking conferences, mentor-protégé programs, and other business/management training services. One state created a DBE-to-DBE mentor-protégé program that specifically connects currently certified DBEs with former successful DBEs who no longer participate in the program. Because these development programs are not required per federal regulations, the extent and quality of these programs vary among states.

Upon reaching out to many state DOTs for which the team could not locate DBE Disparity Studies, it was found that most of these states did not have such studies. This was either from a lack of adequate funds to complete such reports, a lack of perceived need to conduct the study, or in one state, the most recent Disparity Study dated back to 2003 and only in a print option. One state provided the team with a digital copy of their 2016 study report that was not readily available online from our search.

Because of vague federal regulations for state DBE programs, the contracting process varied from state to state, which in turn led to variations in DBE participation. From the reports available to the research team, DBE participation rates were as high as 22% and as low as 1.9% among different states. Factors such as states' demographics, DBE program public image, and previous year's participation numbers affected the goals and participation rates. The WisDOT DBE office reports a DBE participation rate of 14.57% for the year 2021.

CHAPTER 3 – REVIEW AND ANALYSIS OF WISDOT’S DBE PROGRAM

The research team reviewed WisDOT’s DBE activities over the last few years and made a general evaluation of the state of the program for its effectiveness. To accomplish this, the research team reviewed available information related to federal and Wisconsin laws and statutes, data on current and past DBE participation and utilization goals, most recent five-year data on awarded contracts (committed and paid), and available documents and processes for current and prospective DBE firms as included on the current DBE office’s website. In addition, the team conducted interviews with DBE office staff to learn their perspective of the state of the program.

Wisconsin state law regulates how WisDOT should run its DBE program. Wis. Stat. §84.072 establishes the certification program for disadvantaged businesses and how it should be regulated, according to the federal laws contained within 49 CFR 26. Wis. Stat. §84.076 establishes the DBE program and the resources the program provides. In 1990, a federal district court ruled that DBE goals could only be required on projects with federal funding; any solely state or locally funded projects cannot require DBE goals (Milwaukee County Pavers Assoc., V. Fiedler, 1990). Additionally, Stat. §85.25 establishes a mobilization loan program for DBEs.

As a recipient of federal DOT funding, the Wisconsin Department of Transportation must set DBE participation goals regularly. WisDOT uses various methods to set achievable participation goals. In their Triennial Goal reports, WisDOT analyzes past participation, upcoming work opportunities and location, and number of currently registered DBEs to determine an estimate of the level of DBE involvement for the subsequent three years.

For 2021-2023, the Wisconsin DBE office has set the goal of 12.41% DBE participation, with 4.27% being attained through Race Neutral methods and 8.14% through Race/Gender Conscious methods. For this period, it is projected that the level of federal funding to be \$2.25 billion, spread over three years, for an average of \$750 million per year. The Bipartisan Infrastructure Law (BIL) will provide an influx of transportation design and construction funding in Wisconsin with many opportunities for DBE participation.

WisDOT has utilized Civil Rights Compliance System (CRCS), the Contract Administration Reporting System (CARS), the Wisconsin Unified Certification Program (UCP) Directory, and the Wisconsin Supplier Diversity Directory for their most recent DBE goals calculation (WisDOT, 2020). To determine the relative availability of ready, willing, and able DBE firms, the number of registered DBE firms is divided by the number of all non-DBE and DBE firms in the state. The resulting figure is 11.90%, as shown in the WisDOT Triennial Annual DBE Goal for Federal Fiscal Year (FFY) 2021-2023. Weighting analysis of the construction and consulting industries yields 11.93%, which is similar to the original figure that is used in the overall calculation (WisDOT Triennial Annual DBE Goal for FFY 2021-2023). The median DBE participation from 2015 to 2019 is 12.91%. The average of these two values is the official goal for the next triennium: 12.41% (WisDOT, 2020).

In the past, Race-Neutral goals were not met for a variety of reasons, including shifts in state funding priorities, reduced federal funding for contract opportunities, and the fact that most DBEs are concentrated in the Southeast region of the state. WisDOT’s plans to improve race-

neutral participation have included expanding the mentor-protégé program and continuing to provide various Support Services and Business Development Programs.

Twice each Federal Fiscal Year (FFY), DBE programs are required to produce documentation regarding their DBE awards/commitments and payments. The Uniform Reports contain information about the prime contracts and subcontracts awarded during the reporting period, including DBE awards, Race Conscious, and Race Neutral awards. Additionally, these reports contain information about the payments Departments of Transportation have made to firms for completed and ongoing projects. The research team analyzed WisDOT’s Uniform Reports from FFY 2017 to 2021 and the state’s DBE directory to get an accurate view of the contract awarding process and determine if DBE goals are being met. The analysis shows how the DBE contract awards are distributed among the diverse groups of DBEs over the 5 years of the analysis and which DBE groups may need more support or outreach.

An analysis of the 2021 state’s directory of DBE firms from the WisDOT’s Unified Certification Program (UCP) shows the largest number of DBE firms are owned by Black Americans (38%) followed by female Caucasian Americans (32%) and Hispanic Americans (16%). The state’s DBE owners also include Asian-Pacific Americans (7%), Native Americans (5%), and Subcontinent Asian Americans (2%). Figure 3 shows the registered DBE ownership demographics within the state according to race/ethnicity and gender. A knowledge of the DBE owners’ demographic information may be used as one measure to determine how different groups of DBE owners have received contract awards with respect to their respective population among all DBEs in the state.

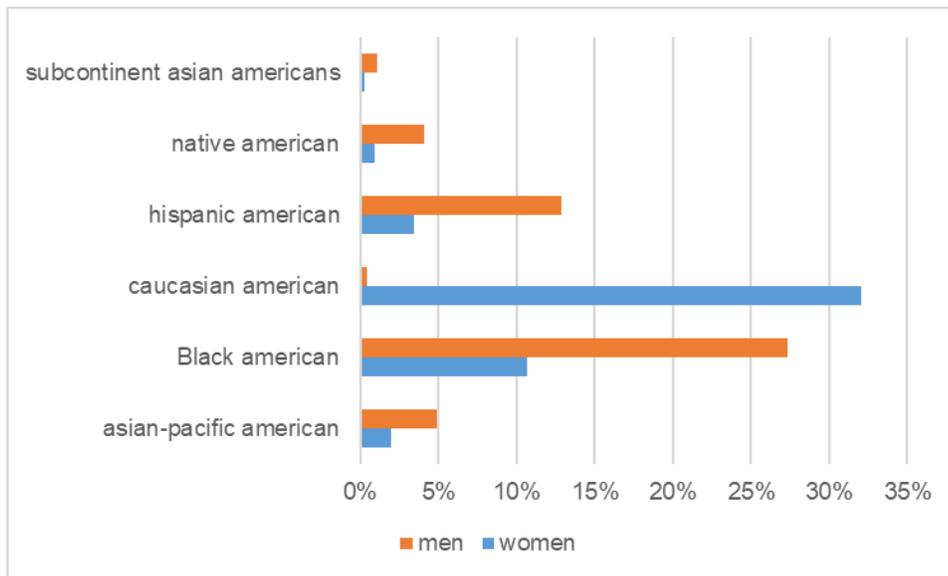


Figure 3 - DBE firms by owners' race, ethnicity, and gender in 2021

Figure 4 shows the number of WisDOT contracts awarded to DBEs during Fiscal Years 2017 through 2021 sorted by the race/ethnicity of each DBE owner. The Figure shows that the highest number, and by a wide margin, of DBE contracts were awarded to Caucasian (white female) owners in each year from 2017 to 2021.

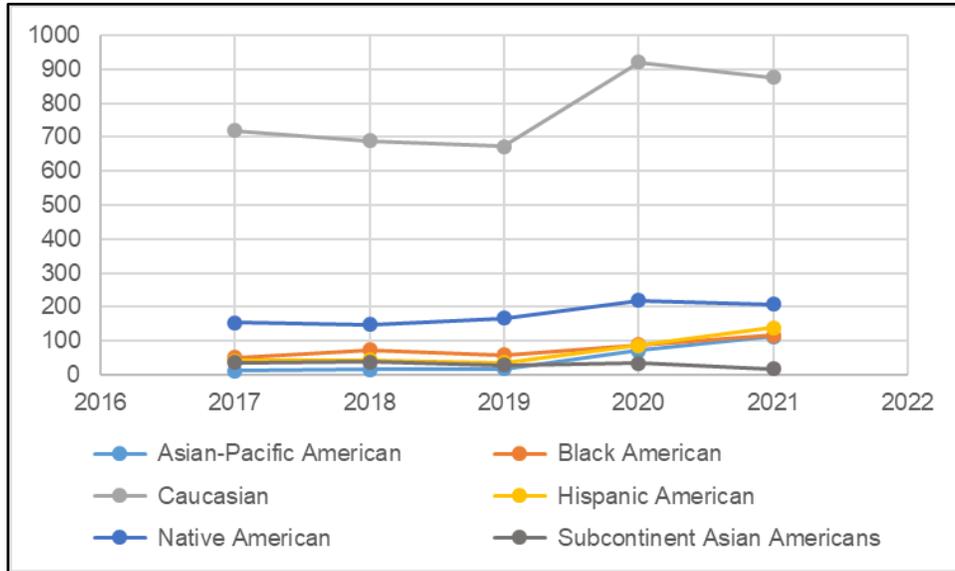


Figure 4 - Number of WisDOT contracts awarded to DBEs (2017 to 2021)

Figure 5 shows the same data used in Figure 3, but for the total value of the WisDOT contracts secured by DBE firms sorted by the race of the DBE owner for each year.

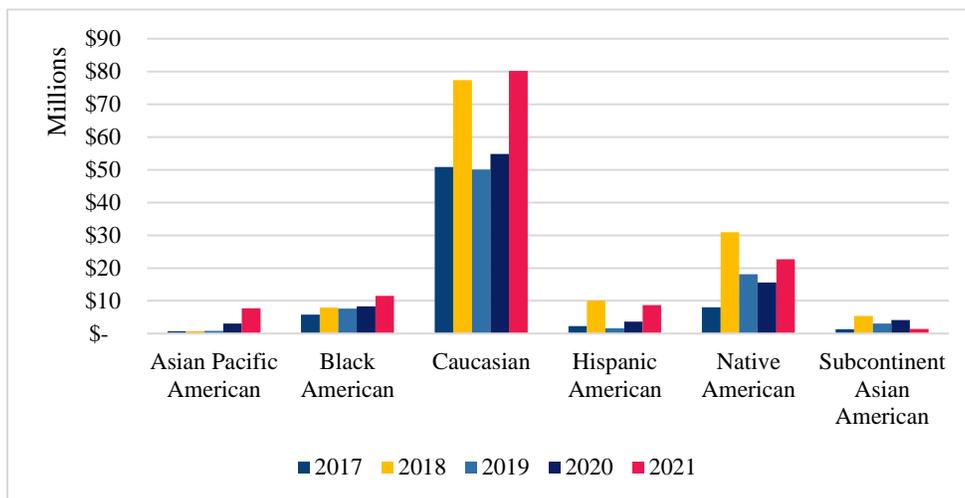


Figure 5 - Total value of contracts awarded to DBEs by year and race of owners

Across both the number and value of DBE contract awards, it is observed that a large majority of these contracts were awarded to Caucasian (white female) DBE owners. In the year 2021, for example, Caucasian female owners constituted 32% of all owners and

received about 60% of the total awarded contract dollars while Black American male and female owners constituted 38% of all owners but received about 8.5% of the total awarded contract dollars. A review of available data from other states shows that non-white female DBE owners generally have experienced disparity in DOT contract awards but not to the extent experienced in Wisconsin. In a few states including Illinois, however, Caucasian white female owners have actually experienced disparity in awarded contracts. The research team has concluded that the causes of the disparity generally experienced by non-white female DBE owners in Wisconsin mainly include inadequate education and training, a lack of financial and human capacity, operating types of businesses that do not generate high payout, and seemingly unfavorable contract awarding practices. Addressing the causes of the disparity and common barriers to DBEs along with implementing a pilot training and onboarding initiative, as recommended in this report, will minimize or remove the disparity experienced by the non-white female DBE owners in the state. If the award distribution analysis among DBEs is made by considering only heavy highway work type NAICS codes of certified firms, a different outcome may be achieved.

Figure 6 shows prime contracts and subcontracts awarded to DBE firms during the 2017 to 2021 period, in terms of both the dollar amounts awarded for WisDOT’s projects. The data indicate that DBEs receive more subcontract awards than prime contract awards. The research team found the causes for the small level of prime contract awards among DBEs to include their lack of adequate education and capacity in human and financial resources, not benefitting from effective outreach and communication and networking opportunities outside of events, and policies affecting the process of contract awards. The observed trend can in part point to the need for developing more qualified existing and new DBEs with better skill sets and greater capacity to increase their opportunities to win larger awards that are more often offered to non-DBE primes.

A more detailed analysis of WisDOT’s 5-year (2017 to 2021) DBE contract awards process is included in Appendix 2.

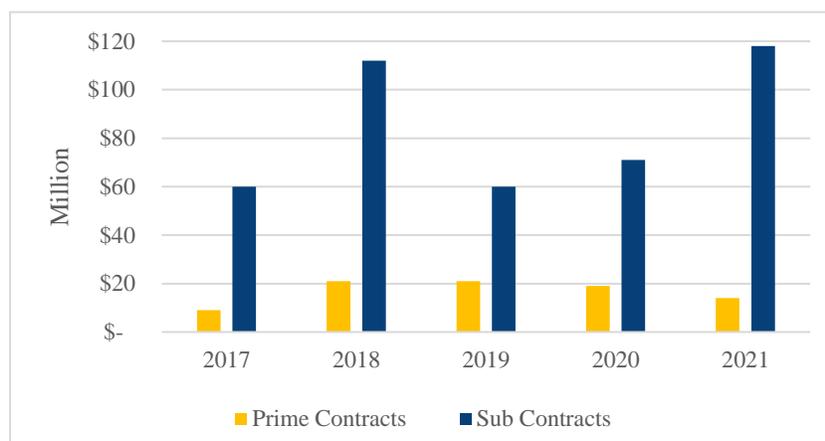


Figure 6 - DBE prime and sub contracts awarded by year and dollar amounts

WisDOT's DBE website provides a central nexus for most DBE related information and questions. For new and prospective DBE firms, the website includes eligibility requirements and necessary materials DBEs must provide for the certification process. Other steps required for out-of-state firms are also listed on the site. The site also offers information pertaining to various DBE training programs and networking conferences. The training and conference information is expanded upon in the Calendar section of the site that also includes an email notification link. More information about civil rights, legal compliance, and the program's vision and goals are published on the website. The site also includes an up-to-date DBE directory for prime contractors and others to reference, with detailed information on the areas of specialty and capabilities of each DBE firm and an ArcGIS map of the firm's locations. The site also includes the current year's operating budget and current and proposed future participation goals.

The research team reviewed the current state of the WisDOT DBE program through online interviews of staff from the DBE office. The interviews included five staff members in July 2022. The staff tenure ranged from one year to 12 years, with an average tenure of 5.5 years. The staff's regular duties include office support, collecting forms and information from DBEs, analyzing, and adjudicating Good Faith Effort requests, maintaining relationships with DBEs and regional offices, investigating prevailing wage, monitoring Commercially Useful Function (CUF) and Equal Employment Opportunity compliance, maintaining support services, administering training and technical assistance to DBEs in the field, and accounting for DBE credit. The questions presented to the staff pertained to staff's perception of the current state of the DBE program, staff's views on significant barriers DBEs face, staff's understanding of the needs of DBEs to have more participation and become successful, level of available resources and support, staff's morale, and perceived strengths, weaknesses, opportunities, and threats associated with the program. Responses from the staff based on the conducted interviews include the following:

- Staff perceived the DBE program operation as effective in outreach and training provided to firms. Staff has commonly received the following positive feedback from DBEs: the office has been accessible and good at providing different paths to utilize the program's resources, many firms wished they had used the resources sooner, and the mentorship program creates valuable relationships.
- Staff viewed the significant barriers to DBEs' success as: the scale and size of state projects being difficult for smaller firms to handle; difficulty in acquiring capital, loans, and bonding insurance; lack of existing relationships with prime contractors and few opportunities to prove the quality of their work; misunderstanding or not comprehending paperwork requirements and compliance regulations; and lack of feedback from failed bids and not knowing how to improve. Staff also reported that some DBEs have stated that they lack adequate financial support; a feeling that DBEs do not have a strong voice in decision-making processes; and the program benefits non-minority women-owned firms significantly.
- Staff demonstrated a good understanding of the needs of DBEs to allow them more participation in the program to succeed. Most DBEs need assistance in

improving their technical, financial, management, and administrative skills. Educating DBEs in these areas was noted to be essential for better participation in the program.

