

Informing New ADOT Strategies for Meeting Federal DBE Requirements

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16. Abstract As a recipient of US Department of Transportation funding, the Arizona Department of Transportation (ADOT) is required to administer a disadvantaged business enterprise (DBE) program aimed at providing DBEs fair opportunities to compete for federally funded transportation contracts. State departments of transportation (DOTs) are required to set an annual DBE goal and to achieve the maximum feasible portion of that goal using race-neutral strategies designed to assist all small businesses. The remainder of the goal may be met using race-conscious strategies focused specifically on assisting only DBEs (i.e., DBE contract goals). ADOT has implemented many race-neutral strategies but also uses DBE contract goals to meet its overall annual DBE goal. The purpose of this study was to identify additional strategies to assist ADOT in consistently meeting or exceeding the race-neutral portion of its goal and in eventually transitioning to race-neutral strategies as the primary means of achieving that goal. These strategies can generally be grouped into two categories: increasing opportunities for DBEs as prime contractors and consultants, and increasing the use of DBEs as subcontractors and subconsultants on contracts. To identify and recommend race-neutral strategies and practices most applicable to ADOT, researchers examined practices and features of state DOT DBE programs nationwide, including contracting practices and outreach and communication efforts. They also analyzed ADOT prime contracts awarded to DBEs and non-DBEs from October 2013 through September 2018.			
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SI* (MODERN METRIC) CONVERSION FACTORS

APPROXIMATE CONVERSIONS TO SI UNITS

Symbol	When You Know	Multiply By	To Find	Symbol
LENGTH				
in	inches	25.4	millimeters	mm
ft	feet	0.305	meters	m
yd	yards	0.914	meters	m
mi	miles	1.61	kilometers	km
AREA				
in ²	square inches	645.2	square millimeters	mm ²
ft ²	square feet	0.093	square meters	m ²
yd ²	square yard	0.836	square meters	m ²
ac	acres	0.405	hectares	ha
mi ²	square miles	2.59	square kilometers	km ²
VOLUME				
fl oz	fluid ounces	29.57	milliliters	mL
gal	gallons	3.785	liters	L
ft ³	cubic feet	0.028	cubic meters	m ³
yd ³	cubic yards	0.765	cubic meters	m ³
NOTE: volumes greater than 1000 L shall be shown in m ³				
MASS				
oz	ounces	28.35	grams	g
lb	pounds	0.454	kilograms	kg
T	short tons (2000 lb)	0.907	megagrams (or "metric ton")	Mg (or "t")
TEMPERATURE (exact degrees)				
°F	Fahrenheit	5 (F-32)/9 or (F-32)/1.8	Celsius	°C
ILLUMINATION				
fc	foot-candles	10.76	lux	lx
fl	foot-Lamberts	3.426	candela/m ²	cd/m ²
FORCE and PRESSURE or STRESS				
lbf	poundforce	4.45	newtons	N
lbf/in ²	poundforce per square inch	6.89	kilopascals	kPa

APPROXIMATE CONVERSIONS FROM SI UNITS

Symbol	When You Know	Multiply By	To Find	Symbol
LENGTH				
mm	millimeters	0.039	inches	in
m	meters	3.28	feet	ft
m	meters	1.09	yards	yd
km	kilometers	0.621	miles	mi
AREA				
mm ²	square millimeters	0.0016	square inches	in ²
m ²	square meters	10.764	square feet	ft ²
m ²	square meters	1.195	square yards	yd ²
ha	hectares	2.47	acres	ac
km ²	square kilometers	0.386	square miles	mi ²
VOLUME				
mL	milliliters	0.034	fluid ounces	fl oz
L	liters	0.264	gallons	gal
m ³	cubic meters	35.314	cubic feet	ft ³
m ³	cubic meters	1.307	cubic yards	yd ³
MASS				
g	grams	0.035	ounces	oz
kg	kilograms	2.202	pounds	lb
Mg (or "t")	megagrams (or "metric ton")	1.103	short tons (2000 lb)	T
TEMPERATURE (exact degrees)				
°C	Celsius	1.8C+32	Fahrenheit	°F
ILLUMINATION				
lx	lux	0.0929	foot-candles	fc
cd/m ²	candela/m ²	0.2919	foot-Lamberts	fl
FORCE and PRESSURE or STRESS				
N	newtons	0.225	poundforce	lbf
kPa	kilopascals	0.145	poundforce per square inch	lbf/in ²

*SI is the symbol for the International System of Units. Appropriate rounding should be made to comply with Section 4 of ASTM E380.
(Revised March 2003)

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ACRONYMS AND TERMS

ADOT	Arizona Department of Transportation
BDI	Business Development Initiative (Florida)
BECO	Business Engagement and Compliance Office
C&S	Contracts and Specifications
Caltrans	California Department of Transportation
CDOT	Colorado Department of Transportation
consultant/ subconsultant	a firm that provides engineering and other professional services
contractor/ subcontractor	a firm that provides construction services
DBE	disadvantaged business enterprise
DOT	department of transportation; ADOT's counterpart in another state
ECS	Engineering Consultants Section
ESB	emerging small business
ESBE	emerging small business enterprise
FDOT	Florida Department of Transportation
FHWA	Federal Highway Administration
HUB	Historically Underutilized Business program (Texas)
IDO	Infrastructure Delivery and Operations Division
MBE	minority business enterprise
NAICS	North American Industry Classification System
NCDOT	North Carolina Department of Transportation
NDOT	Nevada Department of Transportation
NJDOT	New Jersey Department of Transportation
ODOT	Ohio Department of Transportation
prime	a firm that is directly awarded an ADOT contract as a contractor or consultant and has the primary responsibility for carrying out that contract
race-conscious	strategies designed to assist DBEs in competing for contracting opportunities
race-neutral	strategies designed to assist all small businesses in competing for contracting opportunities
SBA	US Small Business Administration
SBC	small business concern
SBE	small business enterprise
TxDOT	Texas Department of Transportation
UDOT	Utah Department of Transportation
USDOT	US Department of Transportation
WBE	woman-owned business enterprise
WisDOT	Wisconsin Department of Transportation
WSDOT	Washington State Department of Transportation

INTRODUCTION

As a recipient of US Department of Transportation (USDOT) funding, the Arizona Department of Transportation (ADOT) is required to administer a disadvantaged business enterprise (DBE) program that complies with all applicable federal laws, regulations, executive orders, and guidance. A DBE is a small, for-profit business that is at least 51 percent owned and controlled by one or more socially and economically disadvantaged individuals. African Americans, Hispanics, Native Americans, Asian-Pacific and Subcontinent Asian Americans, and women are presumed to be socially and economically disadvantaged. Other individuals can also qualify as socially and economically disadvantaged on a case-by-case basis.

The federal DBE program “is designed to remedy ongoing discrimination and the continuing effects of past discrimination in federally assisted highway, transit, airport, and highway safety financial assistance transportation contracting markets nationwide. The primary remedial goal and objective of the DBE program is to level the playing field by providing small businesses owned and controlled by socially and economically disadvantaged individuals a fair opportunity to compete for federally funded transportation contracts” (USDOT 2020). The federal DBE regulations identify eight objectives for the DBE program:

- Ensure nondiscrimination in the award and administration of DOT-assisted contracts.
- Create a level playing field on which DBEs can compete fairly for DOT-assisted contracts.
- Ensure that the DBE program is narrowly tailored in accordance with applicable law.
- Ensure that only firms that fully meet eligibility standards are permitted to participate as DBEs.
- Help remove barriers to the participation of DBEs in DOT-assisted contracts.
- Promote the use of DBEs in all types of federally assisted contracts and procurement activities conducted by recipients.
- Assist the development of firms that can compete successfully in the marketplace outside of the DBE program.
- Provide appropriate flexibility to recipients of federal financial assistance in establishing and providing opportunities for DBEs.