- Staff viewed the current level of resources and support to be minimally adequate to maintain the ongoing efforts. There is a strong belief that staff could do more to increase DBE firms' participation and success if additional financial and human resources could be made available. This lack of resources was viewed as critical as each DBE firm's needs are unique and additional attention tailored to a firm's needs could go a long way to improving the current conditions. Staff believed with more resources the office could place more emphasis on offering basics training related to project management for newly certified DBEs, the bidding process, acquiring capital, and how to run a business, and providing appropriate mentors to advise DBEs.
- Staff perceived the attitude and morale among the office colleagues are positive; many staff are enthusiastic, energetic, and passionate about the work they do to provide support to DBEs. The staff work closely with each other and overlap their tasks, which creates cohesion and a better-rounded office. Staff stated that they have seen a recent positive shift and enthusiasm among prime contractors, subcontractors, and public regarding the operation of the DBE office.
- The DBE staff reported many strengths and positive attributes about the DBE program. Strategic partnerships between prime contractors and the DBE office help put DBE firms in the best position to succeed. The program's strengths were also viewed as the willingness of the staff to work on new tasks and services, the progress that has been made to provide more services, and the continuing shift in perspective that DBEs want to do good work and are not just looking for a handout. The program is further benefitted by support services and programs such as various technical and management training, networking summits, verification of DBE utilization through implementation of the Additional Special Provision 3 (ASP3) and updated trucking policies, CUF monitoring, and other services that provide DBEs with increased knowledge of projects that are available for awards. An example of these services includes conducting pre- and post-bid meetings with DBE firms to improve their understanding of the projects and the bidding process.
- The weaknesses of the program are viewed by the staff as being: the DBE Office being small and with limited resources, the small staff that are stretched thin and thus are unable to consistently provide specific services, the needs for more diversity among staff, not being able to renegotiate contracts under certain conditions outside of DBEs' control, and a lack of DBE participation.
- Staff stated that opportunities for the program include the addition of new DBEs, the focus on diversity and inclusion as the program grows, engaging and making connections with firms, and the work done to bring the program into compliance with federal regulations. New opportunities include offering training resources for

newly certified DBEs, training on project management (including the bidding process, acquiring capital, and how to run a business), and marketing the DBE program more, so that potential and eligible firms know to apply for the program.

- Staff viewed the threats to the program as potentially having new administrative leadership with different priorities, potentially losing the current staff to better-paying private sector jobs, and dealing with groups who are opposed to the DBE program.

The input from WisDOT's DBE office staff was used to understand the characteristics of the DBE program and concerns. This information is combined with the input from other stakeholders, as gathered in this study and reported in other parts of this report, to help create the basic groundwork for conducting a complete SWOT analysis for the program by WisDOT. A more detailed description of the SWOT analysis is presented in Chapter 7.

To experience and learn more about the effectiveness of the DBE certification process at WisDOT, the research team worked closely with the responsible staff of the DBE Support Services Office to examine the process in the same way a real applicant would. The exercise's purpose was to determine the typical amount of time it takes to complete different steps of the certification process and some of the challenges a new applicant can expect to face when attempting certification for a firm. To have a more realistic experience, the team created a virtual DBE firm, completed the required DBE certification application, produced simple virtual documents that are normally required in support of the application, and submitted the application and required documents to WisDOT through the designated DBE Office's online platform.

The team found that completing the certification application was not cumbersome or very time consuming. While preparing the required documents in support of the application for the team's virtual firm did not require an extensive amount of time, this step of the process could be more time consuming for applicants seeking certification for a real firm. After submitting the certification application and supporting documents, the DBE Office issued an immediate automated response informing the team that the office had received the certification application and supporting documents. Two weeks later, the DBE Office informed the team that a preliminary review of the team's application materials revealed that a few missing documents need to be submitted. The research team intentionally left out the missing documents to examine the staff's response. Three weeks after the team submitted the missing documents, the DBE Office made a request to schedule an online interview and a follow up site visit. The interview and site visit intended to verify items listed on the application, obtain any additional missing information, and verify the existence of an actual business. The next step of the process, which the team did not pursue, would have been moving the application forward for approval.

The team found the DBE certification staff pleasant, informed, and helpful throughout the process. The required time to complete the certification materials review was about 6 weeks on WisDOT's side. It is reasonable to assume a longer time will be required when real firms are subject to the process as more detailed reviews are made that could lead to requests for additional documentation from the applicant. Overall, the team found the certification process to be

challenging, but manageable within a reasonable time, particularly if the applicant can properly prepare the required documents and approach the process in an organized and timely fashion.

In summary, the state of Wisconsin's DBE program is perceived as being effective in aiding DBEs who know about the program and are willing to seek help. Most stakeholders have a positive view of the program, especially based on its recent outreach efforts and collaboration with DBE subcontractors and primes. Overall, the staff viewed the program having many opportunities for assisting DBEs and enhancing their success. Highlights of the team's findings include:

- Wisconsin DBE office staff are knowledgeable about the DBE program and the needs and challenges of DBE firms. The staff take pride in assisting DBEs and there is a sense of high morale and camaraderie among colleagues.
- Wisconsin DBE program has consistently set high DBE goals on federally funded construction projects. For the 2021-2023 period, the goal has been set at 12.4% participation, with 8.1% intended to be met through Race/Gender conscious means. Many DBE firms think that similar goals should be set for consultant contracts.
- Most DBE contracts have been awarded to Caucasian-owned (white female) DBE owners.
- DBEs receive a much greater number of subcontracts than prime contracts. A more effective educational and training program will help develop the necessary skill set and capacity for new and existing DBEs to enable them to take on a greater number of prime contracts.
- WisDOT's DBE website is a central location for information relating to the DBE program. The site could be enhanced by making it easier to navigate and find information by DBEs and others.
- WisDOT can enhance the educational and training programs to develop new DBEs and help existing DBEs through creating new educational opportunities and offering more tailored training assistance before and after making awards.

CHAPTER 4 – IDENTIFY AND MITIGATE BARRIERS TO DBES’ SUCCESS AND PARTICIPATION

Most DBE firms are small, and they inherently face barriers and challenges in their work. These barriers include a general lack of adequate business and management skills, in addition to being limited in financial and human capacity. These barriers have hampered the DBE programs in every state DOT to realize their full potential. In addition to the insight gained through the work reported earlier in this report, the research team reviewed the available literature and communicated with an array of stakeholders to identify barriers and challenges Wisconsin DBEs face as they work to compete for DBE contracts and meet their contractual obligations. The team’s communication with the stakeholders was through a survey of owners or representatives of DBE firms within the state, interviews with owners of DBE contractor and consultant firms, interviews with representatives from prime contractors, interviews with representatives from prime consultants, and interviews with the construction and trade industry leaders within the state. In collaboration with the Project Oversight Committee (POC) members for this study, the team developed specific questions used for each group's survey and interviews. The team also identified methods that may be used to mitigate the effects of or remove such barriers. The following sections of this chapter include a more detailed description of each effort.

Survey of DBE Firms:

The team forwarded a survey to 275 Wisconsin contractors and consultants DBE firms during June and July of 2022. The survey’s questions pertained to the number and amounts of DBE awards received during the previous three years; DBEs’ perception of the effectiveness of the Wisconsin Department of Transportation (WisDOT) DBE program; identification of significant barriers Wisconsin DBEs face and how such barriers may be mitigated or removed; and how DBEs viewed the strengths, weaknesses, opportunities, and threats associated with WisDOT’s DBE program. A list of survey questions is shown in Appendix 3.

The selection of the firms invited to participate in the survey was based on their owners’ demographics with respect to the DBE owners' qualification categories, as designated under the federal guidelines, and the concentration of the firms in different regions of the state. Table 1 shows the demographics (race/ethnicity and gender) and population data for the firms selected to participate in the survey. Table 2 shows the percentage of the selected firms for the survey from different regions of the state.

Table 1 - DBE Survey Demographics (race/ethnicity & gender) and population

Demographics of Firms Contacted for Survey							
Gender	Asian-Pacific American	Black American	Caucasian American	Hispanic American	Native American	Subcontinent Asian Americans	Total
Female	1.4%	11.6%	26.0%	4.2%	2.8%	0.4%	46.3%
Male	5.3%	26.7%	0.4%	13.3%	6.3%	1.8%	53.7%
Total	6.7%	38.2%	26.3%	17.5%	9.1%	2.1%	100%

Table 2 - Distribution of the selected DBEs in different regions of the state

Region of Origin of Firms Contacted for Survey	
SE	70.4%
SW	12.2%
NE	6.3%
NC	3.8%
NW	7.3%

The research team received survey responses from 31 DBE firms. Twenty of these firms represented contractors and eleven were consultants or professional services entities. Figure 7 shows the race and ethnicity distribution of the owners who responded to the survey. The response rates by the firms owned by female Caucasian and subcontinent Asian American owners were found to be significantly higher than their respective populations among all DBE certified firms in the state. In contrast, a significantly lower response rate was observed from firms owned by Black Americans. DBE owners with other demographics responded to the survey in proportion to their respective population size. The varying response rates among owners with different demographics may be due to their level of available financial and human resources or to how they view the value they receive from the DBE program. The observation may be used for evaluation and enhancement of the DBE program through more strategic and effective support services and outreach efforts.

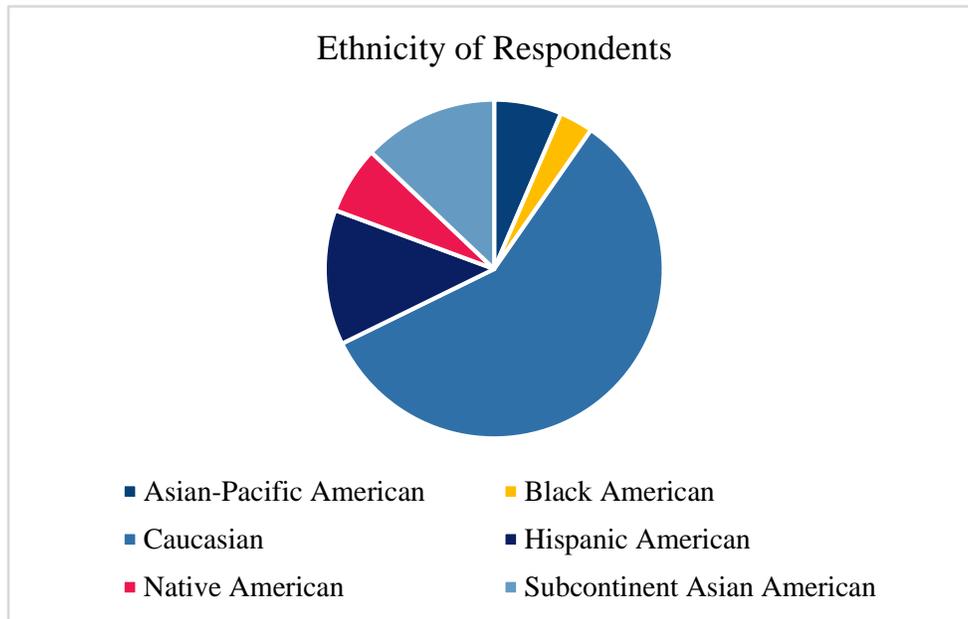


Figure 7 - Race and ethnicity distribution of DBE firms responding to survey

A summary of the responses received from the survey includes the following:

- Twelve firms reported not receiving any DBE contracts for one or more years during 2019 to 2021.
- Seven firms received more than 11 contracts each year.
- Firms that received contracts of less than \$100,000 constituted about 55% of the responding DBEs.
- Firms that received contracts of larger than \$1,000,000 constituted about 22% of the responding DBEs.
- Over 70% of the firms reported good familiarity with the WisDOT DBE annual conference and networking summit events.
- About one-half of the responding firms reported that they were familiar with the training workshops and the mentor-protégé programs.
- Only about 15% of the firms reported awareness of the other support services offered by WisDOT.
- The most helpful support services offered by WisDOT were identified as the annual workshop and networking summit, bonding and insurance assistance, mobilization loan, and some of the training programs.
- The most significant assistance DBE contractor firms seek from WisDOT includes skill development and onboarding guidance.
- All DBE firms need assistance with financing resources and cash flow, and prompt payments for completed work.
- To increase DBE participation, most responding firms recommended an increase to DBE goals on projects, offer more training sessions at different geographic locations, reduce/simplify administrative requirements, and offer more one-on-one outreach.
- The responding firms identified major barriers to their success as a lack of capital or resources, a lack of technical and business knowledge (particularly for contractors), scope of project is too large, and a reluctance of primes to use DBEs on contracts that do not have DBE requirements.
- The responding firms identified the programs' major strengths as caring and knowledgeable DBE office staff, and available resources and training opportunities.
- The program's major weaknesses were viewed as frequently awarding DBE contracts to the same firms, a lack of buy-in from DOT project managers, and the perception that there are no clear participation benefits to consultants and more established older firms.
- Opportunities for the program were identified as the recent WisDOT's focus on increasing DBE participation, better communication between DBE firms and primes, and the availability of the new transportation federal funding.
- The responding firms viewed the negative local politics as a major threat to the DBE program.

A more detailed representation of the survey responses received from the DBE firms is shown in Figures 8 to 19.