State departments of transportation (DOTs) must submit a DBE program plan every three years. The state plan, which must be approved by the USDOT and the Federal Highway Administration (FHWA), establishes an annual DBE goal that the state DOT must meet or demonstrate that it used good faith efforts to meet. State DOTs are required to meet the maximum feasible portion of their goals using race-neutral methods designed to remove barriers and enhance opportunities for all small businesses, not just DBEs. The remaining portion of each state DOT’s goal may be met through race-conscious methods.

Race- and gender-neutral methods assist all small businesses; race- and gender-conscious methods assist only DBEs. In keeping with the terminology used in the federal regulations (49 CFR §26.5), “race-neutral” and “race-conscious” include gender-neutral and gender-conscious, respectively.

State DOTs that are unable to achieve their annual DBE goals solely through race-neutral methods typically establish DBE goals on contracts. DBE contract goals may only be used on contracts that allow subcontracting and may vary from contract to contract depending on the type(s) of subcontracting work involved, location of the work, and number of DBEs that perform each type of work.

ADOT has implemented a number of race-neutral strategies but has also used race-conscious measures (i.e., DBE contract goals) to meet its annual DBE goal. The purpose of this study was to identify additional strategies used by other state DOTs that may assist ADOT in consistently meeting or exceeding the race-neutral portion of its overall DBE goal and eventually transitioning to the use of race-neutral strategies as the primary means of achieving the goal. ADOT's DBE program would use these strategies to increase opportunities for DBEs as prime contractors and consultants and to increase the use of DBEs as subcontractors and subconsultants on contracts.

In this report, "contractor" and "subcontractor" refer to firms that provide construction services; "consultant" and "subconsultant" refer to firms that provide engineering and other professional services. Additionally, "prime" refers to a firm that is directly awarded an ADOT contract as a contractor or consultant and that is primarily responsible for carrying out that contract. Most primes are non-DBEs, while subcontractors and subconsultants are often DBEs and small businesses. Some primes tend to only use DBEs as subcontractors and subconsultants when required to do so by the contract goal.

Practices and features of other state DOT DBE programs were evaluated in three primary areas; the first area of interest represents the overall objective and is the product of the two below it:

- Achieving sufficient DBE participation to meet the goal primarily through race- and gender-neutral means
- Increasing the use of DBEs as prime contractors and consultants
- Increasing prime contractors' voluntary use of DBEs as subcontractors and subconsultants

Researchers examined other state DOTs' contracting practices, outreach and communication efforts, and significant state legislation and regulations impacting the contracting environment and also identified the few states that met a significant portion of their annual DBE goals through race-neutral measures. The researchers then submitted for consideration the race-neutral strategies and practices most applicable to ADOT.

In addition to reviewing other state DOT strategies, researchers analyzed ADOT prime contracts awarded from October 2013 to September 2018 by size (dollar amount), type (construction or professional services), funding source (state or federal), and awardee status (whether a DBE or non-DBE firm).

RECOMMENDATIONS

Below are strategies submitted for consideration to help consistently meet or exceed the race-neutral portion of ADOT's overall DBE goal and to eventually transition to race-neutral strategies to achieve that goal. These strategies are presented in ranked order based on data collected from interviews with Arizona DBE and non-DBE business owners, ADOT stakeholders, and other state DOT managers of DBE and small business programs regarding the strategies' perceived effectiveness and ease of implementation. (More information about these strategies is provided in the Findings section.) Following the recommendations are suggestions for implementing these strategies. Note: In the discussion below, some recommended strategies are combined because of their similar focus.

NEW STRATEGIES FOR CONSIDERATION

Strategy 1: Unbundle Contracts

Offering contracts with a scope of work that can be handled by small businesses is a race and gender-neutral strategy available to state DOTs. ADOT contract data from October 2013 to September 2018 show that the number of awarded contracts for less than \$500,000 decreased by 18 percent over that period (see Tables 4 to 6 in the Findings section). This decrease is due in part to ADOT's consolidation of contracts, including on-call contracts, as well as the use of alternative contracting methods, including design-build, where the team awarded the contract is responsible for all design and construction phases of the project.

While ADOT may bundle contracts to increase efficiency, this practice may be balanced by also advertising smaller projects, which provides opportunities for small businesses, like DBEs, to compete and win contracts as prime contractors to help meet ADOT's race- and gender-neutral DBE goals. Because ADOT considers the objectives of increased efficiency and meeting DBE goals critical to its mission, identifying an acceptable middle ground is an important goal worth pursuing. With certain caveats, ADOT may consider exploring unbundling contracts where feasible on a project-by-project basis.

Strategy 2: Restrict Small Contract Bidding to Small Businesses (Set-Aside Contracts)

Restricting small contract bidding to small businesses—often referred to as set-aside contracts—is another effective race-neutral strategy used by other state DOTs. Some state DOTs limit the use of restricted bidding to state-funded projects, and others use it for all projects regardless of the funding sources. As a race-neutral strategy, set-aside contracts are not in conflict with Arizona law prohibiting preferential treatment on the basis of race, sex, color, ethnicity, or national origin. Additionally, restricted bidding can be used for federally funded projects; DBE regulations specifically refer to race-neutral small business set-asides as an appropriate strategy for the small business element of the DBE program (49 CFR § 26.39). Because ADOT has few state-funded projects outside of its maintenance

program, the lack of federal requirements affecting restricted bidding would need to be confirmed on a project-by-project basis.

However, ADOT's bid processes and requirements for construction work are significantly different from those for engineering and design services, and implementing restricted bidding for construction projects may require substantial changes to these processes. ADOT could implement this strategy on a partial basis, beginning with engineering and design contracts, and could then develop methods for applying similar small business restrictions to construction contracts.

Strategy 3: Appropriately Adjust Prohibitively High Insurance Requirements

Strategy 4: Relax Bonding Requirements to Align with Project Size and Scope

Implementing these strategies would likely require consultation and cooperation with the appropriate state government entity overseeing risk management to review upcoming contracts and appropriately reduce the dollar amounts of insurance and bonding requirements. The objective of this review would not be to eliminate requirements but to revise or adjust them to align with factors such as the project's size, associated risk, and work to be performed. ADOT may also want to consider allowing insurance to be carried on a project basis rather than contract basis—with some exceptions, such as general insurance—so that the business does not have to keep carrying insurance when the project ends.

Strategy 5: Appropriately Adjust Prohibitively Restrictive Qualification Requirements

Strategy 6: Make Evaluation Process Friendlier for Qualifications-Based Awards

State regulations governing ADOT's prequalification system give preference to firms that have completed an ADOT construction contract within the past five years. Firms that have not been as successful in obtaining contracts may only bid on contracts with a significantly lower dollar amount. As a result, the number and value of contracts awarded to DBEs and small businesses is a fraction of those awarded to larger firms. The current prequalification process is a barrier preventing these firms from winning prime contracts.

Since most ADOT projects are federally funded, they require that a number of detailed federal requirements be met, which could limit the opportunities for the following strategy: ADOT could consider removing or reducing state requirements within its authority that are unnecessary or prohibitively excessive for DBEs and smaller businesses. ADOT's Procurement work group has no qualification requirements, so changes would only apply to the Engineering Consultants Section (ECS) and construction—two areas that involve state-imposed qualification requirements, not federal ones.

Other state DOTs make the qualification process friendlier by encouraging DBEs and small businesses to form joint ventures or consortia and submit contract proposals where the joint venture or consortium is the prime contractor. A related strategy prequalifies all the firms in the joint venture or consortium for a specified maximum dollar amount.