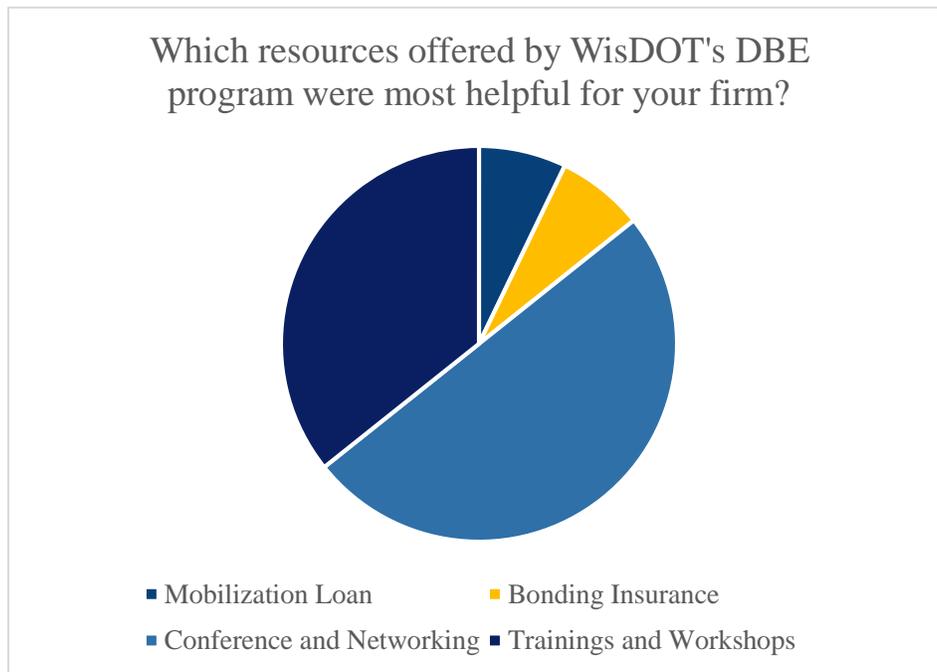


Figure 8 – Most helpful training and resources to DBE offered by WisDOT

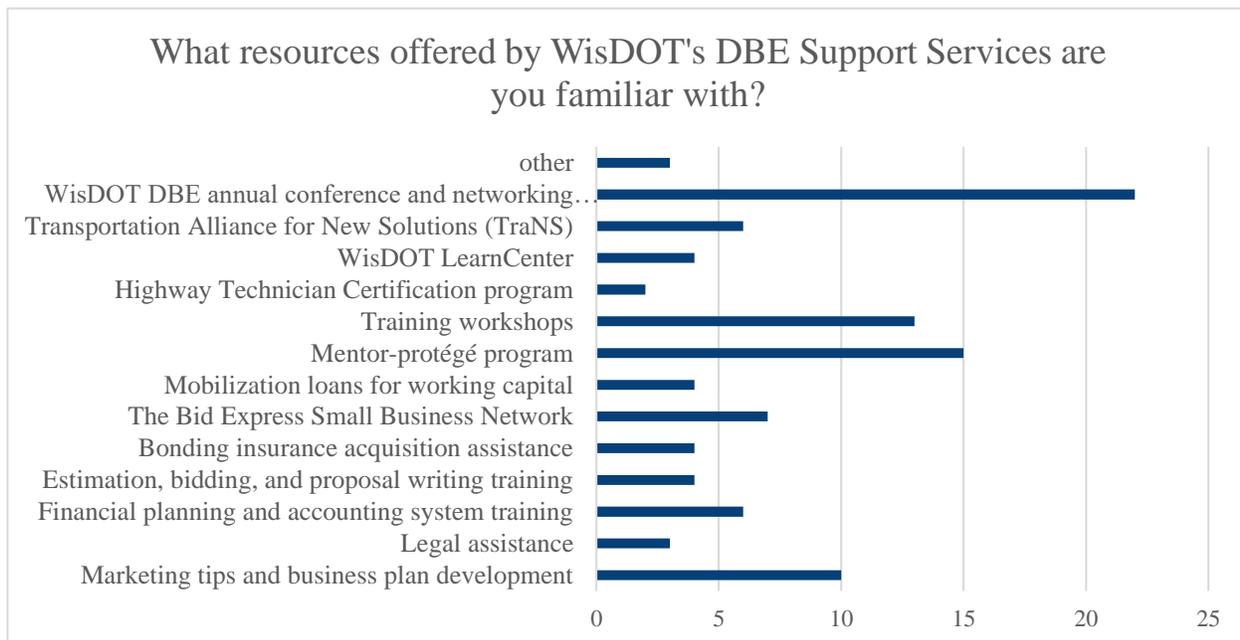


Figure 9 – DBE firms' awareness of support services offered by WisDOT

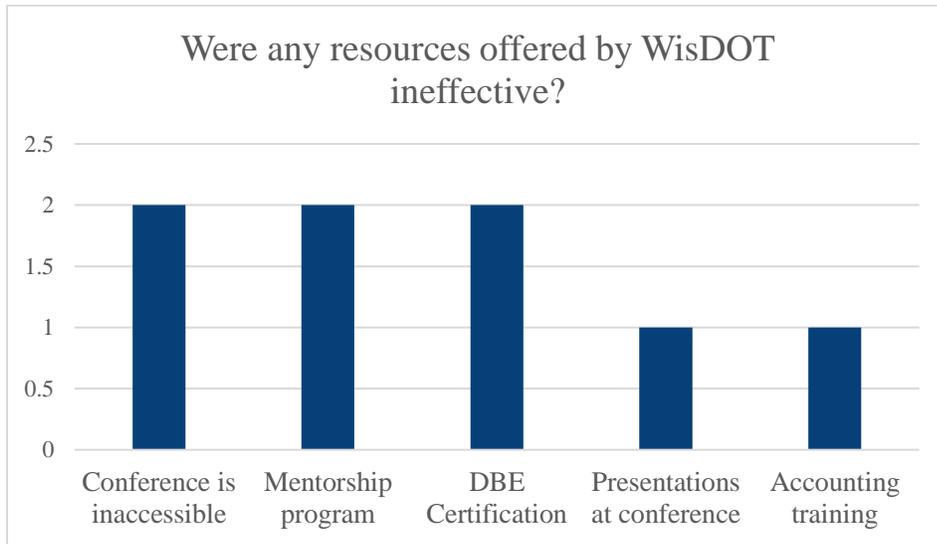


Figure 10 - Level of effectiveness of support services for DBEs

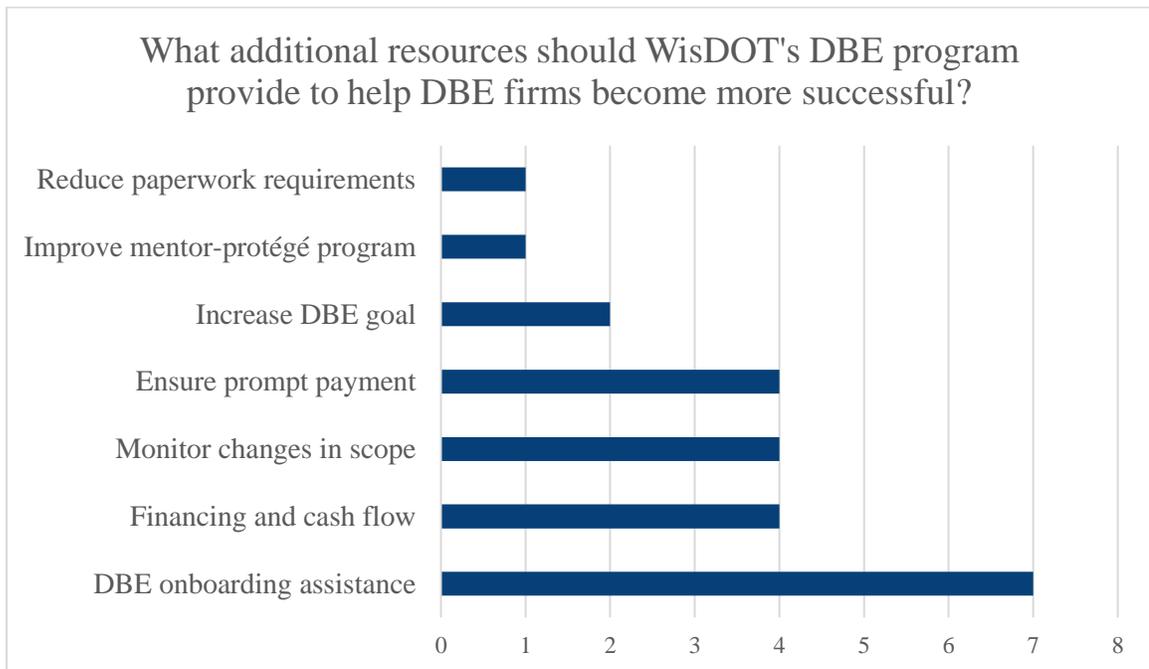


Figure 11 - Desirable resources and services identified by DBEs

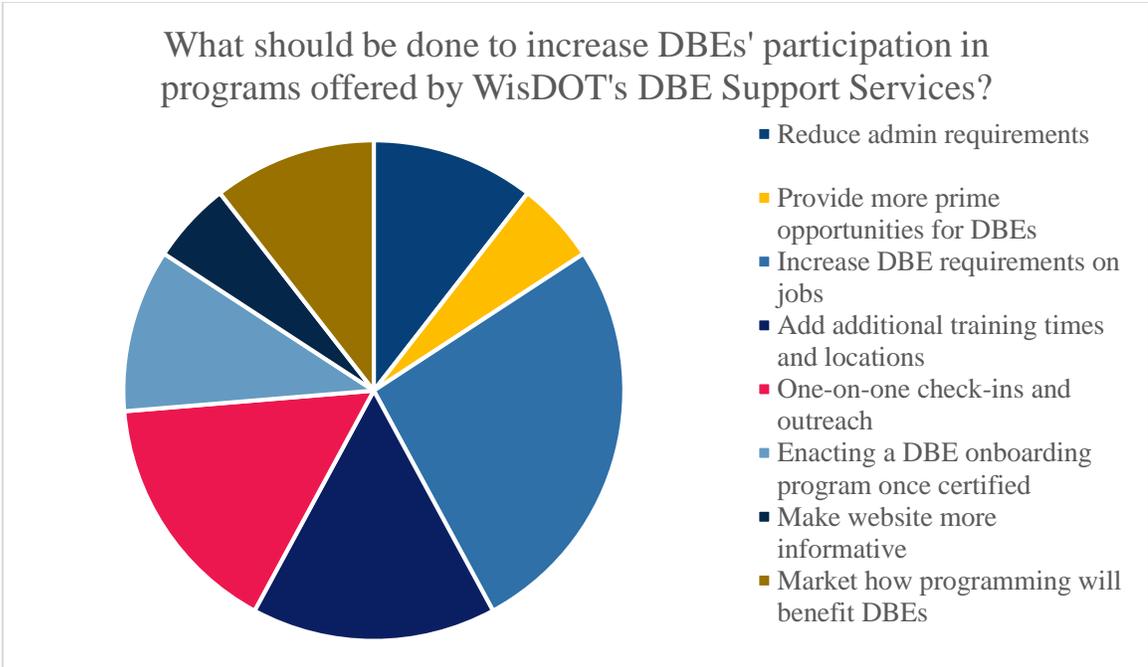


Figure 12 - Initiatives to enhance DBE participation as identified by DBEs



Figure 13- How DBEs describe success for DBE firms

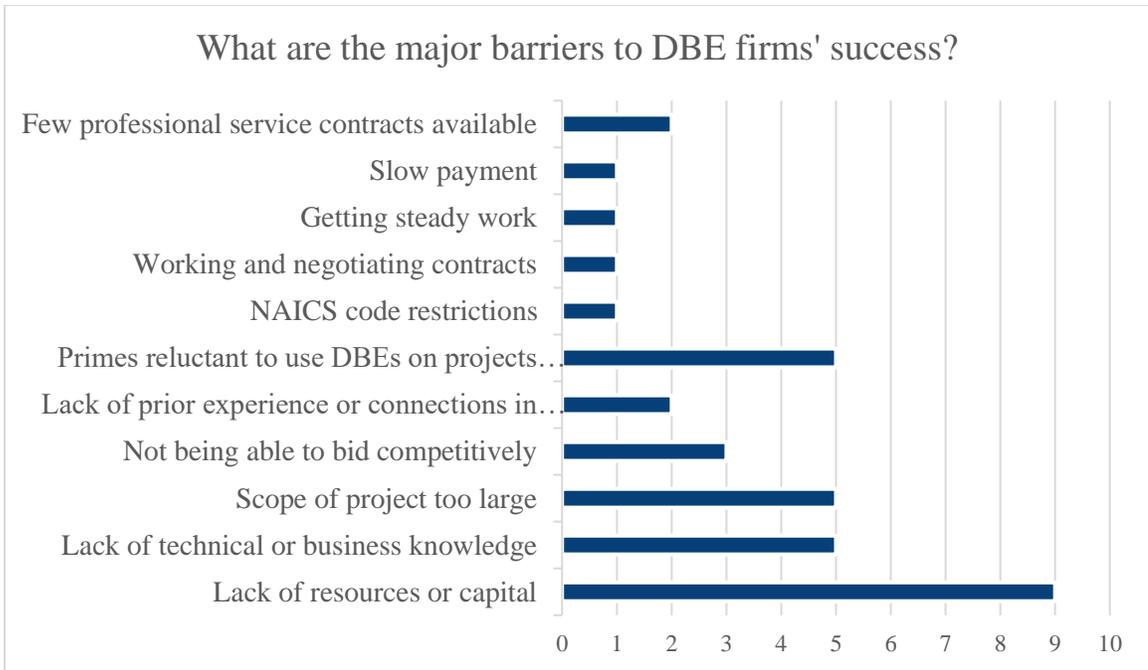


Figure 14 - Major barriers to the success of DBE firms as viewed by owners

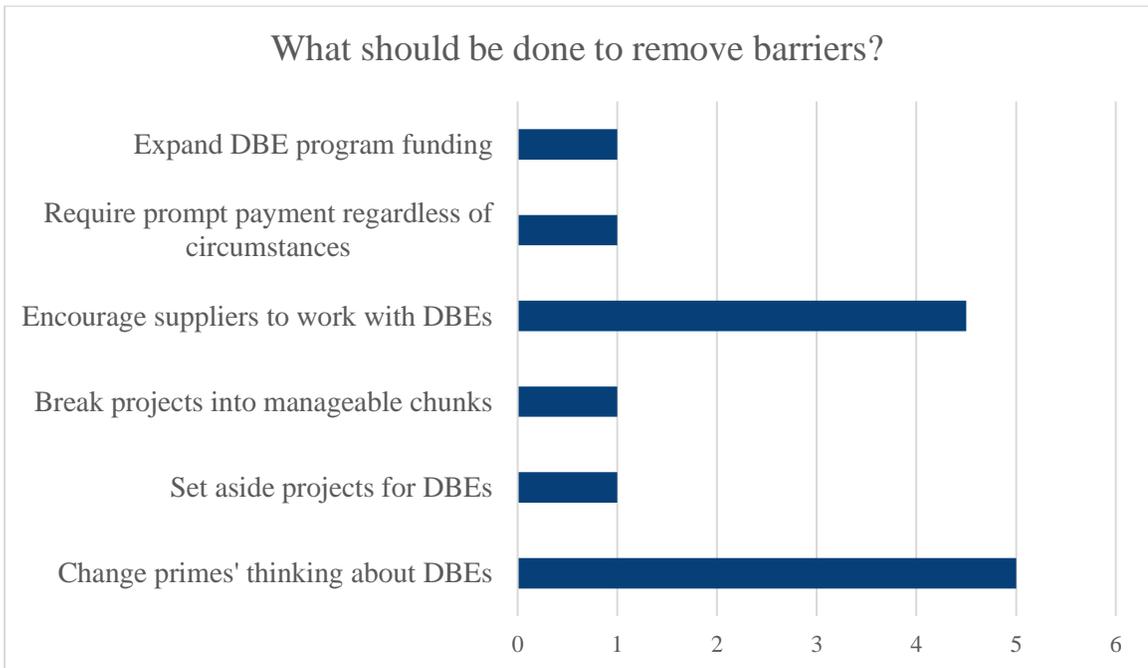


Figure 15 - Initiatives to mitigate or remove barriers faced by DBEs

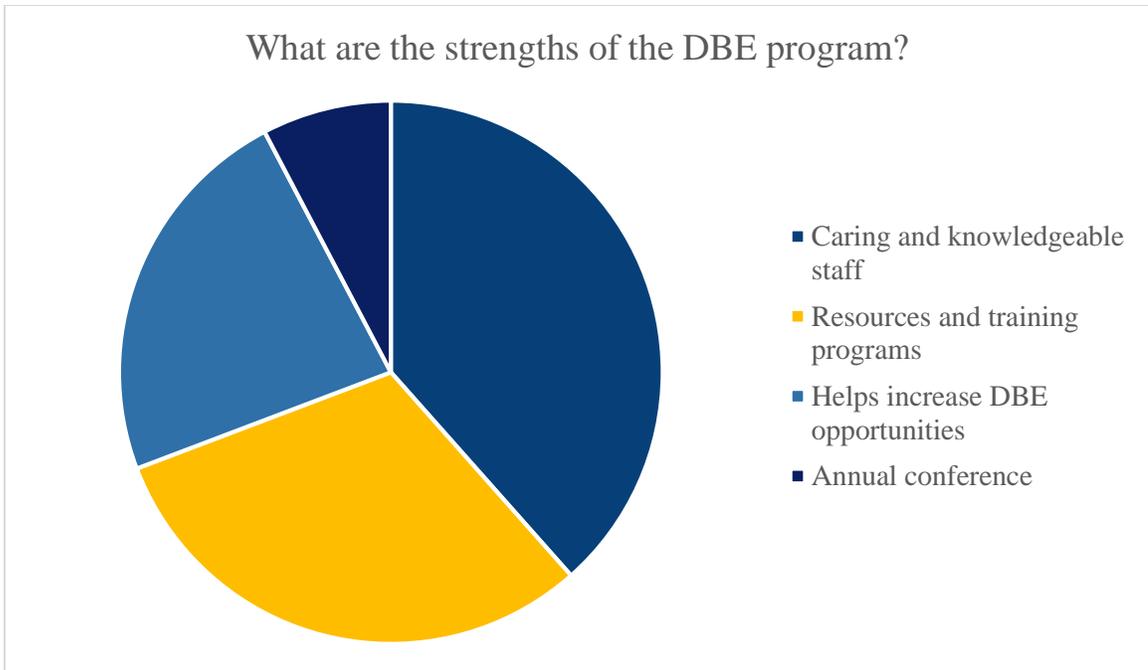


Figure 16 - Strengths of DBE program identified by DBEs

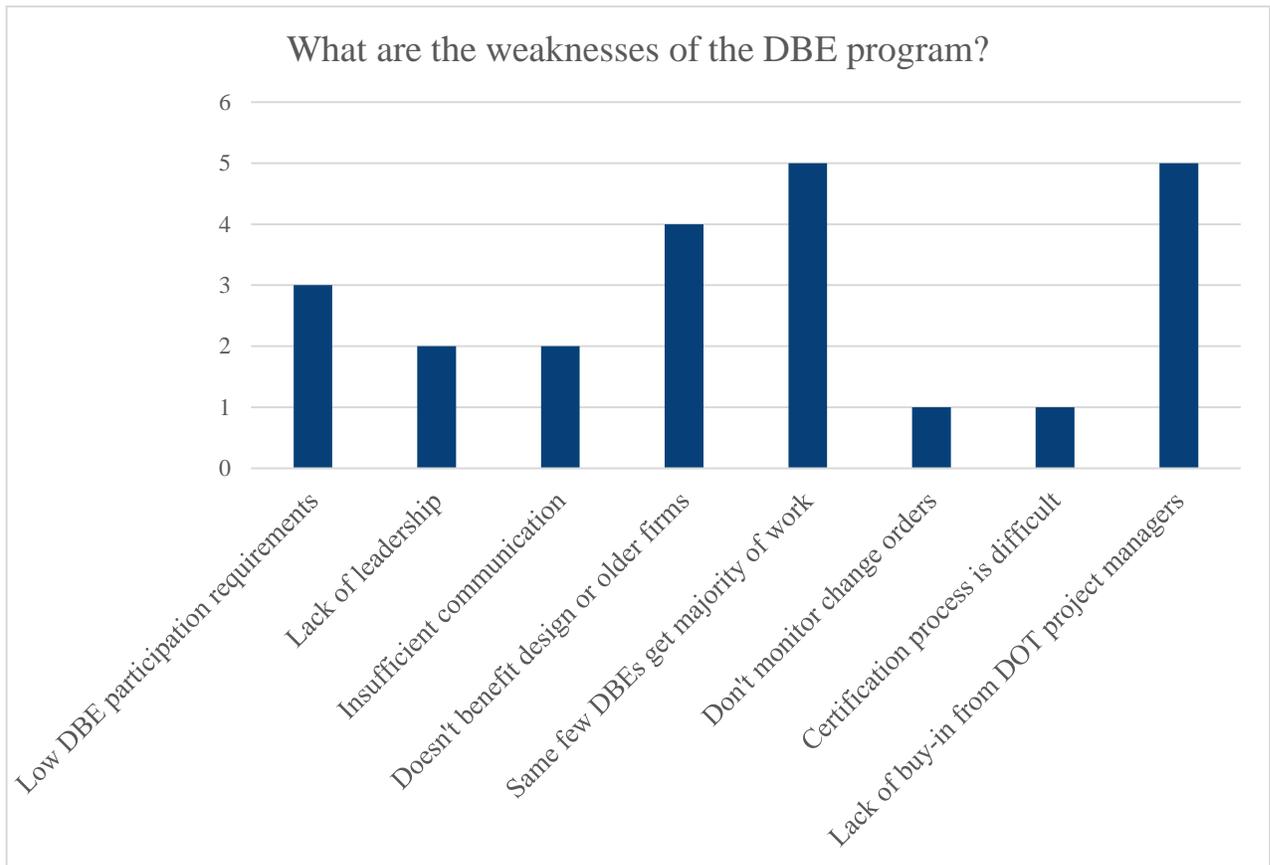


Figure 17 - Weaknesses of DBE program identified by DBEs

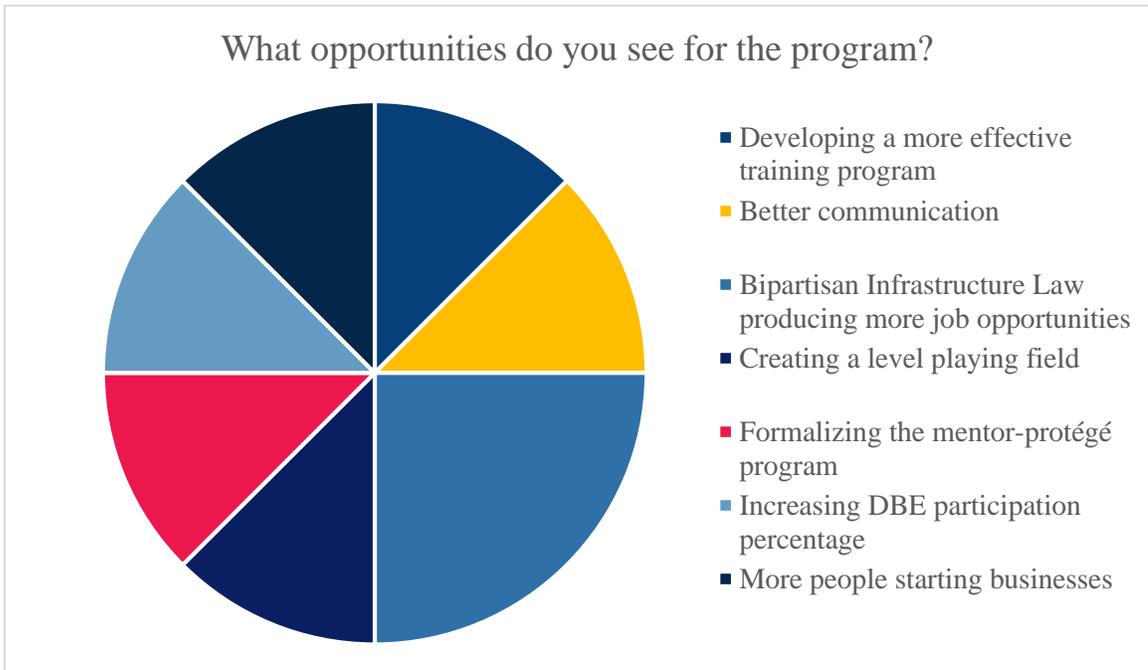


Figure 18 - Opportunities for DBE program identified by DBEs

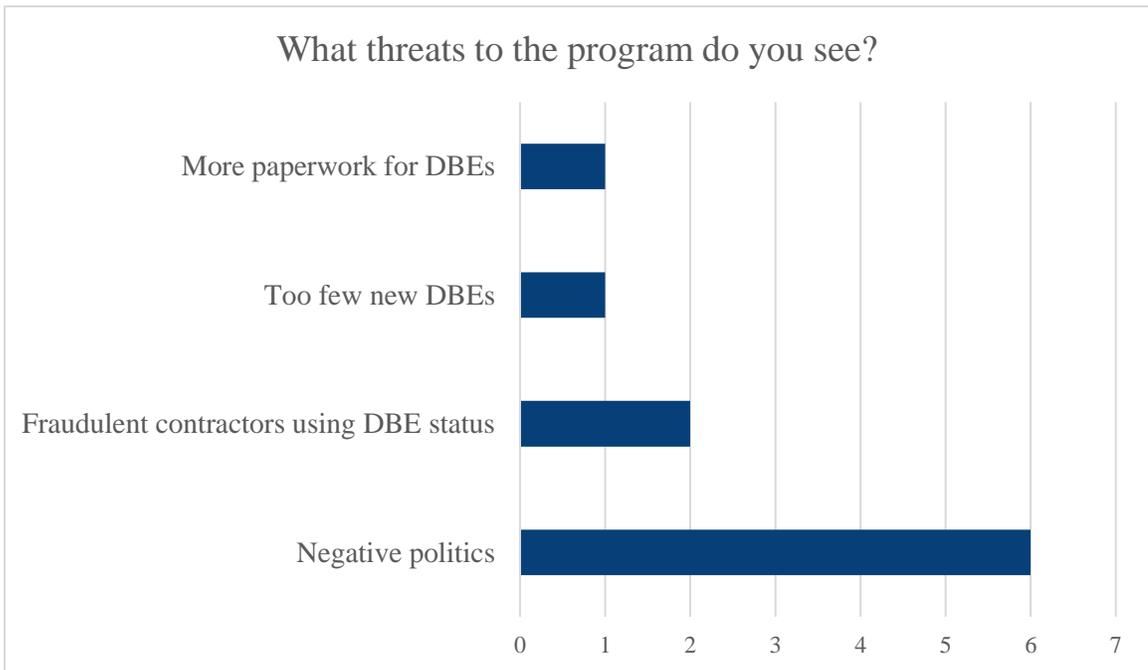


Figure 19 - Threats to DBE program identified by DBEs

Most firms who responded to the survey believed that WisDOT’s DBE program has been effective in helping DBEs in several ways to make them better at what they want to do.

However, the firms thought more could be done if WisDOT is willing to implement the following recommendations to enhance the program's overall operation and outcome.

- Offering more training tailored to the needs of DBEs,
- Increasing outreach efforts particularly to newly certified DBEs,
- Increasing and enhancing networking opportunities with primes,
- Getting DOT project managers more involved with DBEs during ongoing contracts,
- Increasing DBE goals in projects,
- Reducing uncertainties around the existence of the program, and
- Making more efforts to improve negative attitude from primes and others toward DBEs and the program.

Interviews with DBE Firms:

The research team interviewed 11 DBE owners (six contractors and five consultants) in June and July of 2022. These DBE firms were established entities that operated their businesses between 10 and 30 years. During each of the previous three years, these firms were awarded an average of 21 WisDOT contracts, ranging between zero and 80 awards. During the same period, these firms generated between \$0 and \$11.5 million with an annual average of about \$5.5 million. The purpose of interviewing the owners and representatives of these DBE firms was to get a better understanding of the firms' views on barriers and challenges they normally face, determine how to mitigate or remove these barriers, understand the effectiveness of WisDOT's support services, and identify what needs to be done to make them more successful. Questions that were discussed during the interviews pertained to the firms' operation, how they achieved their success, barriers and challenges they had faced and how these barriers could be removed, their views on the various aspects of the WisDOT DBE program, and their ideas on how to increase the Wisconsin DBEs' participation and success. A list of questions discussed during these interviews is included in Appendix 4.

A summary of the interview responses is shown below:

- The WisDOT DBE program has helped these firms develop relationships within the industry. Those relationships helped them win contracts and prove their work, which in turn helped build their firm's capacity. A few of the firms benefited from the mentorship program. One firm believed the DBE goals allow them to compete effectively. Many of the firms have utilized various training programs from the DBE office. One firm stated they would not have made it without the DBE program.
- The firms believe that the WisDOT DBE office is easy to work with. However, a few firms have had difficulties working with WisDOT on various occasions. The difficulties stemmed from a lack of communication by the department to clarify new rules and changes to the specification requirements, the department's unwillingness to renegotiate contracts under scenarios outside of DBEs control, and varying attitudes (ranging from supportive to hostile) of DOT staff in some regions toward DBEs. The DBE office and the Project Managers (PMs) do not necessarily coordinate, so DBEs are told one thing by the DBE office and something different from PMs. The DBE and compliance offices do not get

involved with contracts until there are problems; a few firms believe that if there were more check-ins during the project, fewer issues could arise.

- Most firms believed that the WisDOT DBE program has met its goals over the past five years. Caveats to their positive answers are that some firms believed the goals are met mostly through race-neutral means, mostly through women-owned trucking contracts, or that most of the contracts go to non-minority women-owned consulting businesses. One firm believed that the program is technically meeting federal goals. However, since there have not been DBE goals on professional services projects in the past few years, and because there can no longer be DBE goals on state-funded projects, the program is not truly meeting its goal. Two firms believed that the program is not meeting their goal, and that is due to primes giving excuses as to why they have not met the project goal and are let off the hook, and because professional service projects are often awarded to the same firms by DOT project managers.
- Most firms were aware of some of the services offered by the DBE office, such as accounting, legal, and technological assistance, business development and planning support, networking opportunities, the mentor-protégé program, and the loan mobilization program. All firms expressed familiarity with the annual conference, regardless of their attending the event.