Strategy 7: Develop ADOT-Sponsored Construction Management Development Program

A construction management development program would not only benefit participating DBEs and small businesses by increasing their knowledge but would also address concerns of prime contractors regarding DBEs and small business subcontractors' lack of understanding of the contracting process and requirements. ADOT stakeholders reported that ADOT's Business Engagement and Compliance Office (BECO), which oversees the DBE program and provides training for DBEs, is creating a program that would include in-depth training on construction contracting. As BECO continues to develop the program, large firms (e.g., frequent prime contractors) could provide information about where DBEs are falling short in the contracting process, such as preparing bids and meeting contract requirements. This participation will also help secure program buy-in from prime contractors.

Strategy 8: Adapt Multiyear Contracts to Create New Opportunities as Primes

ADOT does not currently permit cost-of-living adjustments in multiyear contracts. Additionally, small businesses that are unable to meet the needs of contracts when first issued (e.g., the business does not have sufficient employees or equipment) might be able to meet those needs one or two years later but must wait as long as five years before the contract is put out to bid again. Multiyear contracts benefit small businesses by serving as a counterbalance to these issues. Below are two strategies to support this recommendation:

Put contracts out to bid more frequently. The process of putting contracts out to bid is governed by the state's Procurement Code and is lengthy, making implementation difficult. This strategy could be implemented as a pilot program and be limited to professional services (ECS) contracts.

Create a window for adding new firms. Most multiyear contracts are for one year with possible renewals for additional years. ADOT might consider offering a window at renewal time when new vendors could submit proposals for multiyear contracts. These additions would not affect existing contract holders, which would be considered for renewal using the current method, so the number of new proposals for review would likely be minimal.

Strategy 9: Develop Pathway to Graduation

One of the objectives cited in the regulations governing state DOT DBE programs is to help develop firms that can compete successfully in the marketplace outside the DBE program. A graduated upward pathway of small contracts is essential to helping DBEs grow their businesses by allowing them to gain experience, hone their skills, and better understand how to manage their businesses. However, an analysis of ADOT prime contract data indicated that the pathway may be descending or, at best, plateauing rather than ascending. From October 2013 to September 2018, the number of contracts ADOT awarded for amounts less than \$500,000 decreased by 15 percent. In addition, only 1.2 percent of construction contracts and 13.2 percent of professional services contracts were awarded to DBEs.

As noted earlier, an inherent conflict exists between increasing efficiency in the contracting process (which encourages bundling contracts) and increasing the use of race-and gender-neutral strategies (including unbundling) to meet DBE goals. If the trend of bundling contracts continues, DBEs will find it increasingly difficult to obtain prime contracts and move toward graduation from the program. Because these competing objectives are critical to ADOT's mission, ADOT could consider ways to develop an upward pathway for DBEs that represent an acceptable middle ground, such as the implementation methods recommended for unbundling contracts.

Strategy 10: Implement Small Business Program with Contract Goals

Small business enterprise (SBE) programs yield benefits for state DOTs as well as small businesses. Implementing an active SBE program at ADOT could encourage small businesses to obtain certification and could increase the pool of potential DBE program participants, including businesses unknown to ADOT and those ADOT could not successfully recruit in the past (e.g., firms concerned about the stigma of being labeled a DBE). At the same time, SBEs that do not also qualify as DBEs gain additional contract opportunities not previously available to them.

Additionally, SBE programs are race-neutral, and the FHWA considers practices such as implementing small business set-aside contracts acceptable for fostering small business participation as part of the small business element of the DBE program. While ADOT could implement small business set-aside contracts without a formal small business program, implementation within the context of a newly created small business program offering additional benefits would likely be more successful and encourage more small businesses to apply for certification. For example, in addition to offering set-aside contracts, small business programs can offer incentives such as proposal evaluation bonus points for SBEs submitting proposals for prime contracts and non-SBE primes committed to using SBEs on projects.

ADOT could consider developing a formal small business program. The agency could use its current small business concern (SBC) registration as the basis for the program or it could establish a different certification, such as an emerging small business enterprise (ESBE) certification. Additionally, ADOT could evaluate different options, such as restricting contracts for small bidding to registered SBCs with or without establishing an accompanying small business program or creating a small business program with or without contract goals.

PROPOSED PRACTICES TO EXPAND OR ENHANCE CURRENT ADOT PROGRAMS AND SERVICES

Strategy 11: Extend Mobilization Support

ADOT currently offers mobilization support to prime contractors for start-up costs, but these funds do not necessarily flow down to subcontractors. Subcontractors may not be aware that they can ask to include a requirement to roll down mobilization funds in their subcontracts with primes. This information could be included in all training, consulting, and other support services provided to DBEs and small businesses. Since contracts require primes to pay subcontractors within seven days of

receiving invoice payments, ADOT may wish to consider applying this same requirement to mobilization payments and including a requirement in contracts that mobilization funds be rolled down to subcontractors.

Strategy 12: Expand Training Options and Opportunities

ADOT offers a number of training opportunities to DBEs and small businesses that many business owners consider valuable. However, because many businesses are so small, owners and key staff are typically out in the field and unable to attend classes, particularly extended training programs that involve multiple sessions.

To help DBEs obtain training, BECO currently offers seven online training sessions accessible at any time. Also, ADOT and Arizona State University previously offered individual recorded sessions through a DBE academy. ADOT could expand its on-demand training for DBEs and small businesses by:

- Adding additional course and seminar recordings to its current library of online offerings
- Recording future courses and adding them to its current library
- Exploring other formats for training material, such as podcasts, other audio offerings, and webinars
- Using content from the former DBE academy to develop a similar web-based program that incorporates BECO's planned revisions to add interactive content, including "Check for Knowledge" points and other features

Strategy 13: Develop Internal Marketing and Communications Plan for DBE Program

Many of the internal ADOT stakeholders were unfamiliar with the purpose of the DBE program; its benefits for ADOT; and the program's operations, including enforcement regulations for requirements that contractors must meet in contracts with DBE goals. ADOT could consider developing a marketing plan for work groups involved in the contracting process to familiarize them with the program's requirements and enforcement mechanisms and to keep them informed as new race-neutral initiatives are undertaken. ADOT could also consider offering rewards or recognition for employees who suggest ways to improve processes.

ROADMAP FOR THE FUTURE: PROPOSED IMPLEMENTATION PLAN

Transitioning ADOT's DBE program to one that meets its overall annual goal primarily through race-neutral strategies would not only benefit DBEs and small businesses, but also large non-DBE firms because it would significantly reduce the need for DBE contract goals. The recommended strategies in this report can contribute to that long-term objective by creating more contracting opportunities for DBEs and by increasing ADOT's use of DBEs and small businesses as subcontractors and subconsultants.

A proactive, collaborative effort is recommended to increase the portion of ADOT's annual DBE goal achieved through race-neutral measures. Below are suggested actions to initiate and sustain this collaborative effort:

- Demonstrate the institutional willingness to change the status quo and certain processes as needed to achieve race- and gender-neutral goals.
- Seek a formal commitment to cooperatively work on this issue from FHWA, the Association of General Contractors, the American Council of Engineering Companies, the Associated Minority Contractors of America, DBE task forces, and other industry leaders.
- Commit to work toward achieving positive results in the next two years (before conducting the 2023 availability study and before assessing the race- and gender-neutral status from the 2025 disparity study).
- Create an exploratory working group of high-level internal and external partners to lead implementation.
- Develop and implement a three- to five-year strategic plan to achieve results.
- Explore potential strategies from this study and from ADOT's recent disparity study.
- Conduct peer reviews with other state DOTs that are successfully implementing strategies.
- Implement practices to support continuous improvement, such as documenting program implementation, data, and lessons learned.

FINDINGS

Findings from this research study are summarized below in the following categories:

- Strategies and practices
- Training and business services
- Analysis of ADOT contract data
- Use of DBEs as prime contractors and consultants

STRATEGIES AND PRACTICES

State DOTs use a range of race-neutral strategies and practices to reach their DBE goals. Interviews with key groups in Arizona—including ADOT internal stakeholders, DBE and non-DBE firms, and public agencies with programs for small and disadvantaged businesses—indicated that 10 strategies and practices are the most relevant and applicable to ADOT based on their perceived impact and ease of implementation. These strategies are presented below; for clarification, some include example practices from ADOT and other state DOTs:

1. Facilitating faster payment (e.g., relaxing retention and implementing other measures affecting prompt payment)
2. Unbundling contracts so that DBEs can bid as primes (e.g., by discipline, narrower scope)
3. Providing advance notification of bid opportunities
4. Restricting small contract bidding to small businesses and/or businesses receiving a certificate of proficiency from an ADOT-sponsored construction management development program or academy
5. Making the evaluation process for qualifications-based awards friendlier to new and small businesses
6. Creating an ADOT-sponsored construction management development program or academy (e.g., DBE owners successfully completing the program earn an ADOT certificate of proficiency and are eligible for financial supportive services)
7. Providing mobilization support by advancing contractors (especially subcontractors) a percentage of contract award monies upfront to assist with project-related start-up costs
8. Putting long-term contracts out to bid more frequently (e.g., on-call contracts for construction or engineering services)
9. Establishing SBE program goals for primes and subcontractors
10. Providing qualified firms with access to ADOT finance, training, and loan programs that provide working capital to ADOT contractors and subcontractors

Six of these strategies and practices are recommendations of this study that have not been implemented at ADOT. Table 1 shows how each of the key groups interviewed for this study ranked the 10 practices. Table 2 presents some of the lower-ranked strategies (those ranked from 11 to 16); while none of these strategies are currently implemented at ADOT, they would be relatively easy to implement. Note that all the top-ranked strategies and practices represent measures aimed at

increasing the use of DBEs as prime contractors and consultants. The research showed that increasing prime contractors' voluntary use of DBEs as subcontractors and subconsultants is not a significant objective of most practices employed by state DOTs. However, a few programs and activities that state DOTs use in addressing this issue were identified and are discussed later in this section.

Table 1. Recommended Race-Neutral Strategies and Practices

Rank	Strategy or Practice	DBE Rank	Prime Rank	Agency Rank	ADOT Stakeholder Rank	Implemented at ADOT	ADOT Authority / Impacted Group
1	Facilitating faster payment	2	3	4	3	Yes	IDO-ECS/C&S/ Procurement Group
2	Unbundling contracts	3*	11*	1	2	No	IDO
3	Providing advance notification of bid opportunities	5	2	11	1	Yes	IDO-ECS/C&S
4	Restricting small contract bidding	1*	13*	2	5	No	State of Arizona/ IDO/BECO
5	Making evaluation process for qualifications-based awards friendlier	4	8	5	5	No	IDO-ECS/C&S/ Procurement Group
6	Creating ADOT-sponsored construction management development program	11*	1*	8	6	No	BECO
7	Providing mobilization support	6	9	6	8	Some	IDO-ECS/C&S/ Procurement Group
8	Putting long-term contracts out to bid more frequently	10	6	9	7	No	IDO-ECS/C&S/ Procurement Group
9	Establishing SBE program goals	8	12	3	10	No	State of Arizona/ IDO/BECO
10	Providing qualified firms access to finance, training, and loan programs	12	7	7	9	Training offered	State of Arizona/BECO

*These figures represent a significant difference between the rankings by DBE and non-DBE interviewees.

C&S Contracts and Specifications

IDO Infrastructure Delivery and Operations Division

IDO-ECS Infrastructure Delivery and Operations Division, Engineering Consultants Section

Table 2. Additional Race-Neutral Strategies and Practices

Rank	Strategy or Practice	DBE Rank	Prime Rank	Agency Rank	ADOT Stakeholder Rank	Implemented at ADOT	ADOT Authority/ Impacted Group
11	Implementing reimbursement program for educational and professional services (e.g., ADOT reimburses for professional assistance, such as accounting and legal services, professional association fees, and educational costs, up to annual maximum)	11*	5*	16	5	No	To be determined
12	Removing any overly high insurance requirements	9	15	12	4	No	State of Arizona
13	Creating bond guarantee program where Arizona acts as second surety, guaranteeing construction bonds for DBEs working on ADOT projects	14*	4*	13	11	No	State of Arizona/ IDO/BECO
14	Removing any overly restrictive qualification requirements	7	16	10	10	No	State of Arizona
15	Relaxing bonding requirements to more appropriately align with size and scope of project	15	10	15	10	No	State of Arizona/ IDO
16	Removing any overly restrictive contract specifications	13	14	14	Not asked	No	Federal government/ ADOT/IDO

*These figures represent a significant difference between the rankings by DBE and non-DBE interviewees.

C&S Contracts and Specifications

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TRAINING AND BUSINESS SERVICES

Interviewees identified 10 training and business services areas relevant to DBEs and small businesses:

- Contract-related topics (e.g., bid and proposal preparation, contract compliance)
- Networking opportunities, including introductions to state DOT decision makers and large contracting firms
- Customized, one-on-one assistance provided by state DOT staff or consultants to individual DBEs or small businesses upon request
- Cost estimate development (e.g., understanding of federal/state DOT requirements, specifications, and standards; techniques for accurately estimating job costs)
- Business operations and administrative functions (e.g., accounting, record keeping, financial statement preparation, loan applications, business law)
- Technical and business management skills (e.g., business plan development, website content tips, capacity building, employee management)
- Mentor-protégé program to build relationships between primes and subcontractors
- Project planning and scheduling (e.g., project cash flow management, work scheduling based on project estimates)
- Information technology consulting services to help maximize use of electronic media and emerging technology
- Construction and bonding overview (e.g., types of bonds, surety's rights, reasons for default, surety industry criteria, bonding portfolio checklist)

Table 3 shows how each of the key groups in Arizona ranked these training areas and services based on perceived impact and helpfulness.

Only three of these training and services areas are not currently implemented at ADOT: cost estimate development, mentor-protégé program, and project planning and scheduling. Interviewees noted that efforts to develop a mentor-protégé program have had little success. Other strategies would be more easily implemented, more effective in the short term, and if successful, might lead to greater interest in a mentor-protégé program. Based on this information, researchers incorporated cost estimate development and project planning and scheduling into the recommendations but did not include development of a mentor-protégé program. ADOT may consider revisiting that strategy in the future.

Table 3. Training and Services Relevant to DBEs

Ranking	Training or Service	DBE Ranking	Prime Ranking	Agency Ranking	ADOT Stakeholder Ranking	Implemented at ADOT	ADOT Authority / Impacted Group
1	Contract-related topics	6*	1*	2	1	Yes	BECO
2	Networking opportunities	3	3	1	4	Yes	BECO
3	Customized, one-on-one assistance	4	4	4	3	Yes	BECO
4	Development of cost estimates	8*	2*	5	2	No	BECO
5	Business operations and administrative functions	2	6	3	9	Yes	BECO
6	Technical and business management skills	1*	7*	7	8	Yes	BECO
7	Mentor-protégé program	7	5	6	7	No	BECO with industry
8	Project planning and scheduling	5	8	8	5	No	BECO
9	Information technology consulting services	5	9	9	6	Yes	BECO
10	Construction and bonding overview	9	10	10	8	Yes	BECO