- Most firms believed that the WisDOT DBE program is effective, but a few firms expressed that the program could do better. They felt that there should be more outreach to new DBEs to inform them about the available resources. Two firms expressed a desire to see more influence on DOT project managers by the DBE support services staff to encourage a better working relationship with DBEs.
- Most firms identified the most helpful resources and training options as the back-office tasks such as finance and accounting training, business planning and development services, the mentorship program, the networking opportunities, and the technical training options.
- Firms listed additional helpful training programs as cyber security and connectivity training, quality control training offered by the QC office, regular check-ins and follow-ups during ongoing contracts, networking opportunities with DOT project managers to foster a better working relationship, training on how each region does their paperwork, more opportunities for mentor-protégé groups to work on projects together, preparation for contract negotiation and dispute resolution, a walkthrough on how to hand over a business to a relative, and a workflow document for the technical manual so DBEs can easily see all that is required of them.
- The firms described a DBE as being successful if they are able to set and meet goals; if they are happy, comfortable, and feel like they have developed relationships within the industry; if they are showing profits; if they are able to secure loans from the bank and grow their business; if they get repeat work because of its quality, not because they're a DBE; if their business is sustainable, even in hard economic times; and if they are able to secure and complete contracts.
- The firms believed the primary barriers to DBEs' success include: inadequate access to capital, a lack of adequate financial and human resources, a lack of race-

conscious goals (specially on professional services contracts), a lack of business and management acumen by most DBE owners (including how to bid, how to fill out paperwork, and how to make good financial decisions), DBEs' lack of past experience, prime contractors being unwilling to help DBEs grow their capacity, dominant firms being awarded many more jobs than other DBEs, and DBEs thinking that once they become certified, work will come to them.

- Firms believed that, to become more independent of support services, DBEs need to build relationships and network with larger firms and the DOT to win jobs and learn from those experiences.
- Some options the firms provided for removing barriers are setting race-conscious goals on consultant contracts, expanding the mentor-protégé program by adding incentives or setting aside a few projects for just mentor-protégé groups to bid on, more frequent outreach to DBEs, more business training, encouraging prime contractors to get more involved with DBEs, and treating the DBE goal as a minimum.
- Some options firms suggested for ways WisDOT can help DBEs become more successful are working with primes on QC requirements and materials' price escalation, expanding the current networking events, providing training on technical forms and business strategies, creating a supportive environment to help developing new DBEs, offering pre-award and post-award (onboarding) training and mentorship, and offering resources and examples of business management.
- The firms believed the strengths of the WisDOT DBE program are their passionate and knowledgeable support services staff, the recent efforts to hold primes accountable for meeting DBE goal requirements, minimizing approval for excessive Good Faith Effort (GFE) requests, and setting DBE goals on construction projects that give small firms the opportunity to compete.
- The firms believed the weaknesses of the WisDOT DBE program are struggling to get new DBEs involved, not holding primes more accountable for prompt payment, not having enough staff to adequately administer resources, not offering more tailored training and education during winter months, not adequately publicizing the services offered by WisDOT, not adequately publicizing rules and regulation changes, not adequately enhancing the general perception on DBEs, not minimizing or removing sole emphasis on low-bid options (whether or not they meet DBE requirements), and not setting goals on professional services projects.

It was found that support services offered by WisDOT were essential to the growth and success of most of the DBE firms interviewed, particularly during the initial years of their business operation. These DBEs identified the primary barriers new and smaller DBEs routinely face as a lack of business and management skills, a lack of financial and human resources, and inadequate opportunities to build relationships with primes and other larger firms. The firms recommended steps that may be taken by WisDOT to help remove the identified barriers. The recommendations included re-evaluating the current contracting policies, engaging prime contractors with DBEs, and offering necessary education and training programs tailored to specific DBEs' needs.

Interviews with DBE Prime Contractors:

The research team interviewed representatives from four major Wisconsin prime contractor firms in January 2023. These firms routinely subcontract out various work to DBEs in areas including landscaping and remediation, trucking, structures, concrete saw cutting, excavating, asphalt paving, signage and traffic control, pavement markings, and rebar installation. The primary purpose of the interviews was to understand the primes' views on the value DBEs bring to prime contractors' businesses and to see what should be done to make DBEs more successful. Questions that were discussed with the selected prime contractors pertained to defining the role and impact of DBEs in prime contractors' businesses, improving communication and working relationships with DBEs, identifying and removing barriers DBEs face, and identifying initiatives that need to be taken to enhance DBEs' work in the state. A list of questions shared with the selected prime contractor firms is included in Appendix 5.