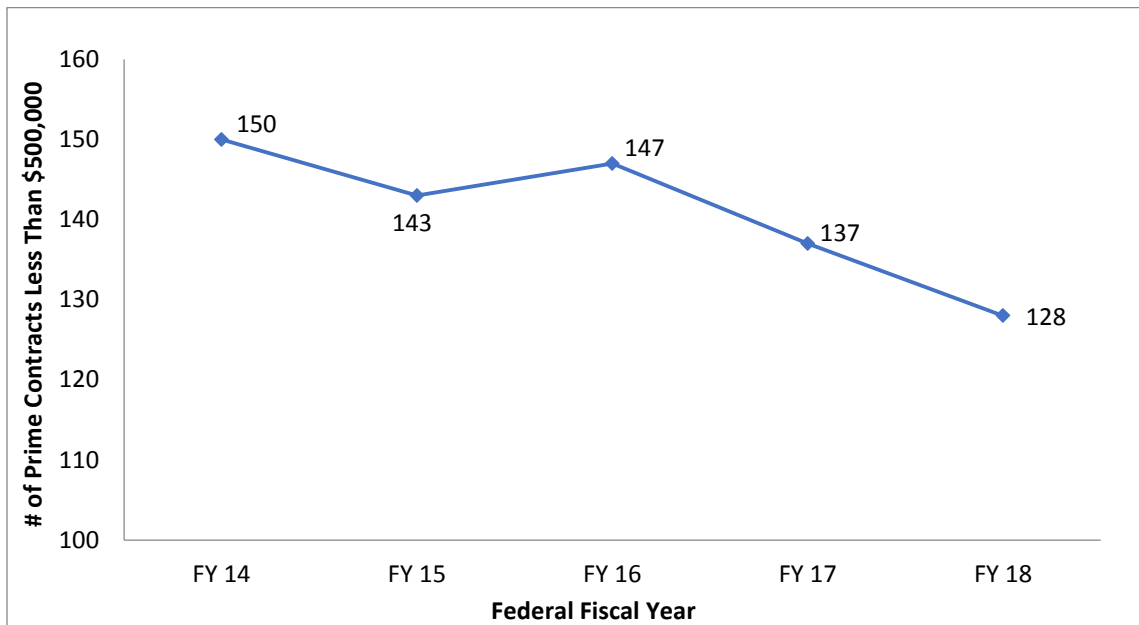
*These figures represent a significant difference between the rankings by DBE and non-DBE interviewees.

ANALYSIS OF ADOT CONTRACT DATA

A recurring theme among interviewees, especially DBEs, was the perception that ADOT has been issuing fewer small contracts (a suitable size that DBEs can easily handle as the prime contractors). This perception goes hand in hand with the perception that the limited number of small ADOT contracts results in very few prime contracts awarded to DBEs.

To address these perceptions, researchers analyzed ADOT contracts (excluding South Mountain Freeway contracts) awarded from October 2013 through September 2018. Researchers examined contract size (dollar amount), type (construction or professional services), funding source (state or federal), and awardee status (DBE or non-DBE firm) of FHWA- and state-funded projects together and separately. FHWA-funded contracts account for 705 of 929 construction contracts (76 percent) and 773 of 1019 professional service contracts (75.9 percent). The remaining 24 percent of contracts are state funded.

The number of contracts for less than \$500,000 is one of the key metrics that state DOTs use to evaluate the potential pool of prime contracts suitable for small businesses and DBEs. Figure 1 shows that the number of these contracts ADOT awarded decreased by 15 percent from October 2013 through September 2018, supporting DBEs' claim that ADOT has been issuing fewer prime contracts of less than \$500,000.



**Figure 1. ADOT Prime Contracts for Less Than \$500,000
(Awarded October 2013 Through September 2018)**

The analysis also confirmed the DBEs' perception that a relatively small number of prime contracts (especially in construction) are awarded to DBEs, as shown in Tables 4 through 6.

Table 4 presents the data for the combined 1948 federal- and state-funded ADOT contracts awarded to DBE and non-DBE firms for construction and professional services from October 2013 through September 2018. Highlights from the analysis follow:

- Of the 1948 contracts, ADOT awarded 929 construction contracts (47.7 percent) and 1019 professional services contracts (52.3 percent).
- Of the 929 construction prime contracts, 11 contracts (1.2 percent) were awarded to DBE firms; nine of those contracts, an average of two per year, were awarded for amounts less than \$500,000. By comparison, 918 contracts (98.8 percent) were awarded to non-DBE firms.
- Of the 1019 professional services prime contracts, 134 contracts (13.2 percent) were awarded to DBE firms; 95 of those contracts, an average of 19 per year, were awarded for amounts less than \$100,000. By comparison, 885 contracts (86.8 percent) were awarded to non-DBE firms.

Table 5 presents the data for FHWA-funded ADOT prime contracts awarded to DBE and non-DBE firms for construction and professional services from October 2013 through September 2018. Highlights from the analysis follow:

- Of the 708 FHWA-funded construction prime contracts, three contracts (0.4 percent) were awarded to DBE firms. By comparison, 705 (99.6 percent) construction contracts were awarded to non-DBE firms.
- Of the 773 FHWA-funded professional services contracts, 112 contracts (14.5 percent) were awarded to DBE firms; 81 of those contracts, an average of 16 per year, were for amounts less than \$100,000. By comparison, 661 contracts (85.5 percent) were awarded to non-DBE firms.

Table 6 presents the data for state-funded ADOT prime contracts awarded to DBE and non-DBE firms for construction and professional services from October 2013 through September 2018. Highlights from the analysis follow:

- Of the 221 state-funded construction prime contracts, eight contracts (3.6 percent) were awarded to DBE firms; seven of those contracts were awarded for amounts less than \$500,000. By comparison, 213 construction contracts (96.4 percent) were awarded to non-DBE firms.
- Of the 246 state-funded professional services prime contracts, 22 contracts (8.9 percent) were awarded to DBE firms; 14 of those contracts, an average of three per year, were for amounts less than \$100,000. By comparison, 224 professional services contracts (91.1 percent) were awarded to non-DBE firms.

Table 4. Combined FHWA- and State-Funded ADOT Prime Contracts (Awarded October 2013 Through September 2018)

Contract Amount	Construction Non-DBE	Construction DBE	Total	% to DBEs	Professional Services Non-DBE	Professional Services DBE	Total	% to DBEs
< \$50,000	112	7	119	5.9	410	78	488	16.0
\$50,000–\$99,999	31	2	33	6.1	110	17	127	13.4
\$100,000–\$249,999	87	0	87	0	146	24	170	14.1
\$250,000–\$499,999	139	0	139	0	85	7	92	7.6
\$500,000–\$749,999	116	1	117	0.9	32	1	33	3.0
\$750,000–\$999,999	64	0	64	0	15	0	15	0
\$1,000,000–\$1,499,999	68	1	69	1.4	27	4	31	12.9
\$1,500,000–\$1,999,999	48	0	48	0	14	0	14	0
\$2,000,000–\$2,999,999	78	0	78	0	21	2	23	8.7
\$3,000,000–\$4,999,999	70	0	70	0	15	1	16	6.3
\$5,000,000–\$9,999,999	55	0	55	0	8	0	8	0
\$10,000,000+	50	0	50	0	2	0	2	0
Total	918	11	929	1.2	885	134	1019	13.2

Table 5. FHWA-Funded ADOT Prime Contracts (Awarded October 2013 Through September 2018)

Contract Amount	Construction Non-DBE	Construction DBE	Total	% to DBEs	Professional Services Non-DBE	Professional Services DBE	Total	% to DBEs
< \$50,000	28	1	29	3.4	301	67	368	18.2
\$50,000–\$99,999	18	1	19	5.3	87	14	101	13.9
\$100,000–\$249,999	69	0	69	0	103	21	124	16.9
\$250,000–\$499,999	110	0	110	0	62	4	66	6.1
\$500,000–\$749,999	102	1	103	1.0	25	0	25	0
\$750,000–\$999,999	57	0	57	0	12	0	12	0
\$1,000,000–\$1,499,999	60	0	60	0	22	3	25	12.0
\$1,500,000–\$1,999,999	40	0	40	0	12	0	12	0
\$2,000,000–\$2,999,999	61	0	61	0	16	2	18	11.1
\$3,000,000–\$4,999,999	63	0	63	0	12	1	13	7.7
\$5,000,000–\$9,999,999	51	0	51	0	7	0	7	0
\$10,000,000+	28	1	29	3.4	2	0	2	0
Total	705	3	708	0.4	661	112	773	14.5

Table 6. State-Funded ADOT Prime Contracts (Awarded October 2013 Through September 2018)

Contract Amount	Construction Non-DBE	Construction DBE	Total	% to DBEs	Professional Services Non-DBE	Professional Services DBE	Total	% to DBEs
< \$50,000	84	6	90	6.7	109	11	120	9.2
\$50,000–\$99,999	13	1	14	7.1	23	3	26	11.5
\$100,000–\$249,999	18	0	18	0	43	3	46	6.5
\$250,000–\$499,999	29	0	29	0	23	3	26	11.5
\$500,000–\$749,999	14	0	14	0	7	1	8	12.5
\$750,000–\$999,999	7	0	7	0	3	0	3	0
\$1,000,000–\$1,499,999	8	1	9	11.1	5	1	6	16.7
\$1,500,000–\$1,999,999	8	0	8	0	2	0	2	0
\$2,000,000–\$2,999,999	17	0	17	0	5	0	5	0
\$3,000,000–\$4,999,999	7	0	7	0	3	0	3	0
\$5,000,000–\$9,999,999	4	0	4	0	1	0	1	0
\$10,000,000+	4	0	4	0	0	0	0	0
Total	213	8	221	3.6	224	22	246	8.9

USE OF DBEs AS PRIME CONTRACTORS AND CONSULTANTS

Increasing Prime Contracting Opportunities

Increasing the number of contracting opportunities for DBEs and small businesses is the most effective way to ensure more DBEs are used as prime contractors and consultants, according to a review of the literature and interviews with state DOT DBE program managers. Frequently used methods to increase contracting opportunities include:

- Unbundling contracts
- Establishing contract set-aside programs for small businesses
- Developing small business programs
- Removing contract and qualification barriers
- Providing access to financial assistance
- Providing training and business assistance services

Unbundling Contracts

State DOTs reported that unbundling contracts increases DBE participation, but this practice is challenging because the agencies also strive to make the contracting process more efficient, which is often achieved by bundling contracts. In recent years, ADOT has increased the number of bundled contracts, which has led to a corresponding decrease in the number of small contracts issued.

Some state DOTs divide contracts into specific types of work, such as landscaping and fencing. Additional unbundling practices reported by state DOTs are described below:

- Nevada Department of Transportation (NDOT) identifies potential unbundling opportunities based on thresholds and needs assessments for bonding capacity. For example, NDOT unbundled the landscaping portion of a contract so that DBEs could perform the work with an attainable bond size. The agency also uses segmentation, such as dividing a highway construction project into projects of approximately \$1.5 million instead of \$5 million.
- Texas Department of Transportation (TxDOT) is considering unbundling for maintenance projects.

Establishing Contract Set-Aside Programs for Small Businesses

Establishing a program of small business set-aside contracts is another means of increasing the number of DBE contract opportunities. Historically, state DOTs limited set-aside programs to projects receiving only state funding, but state DOTs in Florida, Michigan, New Jersey, and Ohio have received FHWA approval to apply their small business set-aside initiatives to federally funded projects, and other states may also be obtaining approval.

While these race-neutral set-aside programs can stand alone, they are often part of broader small business programs with additional features and incentives to help small businesses obtain prime contractor and consultant awards. The growing number of state DOTs with extensive small business programs may also be linked to federal requirements that DBE program plans include a small business element.

Developing Small Business Programs

DOTs in several states—including California, New Jersey, North Carolina, Ohio, and Texas—have more than one type of small business program, with set-aside contracts that permit bidding only by the small businesses certified for a particular program. The most common small business programs and certifications are for SBEs and emerging small businesses (ESBs), with the qualifications for each generally mirroring those established by the US Small Business Administration (SBA):

- SBE: To determine qualification as a small business, the SBA uses a multifactor system based on North American Industry Classification System (NAICS) codes, assigning a size standard to each code. In general, most manufacturing businesses with 500 employees or fewer and most nonmanufacturing businesses with average annual receipts under \$7.5 million will qualify as small businesses.
- ESB: The SBA defines an emerging small business as an SBC whose size is no greater than 50 percent of the numerical size standard applicable to the NAICS code assigned to a contracting opportunity.

The characteristics of SBE and ESB programs vary extensively. Below are some examples:

- California Department of Transportation (Caltrans) has three programs: Small Business Program, Disabled Veteran Business Enterprise Program, and Small Business for the Purpose of Public Works Program. These programs apply to all state agencies, require certification, and are applicable only to state-funded contracts.

Additionally, the state's Road Repair and Accountability Act of 2017 provided \$54 billion in funding for infrastructure over the next decade, expanding the opportunities for small businesses to participate in Caltrans projects. The law required Caltrans to increase procurement opportunities for new and limited contracting SBEs owned by certain disadvantaged groups and to submit its plan to increase those opportunities to the state legislature. Key program features follow:

- New SBEs are defined as certified small businesses that have not received Caltrans public contracts in the previous two years. Limited contracting SBEs are defined as certified small businesses that have received fewer than five Caltrans contracts in the previous two years or have received Caltrans contracts totaling less than \$250,000 in the previous two years (Caltrans 2019).
- More than a decade before this law was enacted, California, like Arizona, had passed a proposition prohibiting any preference based on race or gender. Consequently, Caltrans'

plan identified ways to meet the law’s directives to increase opportunities for disadvantaged groups without violating the prohibition of preference (i.e., by expanding or adding race-neutral practices). (Note: In the November 2020 election, Californians rejected an effort to repeal that proposition, and the prohibition of preferential treatment based on race or gender remains in effect.)

- Colorado Department of Transportation (CDOT) offers the Emerging Small Business (ESB) Program—a state-funded, race-neutral small business program designed to assist ESBs in competing for CDOT construction, professional services, and practice of research contracting opportunities. The FHWA and the Federal Transit Administration approved the program as the agency’s race-neutral element supporting small businesses. Key program features follow:
 - Scoring incentive points are awarded to ESBs and firms that use ESBs on professional services contracts.
 - The Bond Assistance Program guarantees up to 50 percent, to a maximum of \$1.5 million, of small contract bond for ESB primes that are ready to move into prime contracting but are unable to obtain the necessary bonds to do so.
- Florida Department of Transportation (FDOT) credits its small business program as a key strategy in assuring sufficient DBE participation. FDOT does not operate a traditional small business program but does have a small business certification. Launched in 2006, FDOT’s Business Development Initiative (BDI) was designed to support the department’s efforts to boost competition, lower prices, and increase support to meet its contracting needs. Also, the BDI provides more opportunities and support for small businesses to move from subcontracting and sub consulting to prime contracting and consulting roles (FDOT 2020). The program received FHWA approval as a race-neutral measure to help achieve DBE goals, the first such approval in the nation. Key program features follow:
 - Reserved (set-aside) contracts of under \$1.5 million; 15 percent of professional services contracts and 10 percent each of construction and maintenance contracts are to be reserved.
 - Preference points are awarded for using small businesses.
 - Bond requirements are waived.
- Nevada Department of Transportation (NDOT) has included a small business element in its DBE plan since that became an FHWA requirement. NDOT has both DBE and small business element certifications, and certified DBEs are automatically given small business element status. The agency does not operate a separate small business program but instead fosters small business participation by providing race-neutral small business goals on federally assisted projects that do not have DBE goals. Key program features follow:
 - Small business element contracts are not restricted to any particular type of contract. Because these contracts are a subset within the DBE program, any federally assisted contract opportunity funded through NDOT is a candidate for a small business element contract, including engineering, design, and other professional services contracts that are federally funded.