Below is a summary of the research team's findings from the prime contractors' interviews:

- Three firms stated that DBEs compare equally with working with non-DBEs, except new DBEs face certain challenges, such as understanding paperwork requirements and business sophistication, hence needing education.
- DBEs are an asset to the industry.
- Newer DBEs are an asset to the industry because they bring an entrepreneurial spirit and a good attitude to the industry.
- New DBEs should start with smaller municipality work to gain experience before trying to subcontract larger projects at the state level.
- DBEs should make more effort to communicate with primes often, not only when discussing a particular contract, and build relationships in advance.
- To build a positive relationship with primes, the interviewees stated that DBEs should familiarize themselves with the bidding process and ensure they have competitive quotes or bids.
- DBEs should ask primes questions regarding their expected tasks, so they can understand what is expected of them.
- DBEs should recognize their worth and negotiate the terms of their subcontract more persuasively.
- DBEs who struggle during conducting their contracts should ask their primes for help immediately, so they can figure out scheduling adjustments and other rectifying actions.
- Primes do not want DBEs to fail just as much as DBEs do not want to fail.
- Prime contractors should do a better job of building up DBEs as they benefit primes' work.
- There can be deficiencies in any contractors. It is not always DBEs who have issues.
- WisDOT should continue with the roundtable events and engage primes in the DBE process.
- WisDOT should provide an allowance for a DBE not being the lowest bid.
- WisDOT could request specific jobs be done by DBEs.

- WisDOT could help structure contracts so that primes pay some money up front so the DBEs can get their needed start-up funds since often DBEs' limiting factors are their lack of financial capacity.
- Meeting the DBE goals is a positive incentive for primes to contract with DBEs.
- A few primes view positively the department's recent actions to approve fewer Good Faith Effort requests.
- One representative stated that incentivizing primes to award more subcontracts to DBEs is a slippery slope and would caution against it. Primes have relationships to maintain with non-DBEs as well, and it is not always the best to step over them to use a DBE.
- More women and people of color should be encouraged to view construction as a viable career path.
- WisDOT should work with educators and high school guidance counselors to promote construction educational opportunities so they can start the conversation with students while they are still in school.
- DBEs skills and capacity can be enhanced if there are scholarships for small business development, but let DBEs choose which training they need.
- DBEs can benefit more from seminars that cover a more comprehensive skill set that is needed, instead of seminars covering a wide range of skills on the surface.

Representatives for all prime contractors who were interviewed considered DBEs as an asset to prime contractors' businesses and were supportive of initiatives that would assist DBEs to be more successful. The firms are willing to participate in mentorship of DBEs to gain the needed skill set that is required for running their businesses successfully, but there is an expectation that primes should receive some level of compensation, even if it is only for covering their cost. The firms made several suggestions for WisDOT to assist DBEs. They include identifying qualified DBEs and suggesting to primes to award DBE contracts to such firms, structuring contracts to allow primes to pay upfront start-up funds to DBEs, and providing financial assistance to DBEs to get the training they need. The primes viewed the most important initiative for WisDOT as working with educators and other stakeholders to create new educational opportunities to help existing DBEs to grow, to develop new qualified DBE firms, and to encourage underrepresented individuals to pursue careers in construction.

Interviews with DBE Prime Consultants:

The research team interviewed five consultant primes in April 2023 to assess their views on the value DBEs bring to prime consultants' businesses and to see what should be done to make DBEs more successful and beneficial to primes. These consultants work in public relations, roadway and structural design, environmental studies, surveying, maintenance, and geotechnical subsurface exploration and investigation. Questions that were discussed with the selected prime consultants pertained to the role and impact of DBEs in prime consultants' businesses, communication and working relationships with DBEs, barriers DBEs face and how to remove them, and what initiatives need to be taken to enhance DBEs' work in the state. A list of questions shared with the selected prime consultant firms is included in Appendix 6.

Below is a summary of the research team's findings from the prime consultants' interviews:

- Average annual subcontracts to DBEs varied from \$200k to \$3M.
- Most of the past subcontracts to DBEs were in the areas of public relations, roadway and structure design, environmental studies, survey, maintenance, and geotechnical and subsurface exploration/investigation.
- Most primes prefer to work with DBE or non-DBE firms they can trust with the delivery of their subcontract requirements.
- Large primes are more interested in subcontracting with more established DBEs with adequate capacity in broader specialty areas. Other primes, on the other hand, prefer to work with DBEs who have skills in niche areas of engineering and design.
- Working with established DBEs is mostly the same as working with any subcontractor. They all have limitations. Most DBEs, however, are small and have glaring needs in business/management skills, available funds, and capacity.
- Small DBEs with niche skill sets should develop and maintain strong relationships with one to three primes that need their services.
- Primes expect DBEs to make their work easier, not the other way around.
- Primes have a challenging time identifying qualified DBEs for their projects. WisDOT should invest in developing qualified DBEs and publicize their skill set and capacity.
- WisDOT should work with American Council of Engineering Companies (ACEC) of Wisconsin to allocate five-minute time slots, during the ACEC annual Conference and other events, for qualified DBEs to highlight their skill set and capacity to the large group of participating primes.
- WisDOT can encourage prime consultants to award more subcontracts to DBEs by specifying DBE goals in the range of 5 to 10% for contracts, make the award selection process more transparent with respect to using DBEs in projects, and increase the current cap limit for subcontracts subjected to audit.
- WisDOT should offer training/mentoring programs tailored to the need of DBEs, develop, and identify more skilled and trained DBEs with adequate capacity to receive subcontracts, and encourage minority DBE owners to hire more minorities, as primes prefer to have workers on the site who represent the communities where the projects are located.
- WisDOT should facilitate mentoring of DBEs by primes, in programs like the Mentor Protégé, through offering resources and financial incentives to primes, develop, and increase the number of qualified DBEs to fill the existing void, train DBEs to retain their staff, and pay or supplement the cost of training for DBEs.
- WisDOT should start a long-term educational outreach program to involve various school districts from the minority communities, to promote careers in engineering and construction areas, and to help develop qualified DBEs.
- To build positive relationships with primes, DBEs should create and publicize their portfolios to highlight their areas of strength and experience, have their clients recommend them to primes, be persistent in reaching out to primes using different means, and participate in events such as ACEC conferences and other events that primes attend.

Most prime consultants interviewed expressed a preference to work with both qualified DBE and non-DBE firms they trust who could deliver what is required of them according to their respective contracts. Prime consultant firms' representatives suggested assisting DBEs to

become more successful through specifying DBE goals of 5 to 10% in projects, asking primes to award contracts to qualified DBEs that the department can identify and recommend, and requiring a more equitable distribution of awards among qualified DBEs. These firms have struggled to find qualified DBE firms to meet their needs, and they recommended that WisDOT work with educators and other stakeholders to create new educational opportunities to develop new qualified DBEs and individuals who are well trained and able to carry out the needed work of prime consultants in the state.

Interviews with Construction Industry Leaders:

As a part of this study, the research team interviewed four construction industry leaders in January and February of 2023. The individuals selected for the interviews have been in leadership positions for major construction or trade organizations within the state and have contributed to the successful growth of the industry. They also have been strong advocates of growing the number and capacity of DBEs within the state in support of achieving the goal of creating a skilled professional services and construction workforce that can advance the state's economic development and growth. The primary purpose of these interviews was to understand the role of DBEs in supporting and advancing highway construction and growing economic development in the state. The research team was also interested in learning what barriers these leaders believe DBEs face and how they could be removed to assure success for DBEs and the construction industry. The team also asked the selected industry leaders how the state should enhance the skill sets and capacity of DBEs to meet the current challenges in the highway construction industry. A list of questions discussed during these interviews is included in Appendix 7.

Below is a summary of the research team's findings from the interviews of leaders in the state's construction or trade organizations:

- Qualified DBEs bring a significant level of assistance to the construction industry, but it is quite a challenge to find the right ones.
- Most DBEs are small companies with limited skill sets and inadequate financial and management capacity. Accordingly, they are not equipped to take on major DOT contracts with inherent elevated risk that requires large financial and human resources. This is currently a major problem for the industry in the state.
- WisDOT is in the strongest position in the state to lead the creation of new educational and training programs that can facilitate developing new skilled DBEs in the construction field. It is not the prime contractors' role to develop DBE capacity in the state.
- WisDOT should undertake a new initiative to pool all certified DBEs within the state and negotiate with different financial institutions for loans, insurance, and bonding at reasonable rates.
- Require DBEs to meet certain criteria and qualifications similar to what is required of contractors.
- WisDOT should create a database of DBEs who have completed certain training programs. The database should be made available to the public so trained DBEs are easily identified by prime contractors for award consideration.
- DBE mentors should not be active contractors due to the presence of an inherent conflict of interest.

- WisDOT should evaluate each large project and identify parts of the project that would be ideal for DBE work. WisDOT should also identify the qualified DBEs for the work and communicate it with the prime contractor.

The leaders of the construction industry interviewed in this study believed that a lack of an adequate number of qualified DBEs in highway construction is a fundamental problem for the industry in the state. They viewed WisDOT being in a strong position to lead and carry out appropriate initiatives to address the shortage of qualified DBE firms in the state. These initiatives should include creating new educational and training programs that can assist existing DBEs to enhance their skill sets and capacity and help develop new qualified DBEs and individuals skilled in various highway construction related trades and businesses.

CHAPTER 5 – REVIEW OF WISDOT’S PROMOTION AND OUTREACH EFFORTS AND EFFECT ON NEW DBES AND STARTUPS

The research team conducted a review of WisDOT’s promotion and outreach efforts made over the last several years. The purpose of the review was to evaluate the effectiveness of the efforts in assisting existing and new DBEs. The research team used the following sources of information for this review and evaluation: published reports and data, informal reports and conversations, WisDOT’s DBE Office website, interviews with the staff at the DBE Support Services Office, interviews with the owners of DBE firms, interviews with representatives from prime contractors’ and prime consultants’ firms, attending the DOT’s Annual Workshop and Networking Summit events in 2022 and 2023, attending a Roundtable meeting in 2022, and interviews with the construction industry leaders in Wisconsin. In addition, the research team worked closely with the responsible DBE Support Services staff to experience the process of DBE certification and to learn about challenges new applicants normally face. The knowledge gained throughout this study and performing this review and evaluation efforts aided the research team in recommending effective methods to enhance the DBE promotion and outreach programs at WisDOT to help grow the skill sets of the existing DBEs and develop new qualified firms.

As reflected on the Department’s website, WisDOT has offered a series of support services, with varying frequencies and under different conditions, to DBE firms over the past several years. The goal for offering these services has been to assist existing DBEs and develop skilled and qualified new firms. These services have been categorized under two general areas of Management & Technical Support, and Business & Growth Development. A list of specific training programs under each category is shown below.

- Management & Technical Support:
 - Business plan development
 - Legal
 - Financial planning
 - Accounting systems
 - Estimation and bidding
 - Bonding education
 - Proposal writing
 - Marketing and advertising your business
 - Risk management
 - Accessing important documents on the WisDOT website
 - Bid Express Small Business Network
 - Managing your business and employees
 - Mobilization loan for working capital opportunities

- Business & Growth Development:
 - Capacity Building Assessments
 - Mentor/Protégé Program
 - Loan Mobilization Guaranty Program

- Workshops including the Annual DBE Workshop and Networking Summit, and Roundtable Meetings
- Recent DBE leadership meetings with DBEs at different Regions

In addition to holding workshops and other events, WisDOT has made promotional and outreach efforts to learn about barriers DBEs face and how the department could assist them to overcome such barriers. Examples of such efforts include having a dedicated staff to conduct e-mail and phone communication with DBEs to seek their input on how the Department can assist them, sending event and other relevant information to DBEs, making follow up contacts with existing DBEs regarding inquiries and requests for assistance, and making follow up contacts with new DBE certification applicants to advance their application process in a timely manner.

From the interviews of WisDOT's DBE Office staff, the research team learned that the staff are dedicated to assist DBEs and understand the challenges they routinely face. The staff do what they can to help DBEs with the resources they have. The staff recognized many of the major barriers to DBEs, as identified in the earlier part of this report, but they are limited in offering the types of assistance needed. The staff wished they had access to adequate financial and human resources, so they could do more for DBEs to achieve success. The staff recognized the need for developing and implementing an effective educational and training program to facilitate the sharpening of existing DBEs' technical and management skills and developing additional qualified new firms. Unfortunately, WisDOT has not had any dedicated resources to develop new qualified DBEs to address the shortage of such DBEs in the state.

Based on a review and evaluation of WisDOT's DBE outreach efforts, the research team learned that a more organized and strategic planning and implementation of DBE training and outreach could enhance the effectiveness of the program and participation of the DBEs in the state. The strategic planning should consider the specific needs of diverse types of DBEs in the state and DBEs' impediments to success and for using WisDOT's support services more effectively. An effective strategic training and outreach program could be developed and implemented by creating a standing committee of WisDOT staff and various stakeholders who could highlight what types of training and outreach efforts are needed and offered under what conditions.

One of the most sought support services by DBEs has been having opportunities to network with other DBEs and prime contractors and consultants. WisDOT's DBE Office has recognized this desire for the last several years. Accordingly, several of the past DBE events hosted by WisDOT have included networking opportunities in their programs. Examples of these events are the Annual DBE Workshop and Networking Summit and the DBE Roundtable meetings. The past Annual DBE Workshop and Networking Summit events included multiple useful training sessions, and panels of DBEs and primes to educate the participating DBEs in business and management skills and other areas. The event also included informal sessions for networking. The past Roundtable meetings were designed to allow DBEs and primes to discuss mutual issues of interest and have networking opportunities. The research team for this study participated in both events held during the years 2022 and 2023. From the team's observation and conversation with DBE participants, it was found that these events were useful to DBEs, but the full benefits of the networking part of the programs could not be realized. The research team

has concluded that a change in the program's structure and schedule can significantly enhance the effectiveness of the networking part of future events. To that effect, the research team has developed a set of recommendations to enhance the effectiveness of future networking events, as presented under the "Recommendation" section in this report. The research team also discerned the views of the participating DBEs on the level of DBE participants in these events. While the overall number of participants in the events was high, some of the participating DBEs expressed concerns about the continuous decline in the number of DBE firms' owners and representatives over the last few years.

Most DBEs contacted by the research team and by WisDOT's staff during their outreach efforts believed the support services offered by WisDOT have been helpful to their businesses and want to be more engaged with the program. However, they felt much more is needed and could be done to make more DBEs become engaged and successful. Most stakeholders believe that many barriers to the success of DBEs, as identified in the earlier part of this report, continue to exist, and need to be mitigated through approaches that are more effective. For example, despite the Department's past promotional and outreach efforts, WisDOT has realized only a modest participation by the state's DBE firms in available federally funded contracts.

Most of the stakeholders contacted during this study, including DBEs, prime contractors, prime consultants, and construction industry leaders, share the same view as WisDOT. There is a strong feeling among many in the state that there is a shortage of qualified DBEs who could potentially fill the void created by the shortage of skilled workforce in the highway construction industry. It is believed by DBE stakeholders in the state that WisDOT should undertake a major effort to create a new educational and training program that can help grow existing DBEs and develop qualified new DBEs with more capacity to manage and complete larger highway construction projects successfully.

CHAPTER 6 - ANALYSIS AND RECOMMENDATIONS FOR PLANNING AND IMPLEMENTING A ROBUST DBE PILOT TRAINING & ONBOARDING PROGRAM

A pilot program is a small-scale study that aims at determining the level of confidence for and feasibility of implementing a full-scale study after completing the pilot. Through conducting a pilot study, researchers can assess the effectiveness of the methodologies used and determine how they should be improved or replaced with new methods for the full-scale study. Developing a complete plan, detailed methodologies, and implementation steps for a Disadvantaged Business Enterprise (DBE) pilot training and onboarding program is outside the scope of this study. However, the research team used the findings from this study to present a case for the merit of conducting such a pilot program. The team also is presenting a preliminary structure for conducting such a pilot. A detailed plan and identification of the appropriate methodologies for implementing the pilot program should be undertaken as a part of a new study when or if Wisconsin Department of Transportation (WisDOT) decides to proceed with this proposed initiative.

While most DBE firms have the necessary basic skills to have an acceptable performance in their area of work specialty, they are often small, have few employees, have limited or no access to capital, and lack adequate management and operational capacity. Most researchers, professionals, and DOT staff who have studied business operations of DBE firms agree that the above-stated limitations form challenging barriers to the success of such DBEs. WisDOT has recognized these barriers and has developed and offered a series of training programs and support services to assist DBE firms over the last several years. These services have included training and support in the three areas of management, technical, and business growth development. The management training has focused on business plan development, financial planning, managing business and employees, legal understanding, and bonding and loan options. The technical training program has included proposal writing, marketing strategies, estimating and quoting/bidding, accounting systems, and risk management. The training program for business development and growth has centered on capacity building assessment, networking, annual workshops, and mentor-protégé efforts.

Chapters 3 and 5 of this report include a more detailed description of such services offered by WisDOT. Unfortunately, WisDOT's support services are underutilized as only between 20 and 30 firms actively engage each year. Even with additional outreach efforts by the staff of the DBE office, the department has not observed a significant increase in the level of DBE participation. The lack of adequate DBE participation may be understandable due to the inherent characteristics and limitations associated with small businesses.

Fortunately, the department can take appropriate actions to increase DBEs' participation by offering new opportunities and incentives to assist DBEs to overcome these barriers. This report has highlighted recommendations and immediate actions that WisDOT may implement to enhance the support services that the department currently offers. More significantly, the department can initiate an innovative pilot program, as described here, to help existing DBEs enhance their necessary skills and capacity and become successful businesses. In addition, for the first time in the history of WisDOT's DBE program, the new program will help to develop qualified new DBEs to address the current shortage of such firms in the state. This first-of-its-

kind program in the nation will place WisDOT as a national leader to develop a skilled workforce in highway construction that will contribute positively to the economic development of the state and the region.

Many stakeholders have identified the major disparity experienced by non-white female DBE owners in awarded contracts as a major challenge to the DBE program at WisDOT. Over the past years, female Caucasian owners have received a highly disproportionate percentage of the total DBE contract dollars. The findings from this study suggest that inadequate capacity, resources, and training, along with experiences of not having a good chance of winning DBE contracts, have led to inadequate engagement and disparity by non-white female owners. WisDOT's administrators and DBE program leaders are aware of this disparity and are eager to minimize or remove such disparity within the state. Implementing the recommended pilot study will enable DBE firms to overcome barriers they have faced and increase their engagement and chances of winning contracts after participating and completing the pilot program. Setting an annual income cap for pilot eligible firms, limiting the pilot program to or set priority for firms who have not had DBE contracts, and targeted outreach and encouragement by the DBE office staff are some of the efforts that may be made to minimize or remove the disparity experienced by non-white female owners.

The research team strongly recommends that the proposed pilot program include both training and onboarding components. The training efforts should aim at preparing the participating DBEs in the pilot to remove important deficiencies and to successfully submit competitive quotes to primes, or bids to the department, and win awards based on their own merit. The onboarding efforts will offer the award-winning DBEs guidance and hands-on or in-the-field training, as required, to enable them to successfully complete their contract tasks and meet contractual obligations. It is conceivable to assume that a DBE who completes this pilot program will have invaluable experience that can lead it to running a successful business independent of any significant future assistance.

An important task for the proposed pilot program's success is selecting and including eligible DBEs that have potential for success. The potential for success for a DBE may be determined based on the suitability of the firm to available projects in the pilot and on the extent of training needed to bring the DBE up to par for managing the work in a timely manner. The program may identify this group from a list of firms who show interest in participating in the pilot. The process of selecting DBEs for the pilot program will need to be based on a set of criteria that the program should develop and publicize in advance. One important selection criterion may be based on the level of the firm's readiness and ability to perform tasks related to available projects they can work on. One example for selecting eligible DBEs could be identifying firms who have the necessary capacity and can become adequately competitive in quoting/bidding for projects/contracts through completing a six-month tailored/mentored training program. This training should aim at removing specific deficiencies and building additional capacity in the firm that will enable it to successfully compete and win DBE contracts on its own merit.

If WisDOT decides to implement the proposed pilot program, detailed planning and implementation of an appropriate online training curriculum should be an essential part of that

program. This program will help DBEs to develop their required skills and become more competitive and successful. Fortunately, WisDOT and other organizations currently offer a series of DBE training programs and courses that can serve as a suitable platform for building the new program and facilitating the implementation of an easy-to-access online with hands-on training curriculum. Along with the training programs provided by WisDOT, Construction Business Group (CBG) currently offers online construction training courses that may be reviewed, revised, and considered as a part of a more comprehensive new online DBE training program. The training courses offered by CBG are in the form of a nine-unit curriculum, or masterclass, with each unit consisting of multiple modules. The CBG's masterclass offers on-demand viewing and learning opportunities and includes the following topics:

- WisDOT Certification Process
- Establishing a Strategic Vision
- Employment & Labor Law/Labor Management Agreements
- Fundamentals of Insurance & Bonding
- Aligning Strategy with Business Development
- Performance Awareness Workshop
- Cash Flow Strategies & Income Statements/Balance Sheets
- Practical Problem Solving & the Art of Communication
- Business Law & Contracts for Contractors
- Organizational Effectiveness
- Project Planning and Scheduling
- Change Order Management & Supply Chain Management
- Safety, Risk and Crisis Management
- Quantity Take-Offs & Estimating for Transportation
- Bidding & Quoting the Accurate Project for Your Company
- The Benefits of Being a Signatory Certified DBE

The CBG's masterclass program in its current state has adequate material and may be qualified for accreditation for a college certificate degree with only a modest level of additional online and hands-on/on-site complementary coursework.

As a part of the proposed pilot or a separate program, it will be advantageous to form an academic-government-private organizational partnership (i.e., UWM/WisDOT/CBG) to accredit the new online construction training curriculum for equivalent technical college/university course credits. Availability of this educational opportunity, along with other innovative programs that will promote DBEs' participation, will help create a highly skilled workforce in the highway construction industry that will contribute to the growth and economic development of the state and the region. UWM and CBG have reached an informal agreement to collaborate on this effort if WisDOT undertakes it. It is envisioned that interested DBEs can complete these credits toward receiving a college certificate degree. This program also will allow DBEs to sharpen their skills and enhance their credentials and marketing efforts for their businesses. For DBE owners and employees who have higher aspirations, the program will allow pursuing an associate or a university degree through completing follow up courses, as desired. This training program will offer a longer-term development of a skilled workforce in highway construction. Economic development strategies by progressive states normally include investment in the marketplace, the

workforce, and the community. WisDOT can implement such strategies and become a national leader in developing successful DBEs and businesses that will contribute to the construction of higher quality highway projects and growth of our state's economy.

To enhance the success of the proposed pilot study, it is recommended that WisDOT facilitate the progress of the study by integrating it with one or more upcoming mega highway construction projects, i.e., the upcoming I-41 highway and I-94 East-West Corridor Expansion construction projects. It is also recommended that WisDOT works with primes and identify smaller projects suitable for subcontract awards to the DBEs who will be selected during the pilot program's term. If or when the selected DBEs have the required capacity and are ready to take on projects as primes, they should be encouraged to bid on normally available or newly created projects that are sized appropriately to fit the ability and capacity of such DBEs. The optimal size of each project, for a sub- or prime-contract, should be based on the selected firm's ability and capacity. DBEs who complete the tailored mentorship training program under this proposed pilot will be more capable of preparing and submitting competitive quotes or bids, and winning and completing these smaller highway projects as either subcontractors or primes.

Concerns and requirements:

To assure the success of the recommended pilot program, the implementation should consider and address the concerns and requirements of all parties involved. The program also will need to demonstrate the benefits of the pilot program to prime contractors, get them involved, and solicit their cooperation to achieve success. These concerns include:

- Highway projects' requirements,
- Readiness (i.e., training, capacity, and other requirements), willingness, and ability of the selected DBEs to successfully complete the awarded projects,
- Prime contractor's requirements and liabilities, and
- WisDOT's construction requirements.

Pilot program process/structure:

For the above description and requirements related to the proposed pilot program, the following process and structure should be considered:

1. Identify highway construction project(s) that can be integrated into the pilot study;
2. Identify smaller projects that are suitable for DBE subcontract awards and unbundle larger projects that larger or adequately capable DBE firms can readily perform as primes;
3. Introduce to DBEs and the public the new pilot study program by listing the objectives, expected outcome, types of available projects, eligibility and other criteria, and the selection process for DBEs to participate in the pilot program. The selection of DBEs should be made by an appropriate selection committee;
4. Invite each interested DBE to submit a letter of intent and a completed application form to be considered for the final selection;
5. Select appropriate DBE firms (number of DBE sub and prime firms to be determined, depending on the number and scope of work for the identified projects – ideally greater than five) to participate in the pilot program;

6. Recruit appropriate (paid or volunteer) mentors with relevant experience and other necessary traits to guide the selected DBEs through the training, quoting, bidding, onboarding, and award completion stages;
7. Assist each selected DBE through a six-month tailored mentorship training program to remedy important deficiencies and build necessary capacity;
8. Design/develop appropriate training modules/programs by taking advantage of available resources, i.e., WisDOT, CBG, technical colleges/universities, and others;
9. Work through an appropriate partnership to accredit DBE existing and expanded training curriculum for college credit to allow DBE employees to earn a certificate or higher degrees, as desired; and
10. Monitor the overall progress of the pilot program and success of each awarded DBE project through monthly meetings and review of quarterly progress reports. Also, make recommendations, as needed, to assure appropriate progress is made.

Implementation management:

As detailed above, conducting this proposed pilot program involves extensive efforts to manage the overall planning, implementation, and continuous progress of the program. These activities may be best performed by employing the services of an independent entity that will not be influenced by the financial and other interests of the different parties involved.

Benefits of conducting this proposed pilot program:

Implementing and successfully completing this proposed pilot study would benefit WisDOT and the state in the following ways:

1. WisDOT will be recognized as a national leader in enhancing businesses and skilled workforce development in highway construction;
2. Developing skilled DBEs to advance the goal of achieving high quality highway construction;
3. Increasing the number of qualified and independent DBE subcontractors and primes who can achieve future success;
4. Increasing future participation of DBEs in WisDOT's highway projects and support services based on demonstrated success of the DBEs involved in the pilot program;
5. Demonstrating benefits to primes when working with trained and able DBE subcontractors gaining skills through the new educational training opportunities;
6. Creating closer relationships between primes and DBEs;
7. Gaining a better understanding of barriers DBEs face and learning how to remedy said barriers;
8. Assessing the success and limitations of the pilot study;
9. Assessing the effectiveness of the methodologies used in the pilot program and to determine ways to enhance them or arriving at new methods; and
10. Providing a basis on which WisDOT can determine if it wishes to implement, or how to proceed with, a full-scale training and onboarding program.

CHAPTER 7 – ANALYSIS OF FINDINGS AND CONCLUSION

The work of this study led the research team to learn and document the federal requirements for the Disadvantaged Business Enterprise (DBE) program at the national level, DBE program operation at the Wisconsin Department of Transportation (WisDOT), program operation by other state DOTs, and to identify barriers to the success of DBEs and ways to mitigate and remove such barriers. The focus of the study was on maximizing the participation of DBEs in Wisconsin.

As presented in the earlier parts of this report, the findings and recommendations from this study may be used to plan and implement initiatives that will enhance WisDOT's DBE program operation and help Wisconsin DBE businesses to succeed and participate more in Wisconsin's federally funded highway projects and WisDOT's support services.

Determining the strengths, weaknesses, opportunities, and threats (SWOT) associated with WisDOT's DBE program was also a focus of the research team during this study. Utilizing input from a variety of stakeholders and findings from a review of available information, the team determined these characteristics of the DBE program to facilitate a later SWOT analysis that WisDOT can undertake. The recommended SWOT analysis exercise will help WisDOT develop a strategic plan to grow the current qualification and capacity of Wisconsin DBE firms and enhance the economic growth of the state and region. These basic elements of a future SWOT analysis of WisDOT's DBE program are highlighted below:

- The strengths of WisDOT's DBE program include:
 - Knowledgeable and dedicated staff at the DBE Support Services Office,
 - Supportive high ranking WisDOT leadership team that promotes the success and growth of the DBE program and DBE firms,
 - Positive and collaborative relationships among WisDOT and Wisconsin's firms and organizations in the highway construction industry and educational institutions,
 - Strong educational and training program currently in place at WisDOT that could be combined with additional programs in the state through partnerships, and
 - Availability of increased level of federal funds for highway construction projects in the state.
- The weaknesses of WisDOT's DBE program include:
 - A lack of a strategic plan to run the DBE program and help grow DBE firms in the state,
 - A lack of resources and plan to develop qualified new DBE firms,
 - A lack of adequate financial and human resources to help DBEs in all areas of need, and
 - A lack of awareness of DBEs about the services offered.
- The opportunities for WisDOT's DBE program include:
 - Developing qualified new DBEs and growing existing firms in Wisconsin through implementing a new educational and pilot training and onboarding program,

- Access to a higher level of recent federal funds for transportation projects,
 - Access to skilled and experienced collaborators from partner organizations, and
 - Access to existing educational and training infrastructure to create an effective educational and training program.
- The threats to WisDOT's DBE program include:
 - Inadequate number of qualified DBE firms in the state,
 - Inadequate level of financial and human resources at the DBE office,
 - Potentially losing the current staff to better paying outside jobs, and
 - Not making bold moves to enhance the DBE program and grow DBE firms in the state.

An analysis of the findings from this study and the observations of the research team result in the following conclusions:

- WisDOT's DBE program operates on a solid foundation with dedicated and knowledgeable staff who assist the state's DBEs with the resources they have.
- WisDOT has met most of its DBE goals over the last several years. In terms of the DBE goal attained, WisDOT ranks among the top one-third of the states.
- There is a shortage of qualified DBEs in the state that impedes the progress of the highway construction industry.
- The most common barriers to the success of DBEs are a lack of business and management acumen, access to capital/bonding/insurance, adequate financial and human capacity, and opportunities for strategic networking with peers and primes.
- Contractor DBEs need assistance to overcome all the above-listed barriers. DBEs in professional services/consultants mostly need assistance in financial resources and networking opportunities.
- WisDOT should develop a strategic plan to run the DBE operation and offer education and training opportunities to different DBE types and at appropriate frequencies and geographic locations.
- WisDOT should re-evaluate and revise its DBE contract award policies to assist existing DBEs and help develop new qualified firms.
- WisDOT should encourage and incentivize DBEs to take advantage of available and new educational and training opportunities through financial assistance and a scoring or professional education development (PED) credits system for completing such programs.

The development and implementation of the proposed educational and pilot training and onboarding programs is a major opportunity that will place WisDOT as the national leader in developing successful DBEs who will significantly contribute to the economic development and growth of the state and region. Chapter 6 of this report includes a more detailed discussion of this initiative.

REFERENCES

- Disadvantaged Business Enterprise (DBE) program*. US Department of Transportation. (n.d.). Retrieved February 19, 2023, from <https://www.transportation.gov/civil-rights/disadvantaged-business-enterprise>
- Federal Register: Disadvantaged Business Enterprise and Airport Concession Disadvantaged Business Enterprise Program Implementation Modifications Blackford, R. C. (Feb 25, 2022). The U.S. DOT Disadvantaged Business Enterprise Program. *Congressional Research Service*. Retrieved from <https://crsreports.congress.gov/>.
- History of the DOT DBE program*. US Department of Transportation. (n.d.). Retrieved February 19, 2023, from <https://www.transportation.gov/osdbu/disadvantaged-business-enterprise/history-dot-dbe-program>
- Holt, C. and Lubart, J. (2018). U.S. DOT's Disadvantaged Business Enterprise Program. *TR News, Number 318*, 11-17.
- Milwaukee County Pavers Association v. Fiedler, 731 F. Supp. 1395 (W.D. Wis. 1990)
- National Academies of Sciences, Engineering, and Medicine. (2015). Current Practices to Set and Monitor DBE Goals on Design-Build Projects and Other Alternative Project Delivery Methods. *The National Academies Press*. <https://doi.org/10.17226/22112>.
- Ohaya, R. (2022). Implications of public-private partnerships on enforcing the disadvantaged business enterprise program within the federal highway administration (Order No. 29163431). *ProQuest Dissertations & Theses Global*. (2660102667). Retrieved from <https://ezproxy.lib.uwm.edu/login>.
- Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs*. 49 CFR Part 26. (1999)
- U.S. Department of Transportation. (April 23, 2013). Weaknesses in the Department's Disadvantaged Business Enterprise Program Limit Achievement of Its Objectives. *Office of Inspector General Audit Report*. (ZA-2013-072). Retrieved from <https://www.oig.dot.gov/library-item/29195>.
- U.S. Department of Transportation (2016). *History of the DOT DBE Program*. Retrieved from <https://www.transportation.gov/civil-rights/disadvantaged-business-enterprise/history-dot-dbe-program>.
- U.S. Department of Transportation (April 1, 2022). *Disadvantaged Business Enterprise (DBE) Program*. Retrieved from <https://www.transportation.gov/civil-rights/disadvantaged-business-enterprise>.