- Small business element prime contracts are not limited in size (dollar amount). Any federally assisted NDOT project that can be primed by a small firm can be offered as a small business element contract.
- Small business element prime contracts do not have DBE contract goals.
- New Jersey Department of Transportation (NJDOT) established an ESBE certification to meet the maximum feasible portion of its DBE goal through race-neutral means. ESBE participation goals are established on federally funded projects, and prime contractors may use DBE and/or ESBE firms to satisfy these goals. However, only DBE participation counts toward the DBE goal.

ESBE certification is described as a race- and gender-neutral program because it is aimed at businesses owned and controlled by economically disadvantaged individuals that cannot be associated with a particular racial or gender group.

- North Carolina Department of Transportation (NCDOT) has five certification programs for small and underutilized businesses. In addition to its DBE goal of 14 percent on federally assisted projects, NCDOT has a combined goal on state-funded projects of 11.8 percent, consisting of 5.7 percent minority business enterprises (MBEs) and 6.1 percent women-owned business enterprises (WBEs). All construction projects have either a DBE goal or a combined MBE/WBE goal. Key program features follow:
 - NCDOT approved the race-neutral SBE program as the small business element of its DBE program in 2012.
 - NCDOT may identify and restrict solicitation and award of projects that are likely to attract increased participation by SBEs. Typical project costs are up to \$500,000.
 - Certain state bonding (e.g., performance) and licensing (e.g., general contractor) requirements may be waived for contracts awarded under the SBE program.
- Ohio Department of Transportation (ODOT) operates a race- and gender-neutral SBE program that limits bidding to small businesses for prime contracts on certain federally assisted projects. The SBE must perform or exercise responsibility for at least 30 percent of the total cost of its contract with its own workforce. Key program features follow:
 - Joint ventures that consist of two or more properly certified SBE firms may bid on contracts.
 - The agency considers unbundling contracts based on the level of risk associated with maintaining smaller projects and the ability to create stand-alone projects in work areas that have a significant pool of ready, willing, and able SBEs (ODOT 2015).
- Oregon DOT's ESB program is a race- and gender-neutral program for small businesses. The program limits contracts for \$100,000 or less to ESB bidding only. The agency's mentor-protégé program is open to ESBs and to MBEs and WBEs, which makes the mentor-protégé component not wholly race- and gender-neutral.
- TxDOT operates a race-neutral SBE program for highway projects funded entirely by state or local funds. The SBE program supplements the federal DBE program and the state Historically Underutilized Business (HUB) program and is used when the DBE and HUB programs do not apply (i.e., for contracts without a DBE or HUB goal). Each year, the agency establishes an SBE

contracting goal and may assign individual contract goals for SBE participation contracts to cumulatively meet the overall annual SBE goal.

- Washington State DOT's (WSDOT's) SBE program was developed within its DBE program to increase the portion of its DBE goal achieved through race- and gender-neutral strategies. SBE-certified firms count toward federal small business (gender- and race-neutral) goals. Key program features follow:
 - WSDOT maintains a small works roster of contractors interested in bidding on contracts under \$300,000. Currently, contractors of any size may bid on these projects. WSDOT is seeking legislation to restrict contracts under \$300,000 as set-asides for certified SBEs. Under the program, prime contractors may form joint ventures with SBE firms.
 - Because voluntary SBE goals met with minimal success, WSDOT plans to set enforceable SBE goals on federal-aid projects that have sufficient opportunities.

ADOT offers SBC registration (not certification) but does not have a formal program associated with that status. Generally, SBC registration entitles businesses to most of the services and resources offered to DBEs. ADOT encourages prime contractors to use SBCs on contracts, but there are no SBC contract goals or specific incentives for primes to do so. Some local government entities may offer specific contracting opportunities for SBCs. Developing a small business program—perhaps as a pilot program—that offers specific benefits and/or support mechanisms to registered SBCs may be an opportunity for ADOT to increase SBC registration and also increase the pool of small firms that may qualify for DBE certification.

Removing Contract and Qualification Barriers

Practices aimed at removing contracting barriers also contribute to increased opportunities for DBEs as prime contractors. For example, reviewing and removing excessive insurance and bonding requirements and contract specifications could make the qualification process friendlier. FDOT eased barriers for professional services contracts by raising the dollar threshold for requiring overhead audits from \$250,000 to \$500,000. Firms may contract for project amounts less than \$500,000 without having to pay for audits by independent certified public accountants.

ADOT's prequalification system to become prime construction contractors can also create a barrier for DBEs and small firms. Prequalification establishes a maximum dollar amount for the contracts for which firms are allowed to submit proposals; preference is given to firms that have completed construction projects with ADOT in the past five years. As a result, firms with less ADOT experience are limited to bidding on contracts with significantly lower dollar amounts than firms with more experience.

An analysis of ADOT contract data from October 2013 to September 2018 showed that only a fraction of the total prime contracts awarded went to DBE firms—specifically, 1.2 percent of construction contracts and 13.2 percent of professional services contracts. Whether this finding is a direct result of contract and qualification barriers that DBEs faced cannot be determined, but the data indicate that DBEs have a disproportionately low success rate in obtaining prime contracts.

Providing Access to Financial Assistance

A number of state DOTs have programs that help small businesses obtain access to bonding and working capital loans. These programs are often developed in partnership with local bonding agencies and banks. Below are examples of financial assistance programs:

- CDOT's Bond Assistance Program helps ESBs become prime contractors on CDOT construction and maintenance projects by guaranteeing up to 50 percent of a small contract bond. The Bond Assistance Program is available to firms that are ready to move from subcontracting into prime contracting directly with CDOT but are unable to obtain the necessary bonds to do so. The program can be used on CDOT contracts of up to \$3 million; ESBs may only use the program once.
- FDOT's Bond Guarantee Program helps DBEs secure bonding for FDOT-funded projects. The program covers up to 90 percent of the bond for contracts of \$250,000 and less, and up to 80 percent for contracts from \$250,000 to \$500,000 for DBEs awarded certificates of proficiency in FDOT's Construction Management Development Program.
- Utah Department of Transportation's (UDOT's) Rolling Owner Controlled Insurance Program for select capital improvement construction projects insures UDOT, eligible and enrolled construction managers, contractors and subcontractors, and other UDOT-designated parties for work performed at job sites. It does not include professional services provided by architects, engineers, surveyors, and soil and other testing and inspection companies. Coverage includes the following:
 - Workers' compensation and employers' liability insurance
 - General liability insurance
 - Excess liability insurance
 - Builders risk insurance
 - Contractors pollution liability insurance
 - Railroad protective liability insurance (if required)
- The state of Washington (WSDOT) established the Linked Deposit Program that can decrease interest rates on loans to small businesses up to 2 percent (State of Washington, n.d.). To be eligible to apply for the program, businesses must be certified as an MBE, WBE, minority women business enterprise, combination business enterprise, or socially and economically disadvantaged business enterprise. Because the state offers both federal and state certifications, DBEs (which have federal certification) also need to obtain state certification in one of these categories. The program operates as follows:
 - The state treasurer is authorized to use up to \$175 million of the state's short-term surplus funds to purchase certificates of deposit.
 - The Linked Deposit Program "links" the state's surplus fund deposits to the commercial loans that financial institutions make to certified minority and women's business enterprises.
 - The state forgoes up to 2 percent of the interest it would earn on the certificates of deposit, and the banks transfer the savings to the certified firms as interest rate

reductions. If the state receives less than 2 percent in interest on a certificate of deposit, the loan may only be reduced by the amount earned by the state.

Another form of financial assistance provided by state DOTs, including ADOT, is mobilization support—providing a portion of the contract award in advance to assist prime contractors with project start-up costs. Expanding that support to subcontractors by ensuring that contractors forward an appropriate share of the funds to subcontractors may be an effective support for DBEs and small businesses. For example, FDOT’s Loan Mobilization Program assists minority business enterprises by facilitating working capital loans to those eligible businesses that are contractors or subcontractors on department contracts. Prime contractors are required to incorporate the loan mobilization payment procedures in subcontract agreements with minority business enterprise vendors participating in this program and to cooperate in the release of loan mobilization payments to minority business enterprise subcontractors.