U.S. Department of Transportation (2023). *DBE Size Standards*.
www.transportation.gov/DBEsizestandards, March 1, 2023

Wisconsin Department of Transportation. *Wisconsin Department of Transportation Disadvantaged Business Enterprise (DBE) Program*.
<https://wisconsin.gov/Pages/doing-bus/civil-rights/dbe/default.aspx>. Retrieved February 28, 2023

Wisconsin Department of Transportation. 26 Aug 2020. *Annual Overall DBE Goal Submission – Federal Fiscal Years: 2021, 2022, 2023*. Office of Business Opportunity & Equity Compliance. <https://wisconsin.gov/Documents/doing-bus/civil-rights/dbe/ff2021-2023-overall-dbe-goal-submission.pdf>.

APPENDIX 1 – SURVEY QUESTIONS FOR STATE DOTs

1. Please describe your DBE Support Services Office/Program, indicate the program's annual operating budget, and who the current lead person is.
2. Please list keys to success for your successful DBE firms.
3. Please list policies and practices that have positively affected your DBEs.
4. Please list policies and practices that have negatively affected your DBEs.
5. Please list the most usual challenges and barriers your DBE firms have faced.
6. How does your agency help your DBE firms to overcome such challenges and to remove such barriers?
7. What resources has your agency provided to assist your DBE firms?
8. What is the level of funds your agency allocates annually to develop new DBEs and startups?
9. How do you inform and engage your DBEs about available resources and opportunities? What are your agency's outreach and training programs?
10. What was your agency's average federal funding for the last three years, and what is your overall annual DBE goal? How frequently has the overall annual goal been achieved in the last triennial?
11. How much of your federal funding is allocated to construction contracts? How much of your federal funding is allocated to professional service contracts?
12. Is your agency allowed to use state funds to achieve DBE goals?
13. What guidelines/methodologies does your agency use to make awards to DBEs? Please describe any programs focused on small business/minority business development for qualification-based selections.
14. Have you conducted a survey of DBE firms in the past five years? If yes, are you willing to share the results for our confidential analysis?
15. Your agency meets Federal DBE goals through considering:
 Neutral Measures Race/Gender/Other Measures Both
16. Please provide contact information for a person we can reach out to for questions or additional information related to this survey.

APPENDIX 2 – ANALYSIS OF WISDOT’S 5-YEAR DBE AWARD PROCESS (2017 TO 2021)

Introduction

Twice each Federal Fiscal Year (FFY), DBE programs are required to produce documentation regarding their DBE awards/commitments and payments. The Uniform Reports contain information about prime and subcontracts awarded during the reporting period. They also include DBE awards, Race Conscious and Race Neutral awards. Additionally, these reports contain information about the payments Departments of Transportation have made to firms for completed and ongoing projects. The research team analyzed WisDOT’s Uniform Reports from FFY 2017-2021 and the state’s DBE directory to get an accurate understanding of the contract awarding process. The research team analyzed these reports to determine if the DBE goals have been met and which groups may need more support or outreach. It should be noted that the analysis considered DBE groups’ populations regardless of the type of work they do or any other factors.

Part 1 – Uniform Report Sections

The research team analyzed the contracts awarded to DBEs from 2017 to 2021. Figure A2.1 and Table A2.1 show the number of contracts awarded over time. Figure A2.2 shows these data exclusive of gender. These figures clearly show that Caucasian women received the most contracts over this 5-year period. This is consistent with anecdotes received from interviews with various stakeholders including WisDOT staff, with the perception of the program is that it overly benefits white women.

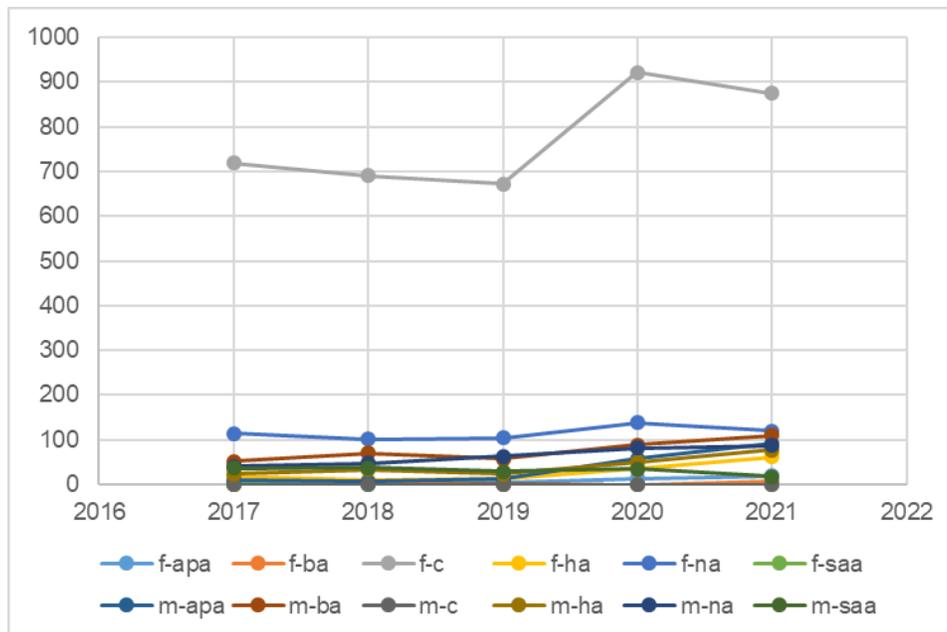


Figure A2.1 - Number of DBE awarded contracts

Table A2.1 - Number of DBE awarded contracts (2017 to 2021)

	Gender	Asian-Pacific American	Black American	Caucasian	Hispanic American	Native American	Subcontinent Asian American
2017	women	3	0	719	19	114	1
	men	9	52	0	23	40	36
2018	women	8	2	690	10	102	0
	men	7	71	0	34	47	38
2019	women	5	1	672	13	104	0
	men	12	58	1	23	63	29
2020	women	14	0	921	37	138	0
	men	58	89	0	50	82	35
2021	women	20	7	875	62	120	0
	men	92	110	0	77	88	18

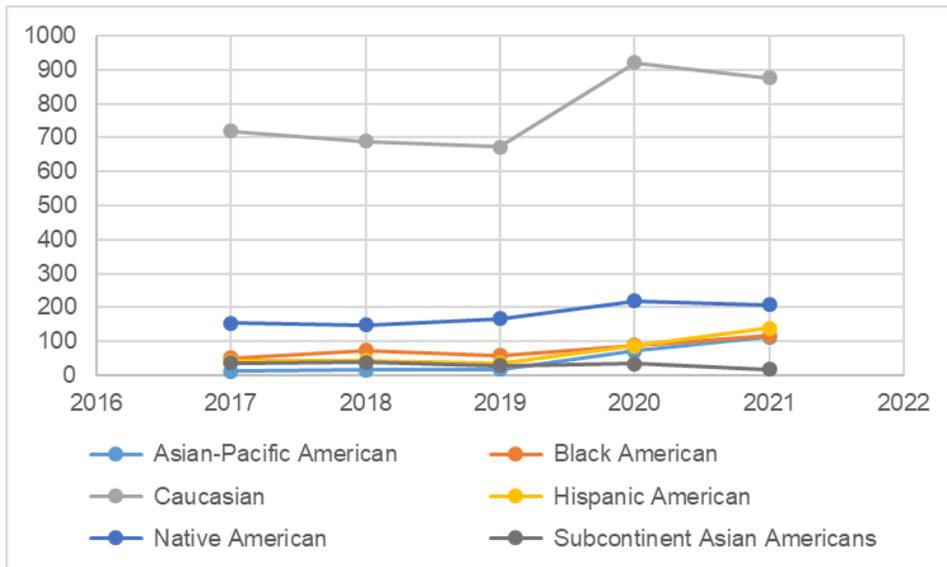


Figure A2.2 - Number of DBE awarded contracts (exclusive of gender)

Figure A2.3 shows the total value of contracts awarded to each group each year, and Figure A2.4 shows these data exclusive of gender. These graphs show that Caucasian women are awarded each year between \$35 to \$60 million more than any other group.

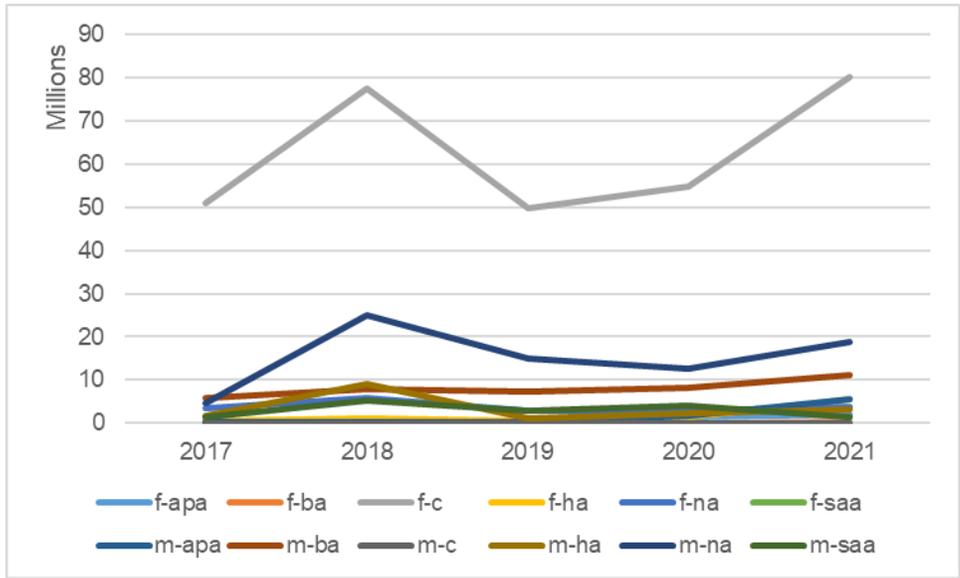


Figure A2.3 - Value of DBE awarded contracts

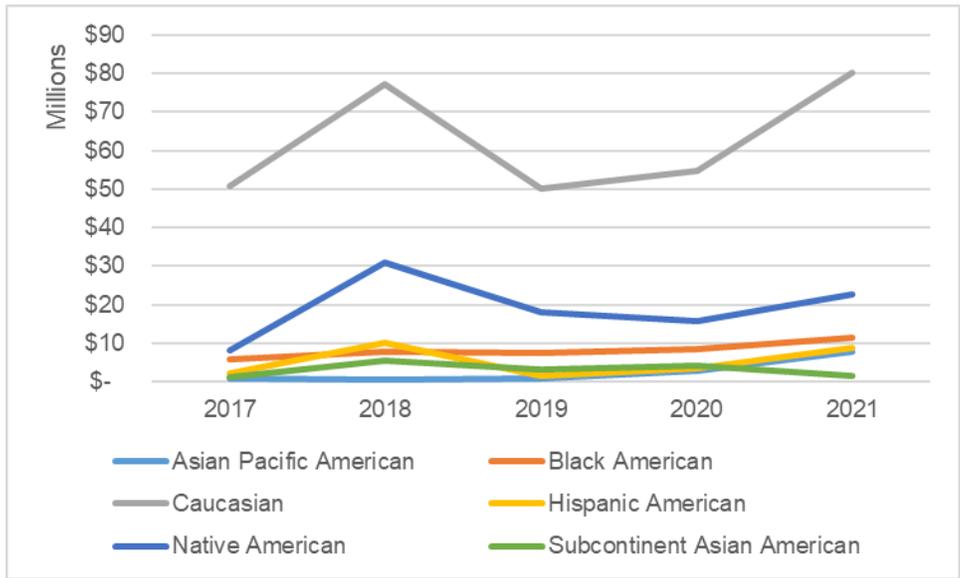


Figure A2.4 - Value of DBE awarded contracts (exclusive of gender)

Figures A2.5 and A2.6 present the same data, as shown in Figures A2.3 and A2.4, but they highlight the amounts of contract awards for each ethnicity and gender over the specified period of five years. The data exhibit a trend where the level of award dollars to different ethnic groups and gender has remained the same year to year. A further analysis of the root cause of this trend is warranted to determine what initiatives can be implemented to remove barriers female DBE owners (excluding white females) face, as they have consistently received lower award dollars.

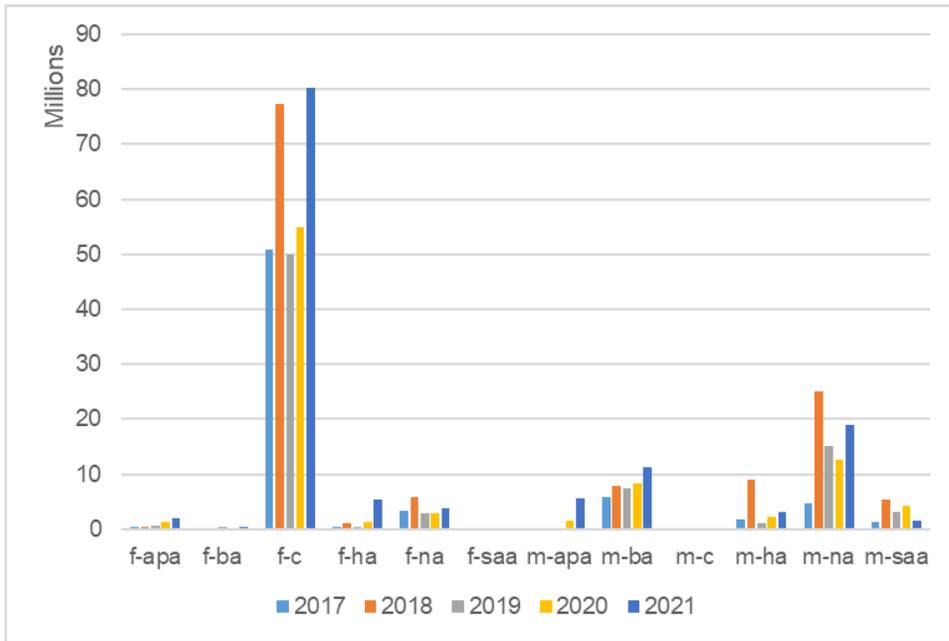


Figure A2.5 - Value of DBE awarded contracts per year and gender

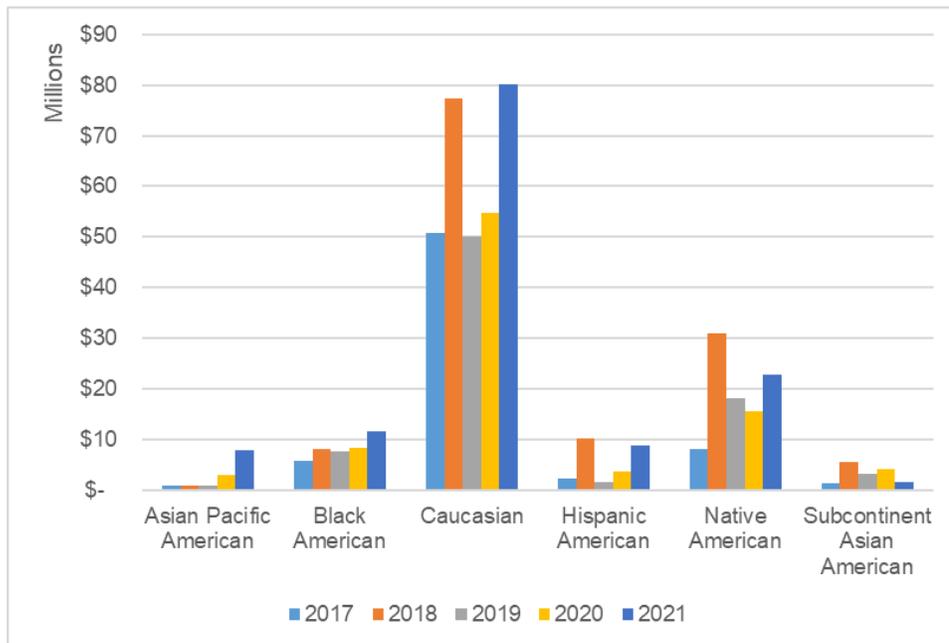


Figure A2.6 - Value of DBE awarded contracts per year (exclusive of gender)

Table A2.2 shows the payments made to DBEs for ongoing contracts during the 2017 to 2021 period. The table also shows the percentages of DBE payments based on the total award payments to all DBE and non-DBE firms. The data presented here and in the following figures and tables are based on WisDOT’s biannual utilization reports.

Table A2.2 - Total payments made to DBEs (2017 to 2021 ongoing projects)

FFY	payments to DBEs	% of total payments
2017	\$ 58,285,398	8.71%
2018	\$ 77,439,225	8.21%
2019	\$ 61,473,547	5.78%
2020	\$ 90,888,707	9.30%
2021	\$ 107,891,584	9.98%

Table A2.3 shows the total payments to DBEs on contracts completed each year, and the percentages of DBE payments based on the total payments made to DBE and non-DBE firms.

Table A2.3 - Total payments made to DBEs (2017 to 2021 completed projects)

FFY	Payments to DBEs	% of total payments
2017	\$189,817,945	8.35%
2018	\$ 194,980,284	8.11%
2019	\$ 227,592,811	8.28%
2020	\$ 278,917,357	8.39%
2021	\$ 118,309,780	10.58%

Part 2 – DBE Goal and RC/RN Projections

Figures A2.7 and Table A2.4 show, respectively, a graphical and numerical measure of DBE utilization in terms of the amounts of contract commitments and payments made to DBE firms per year for 2017 to 2021. The percentages shown in the table are based on the total commitment and payment amounts made to all DBE and non-DBE firms each year.

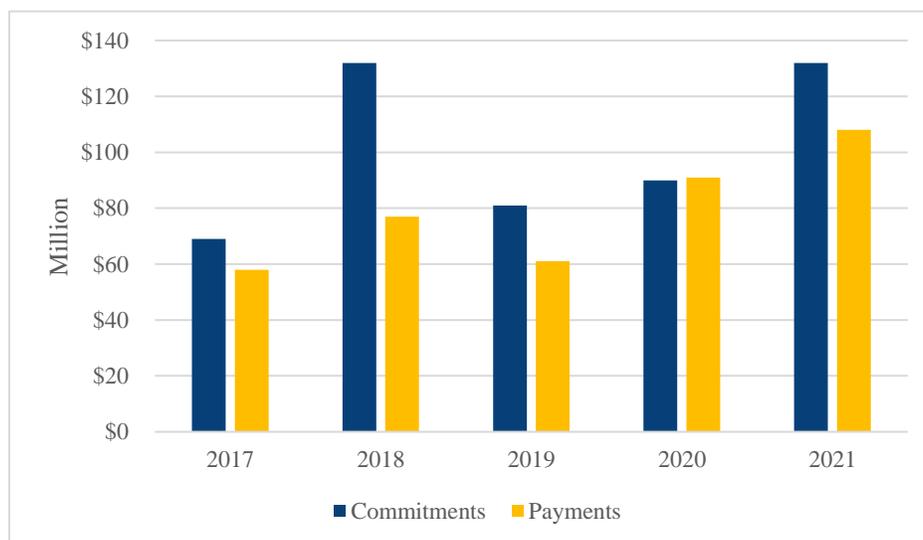


Figure A2.7 - DBE utilization based on the amounts of contract commitments and actual payments

Table A2.4 - Contract commitments and payments made to DBEs (2017 to 2021)

FFY	Commitments		Payments	
2017	\$68,920,888	6.80%	\$58,285,398	8.71%
2018	\$132,344,466	9.22%	\$77,439,225	8.21%
2019	\$81,245,324	7.72%	\$61,473,547	5.78%
2020	\$89,536,482	8.64%	\$90,888,707	9.30%
2021	\$132,152,955	9.66%	\$107,891,584	9.98%

It should be noted that payments made to DBE and non-DBE contractors in each year are often for completed work on ongoing multi-year projects and multi-year projects that closed during the reporting period. Accordingly, the paid amounts during each year are not expected to equal the commitments in the reporting period. In addition, the first half of the annual reporting period includes the months of October through March in which there is minimal construction activity. However, it is reasonable to expect that over a period of 3 or more years, the total committed and actually paid amounts to DBEs should converge to nearly the same value. An extended analysis over a longer period could offer a better view of this conclusion.

Part 3 – Prime and Subcontracts

Figure A2.8 and Table A2.5 show, respectively, the total value of prime contracts and subcontracts awarded to DBE firms per year for 2017 to 2021. The percentages shown in the table are based on the total amounts of prime contracts and subcontracts awarded to all DBE and non-DBE firms each year. It is observed that DBEs consistently receive a higher number and dollar amount of contracts as subcontractors than primes. A further analysis of the data and other factors is warranted to determine how the number and dollar amount of contracts may be increased for DBEs as primes.



Figure A2.8 – Total DBE prime contracts and subcontracts awarded

Table A2.5 - Data for awarded DBE prime contracts and subcontracts

FFY	Prime Contracts		Subcontracts	
2017	\$ 8,825,127	1.23%	\$ 60,095,761	20.27%
2018	\$ 20,735,196	2.05%	\$ 111,609,270	26.24%
2019	\$ 21,373,046	2.78%	\$ 59,872,278	21.16%
2020	\$ 18,507,447	2.48%	\$ 71,029,035	24.39%
2021	\$ 13,845,029	1.53%	\$ 118,307,926	25.68%

Figures A2.9 shows the average awarded contract values to all subcontractors and to DBE subcontractors for 2017 to 2021. Figure A2.10 shows the average awarded contract values to all prime contractors and to DBE prime contractors for 2017 to 2021. It should be noted that the data shown in these two Figures reflect only the awarded contract values, not the payments made for completed contracts. The data in Figures A2.9 and A2.10 reveal that the average value of contracts awarded to DBE subcontractors or DBE prime contractors is smaller than that for contracts awarded to all prime contractors and all subcontractors. This problem points to not having an adequate number of qualified DBEs in the state to take on larger contracts and to the need for mitigating the inherent barriers; including a lack of financial, technical, and human capacity; that is associated with most of the state’s existing DBE firms.

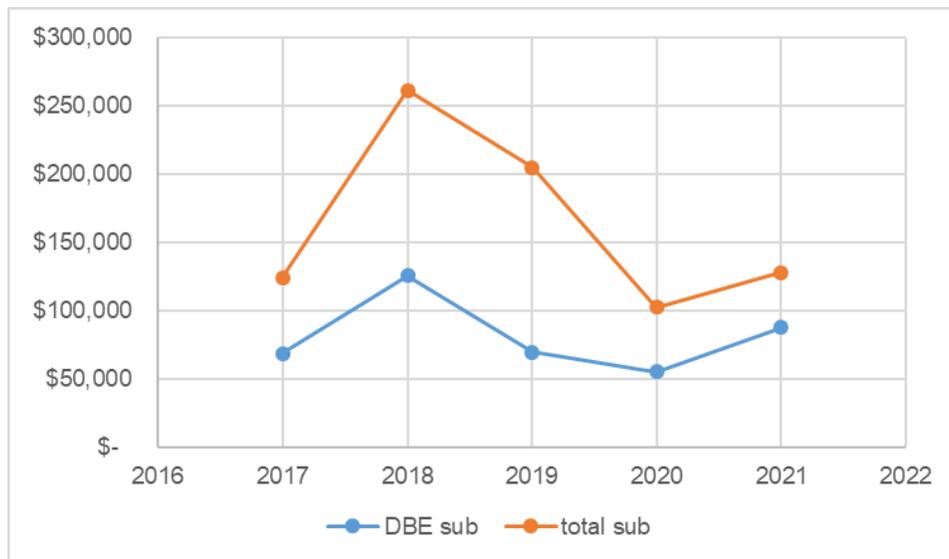


Figure A2.9 - Average awards to DBE subcontractors and all subcontractors

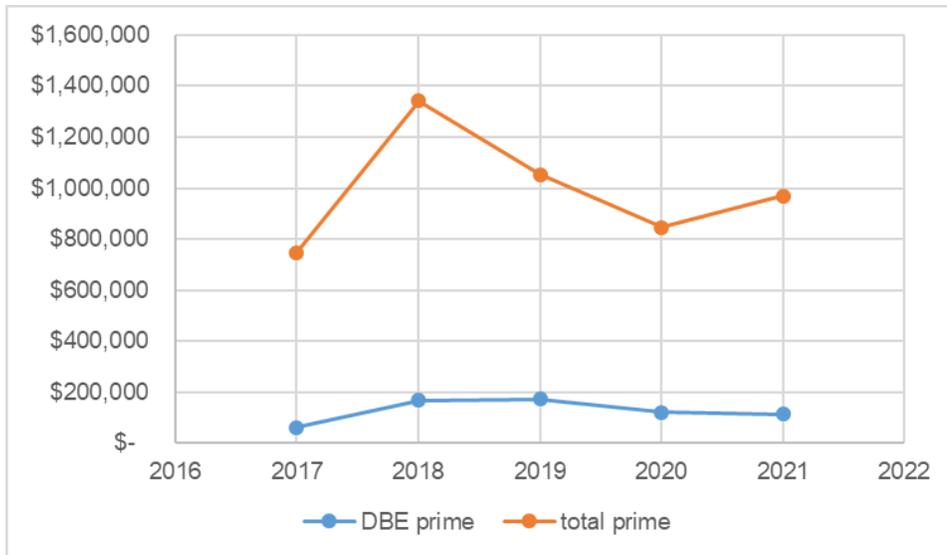


Figure A2.10 - Average awards to DBE prime contractors and all prime contractors

Part 4 – Expected Earnings & Contracts by Race and Gender

The research team for this study analyzed the Unified Certification Program (UCP) DBE directory assembled by WisDOT to aid their understanding of what constitutes the pool of DBEs. A knowledge of demographic information for certified DBEs within the state can be a key factor to help in a better understanding of the current trend of distribution of contracts and dollars among the DBE groups and genders. As shown in Figure A2.11, Caucasian women, Black men and women, and Hispanic American men own most of the certified DBE firms in the state.

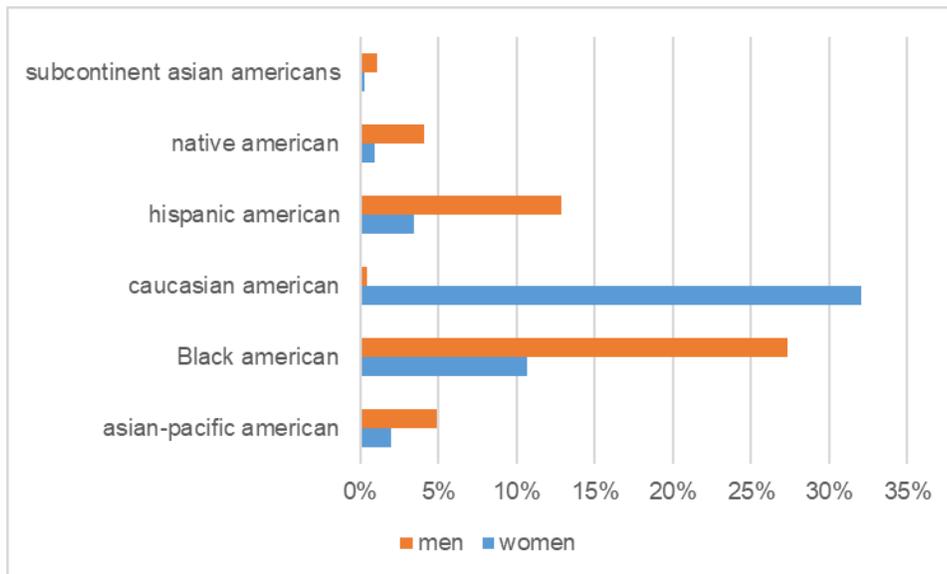


Figure A2.11 - DBE firms by owners' ethnicity in 2021

If one considers the demographic population of different DBE ethnic groups and genders as the only predictive factor for equitable distribution of contract awards, a concerning disparity will be noticed. However, it is also understood that other factors, including capacity, expertise, resources, and experience are of significant influence on any contract awarding process. Despite the influence of these other factors, further evaluation and analysis are warranted to remove barriers and determine how to assist a large part of the DBE population to gain access to a larger number and dollar amount of contracts than they receive now.

APPENDIX 3 – SURVEY QUESTIONS FOR WI DBE FIRMS

1. Please provide your name and the name of your firm.
2. Please select your ethnic identity.
3. Please describe your position and role in your firm, and how long your firm has been in business.
4. Please select your gender.
5. For your contracts with WisDOT, what primary work operations does your firm perform? Are you typically a prime or subcontractor?
6. Number and value of contracts awarded in 2019? 2020? 2021?
7. What resources offered by WisDOT's DBE Support Services are you familiar with?
8. Which resources offered by WisDOT's DBE program were most helpful for your firm?
9. Were any resources offered by WisDOT ineffective? If so, which resources, and why?
10. What additional resources should WisDOT's DBE program provide to help DBE firms become more successful?
11. What should be done to increase DBEs' participation in programs offered by WisDOT's DBE Support Services?
12. How would you define success for a DBE firm?
13. What are the major barriers to DBE firms' success, and what should be done to remove them?
14. What are the strengths and weaknesses of the WisDOT DBE program?
15. What regular WisDOT DBE related data or information could be helpful to your firm?
16. What opportunities and threats do you see for the program?

APPENDIX 4 – QUESTIONS FOR DBE FIRMS’ INTERVIEWS

1. Name, firm name, and position title
2. Role in firm as related to DBE work
3. What types of DBE contracts from WisDOT is your firm normally involved with?
4. How many DBE contracts has your firm received from WisDOT for each of the last 3 years?
What was the total cost of the contracts with WisDOT for each of the last 3 years?
5. Has the WisDOT DBE program met its overall DBE goals for the type of work your firm has been doing over the last 5 years?
6. How has the WisDOT DBE program been helpful to your business?
7. How easy or difficult has it been for your firm to work with WisDOT?
8. What forms of outreach from WisDOT, such as training, meetings, and assistance efforts, were offered in the past 5 years and do you feel have been effective in promoting DBE participation in the program?
9. What DBE support services offered by WisDOT are you aware of?
10. How do you assess the effectiveness of the DBE Program’s Support Services at WisDOT?
11. What current resources and training options by the WisDOT DBE Program are most helpful to the success of DBE firms?
12. What additional resources and training options should be provided by the WisDOT DBE Program to enhance the success of DBE firms?
13. How do you measure success for a DBE firm?
14. What are the primary barriers to DBE firms’ success?
15. What should be done to remove such barriers?
16. What needs to be done to make more DBEs become independent of support services offered by WisDOT?
17. How could the WisDOT DBE program help DBE firms to become more successful?
18. What are the strengths of the WisDOT DBE program?
19. What are the weaknesses of the WisDOT DBE program?

APPENDIX 5 – QUESTIONS FOR PRIME CONTRACTOR FIRMS’ INTERVIEWS

1. What is your role in your firm as related to DBE contracts?
2. What types of DBE subcontracts does your firm normally award (number, \$ volume)?
3. How easy or difficult has it been for your firm to work with DBE subcontractors?
4. What should DBE subs do to build a positive relationship with primes to enhance their chance of being awarded DBE subcontracts?
5. Are there deficiencies with DBE subs and, if so, how could they be remedied?
6. What should WisDOT do to encourage primes to award more contracts to DBE subs?
7. How could primes be encouraged or incentivized to award contracts without DBE goals to DBE subs?
8. What needs to be done to make DBEs an asset to the heavy highway construction industry?
9. What should WisDOT do to enhance DBEs’ capacity and capabilities, so they are more helpful to primes?

APPENDIX 6 – QUESTIONS FOR PRIME CONSULTANT FIRMS’ INTERVIEWS

1. What is your role in your firm as related to DBE contracts?
2. What types of DBE subcontracts does your firm normally award (number, \$ volume)?
3. How easy or difficult has it been for your firm to work with DBE subconsultants?
4. What should DBE subs do to build a positive relationship with primes to enhance their chance of being awarded DBE subcontracts?
5. Are there deficiencies with DBE subs and, if so, how could they be remedied?
6. What should WisDOT do to encourage primes to award more contracts to DBE subs?
7. How could primes be encouraged or incentivized to award contracts without DBE goals to DBE subs?
8. What needs to be done to make DBEs an asset to the highway design industry?
9. What should WisDOT do to enhance DBEs’ capacity and capabilities, so they are more helpful to primes?

APPENDIX 7 – QUESTIONS FOR CONSTRUCTION INDUSTRY LEADERS’ INTERVIEWS

1. Role of DBE firms in highway construction and associated economy in Wisconsin.
2. How do primes view the role of and relationship with DBE firms?
3. What needs to be done to make DBEs become self-sustaining and more successful?
4. What do you believe to be the most significant barriers to DBEs’ success?
5. What are the most important resources/support services needed for DBEs?
6. How should a pilot training program for DBEs be planned/structured if WisDOT is willing to allocate resources with the upcoming highway construction projects over the next 5 years?
7. How should a pilot onboarding program for DBEs be planned/structured if WisDOT is willing to allocate resources in conjunction with the upcoming highway construction projects over the next 5 years?