Providing Training and Business Assistance Services

While all state DOTs provide training and individual courses to DBEs and small businesses, a few offer extensive, multisession programs that focus on business and management development, contracting process requirements, and construction-specific courses. Some states attach additional benefits and services to businesses that participate in and/or complete these extended programs, such as:

- Eligibility for the DOT-sponsored bond guarantee program
- Personalized business consultation services
- Mentoring assistance to identify contracting opportunities and navigate the contracting process

Some state DOTs suggested that the training they provide should focus primarily on areas specific to the DOT and the contracting process, such as estimating costs and preparing proposals, and less on general business management topics for which training is readily available and inexpensive. This allows the DOT to conserve and best use its resources, staff time, and expertise in helping small businesses successfully navigate the contracting process.

Additionally, extensive training programs that emphasize topics related to the contracting process, procedures, and requirements yield benefits beyond the knowledge DBEs gain by participating. Prime contractors are often reluctant to use DBEs and small businesses they are unfamiliar with because they have experienced situations where small business subcontractors and subconsultants lacked adequate understanding of developing cost estimates and completing reports required by the contract. Providing this kind of training to DBEs and small businesses and publicizing completion of that training will support prime contractors’ voluntary use of small businesses.

State DOTs use a variety of practices to ensure high-quality training that meets the needs of small businesses. Below are some noteworthy practices:

- Caltrans distributes participant evaluation surveys for training sessions and plans to add course-specific pre- and post-assessments and exercises to measure how well participants meet

learning objectives. The agency is also pursuing contractual agreements with approved apprenticeship programs to expand opportunities for all groups, including underrepresented populations, in apprenticeship programs.

- FDOT's Construction Management Development Program offers courses in business management, contract specifications and law, and construction to DBEs, which receive a certificate of proficiency when courses are successfully completed. DBEs then graduate into the Bond Guarantee Program, which provides bond guarantees of up to \$500,000. FDOT also has arrangements with Construction Training and Qualification Program providers to offer training at reduced rates to certified small business employees to help them compete for transportation infrastructure construction projects.
- TxDOT offers mentoring and training to small businesses through the agency's Learning, Information, Networking, and Collaboration program. Small businesses are assigned a mentor at TxDOT who assists with finding business opportunities, bidding, and networking with primes; construction management training; marketing assistance; and arranging meetings with bonding agents. Participants are also listed in a program bulletin distributed to primes and DOT staff.

ADOT offers extensive training and business assistance to DBEs and small businesses, including Business Coach On Demand—a web-based guide through the bidding and contracting process—and information on financial, insurance, bonding, and business management services. Other training and support services include a multitiered business development program; one-on-one business counseling; and access to the Arizona Small Business Development Center Network, a collaboration of community college districts, the SBA, and the US Department of Defense. Additionally, ADOT has been developing a program for small firms that will include in-depth training on construction contracting.

Two additional research findings may help ADOT enhance its training:

- While state DOT training programs are open to all DBEs and small businesses, they often overlook the needs of professional services firms when developing topics, content, and courses. ADOT may wish to review its training offerings and, if appropriate, revise or expand the content to address the needs of professional services firms. Also, DBEs that have been in business for several years may have information needs that differ from those of new businesses.
- An essential strategy in helping DBEs and small businesses grow their businesses is to provide a stepped, upward pathway of small contracts that enable them to gain experience, hone their skills, and develop a greater understanding of how to manage their businesses. The number of small contracts appropriate for DBEs and small businesses has been shrinking, which makes a pathway to graduation more difficult or could prevent DBEs from reaching the earnings levels that would let them graduate and allow new DBEs to participate.

Increasing Prime Contractors' Voluntary Use of DBEs

As noted earlier, the research findings included few references to state DOT efforts aimed at increasing prime contractors' voluntary use of DBEs as subcontractors and subconsultants. Interviews with state

DOT DBE program managers and an extensive review of state DOT websites and DBE program plans revealed a few programs and activities that encourage voluntary use, including the following:

- **Prime contractor/consultant grading system:** FDOT assigns a letter grade (A+ through F) reflecting a firm's use of DBEs. FDOT then notifies the firm of this grade, posts the grade on the DOT website, and announces it at meetings and conferences. Standard procedures have been developed for follow-up actions to be taken when a firm receives a failing grade, such as scheduling a phone call or meeting with the firm to discuss ways in which the DOT can help the firm improve its performance.
- **Training through industry partnerships:** NDOT has partnered with the Nevada chapter of the Associated General Contractors of America and the Nevada State Contractors Board to provide training to DBEs that expands opportunities for on-the-job training and apprenticeships. These programs provide visibility for participating DBEs by allowing primes to become familiar with DBEs, their skills levels, and their ability to follow instructions and work independently. Bringing industry associations on as active participants in the training program also helps build credibility for the training.
- **High-level recognition program:** Wisconsin Department of Transportation (WisDOT) and the state chapter of the National Association of Minority Contractors cosponsor the annual DBE Workshop and Secretary's Golden Shovel Awards, a two-day conference for small, minority, and women-owned businesses in the transportation construction industry. In addition to workshops and high-level guest speakers, such as the lieutenant governor and elected state representatives, the event features the presentation of the Golden Shovel Award to businesses that have demonstrated their commitment to the WisDOT DBE program, use of DBEs on WisDOT projects, and maintenance of a diverse workforce. Outstanding efforts by industry professionals and community leaders are also recognized with awards. ADOT may want to consider tying in a similar recognition program with its Just One More campaign encouraging prime contractors to use one more DBE than needed to meet a DBE contract goal.
- **Mandatory attendance at pre-bid meetings:** Caltrans requires that primes attend pre-bid meetings to be eligible to bid on projects. Some state DOTs enhance the usefulness of pre-bid meetings by allotting time specifically for networking and enabling DBEs to introduce themselves to primes.

METHODS

The research process developed for this study consisted of three major components:

- State-of-the-practice review
- Analysis of the collected data and information
- Presentation of findings and preliminary recommendations

STATE-OF-THE-PRACTICE REVIEW

To gather information for this study, researchers reviewed national, state, and local studies about DBE programs and practices, including online and print materials from governmental entities, transportation-related organizations, professional associations, research centers, and other resources. State legislation and regulatory information related to state DBE programs were also reviewed.

Researchers also collected information about other state DOT practices related to their DBE and small business programs, interviewing DBE and small business program managers from other state DOTs and locating related program and practice information on state DOT websites.

Also interviewed for this study were Arizona DBE and non-DBE business owners and other stakeholders. This portion of the review focused primarily on ADOT practices but also looked at practices implemented by other government entities, including the City of Phoenix, nearby cities, Maricopa County (Phoenix), and Pima County (Tucson).

The types of data and data collection methods used are described below:

- Qualitative data on practices supporting DBEs:
 - Other state DOTs: Researchers obtained this information through in-depth interviews with state DOT managers of programs that support disadvantaged and small businesses.
 - Arizona: Researchers obtained this information through in-depth interviews with DBE and non-DBE contractor and consultant firms in Arizona, public agencies in Arizona with programs aimed at supporting DBEs and/or small businesses, and internal ADOT stakeholders, defined as individuals representing ADOT departments or units that are involved in or impacted by the contracting process.
- Quantitative data:
 - Perceived effectiveness of specific strategies and services aimed at supporting DBEs: Researchers obtained this information through interviews with internal ADOT stakeholders, DBE and non-DBE contractor and consultant firms in Arizona, and public agencies in Arizona with programs aimed at supporting DBEs and/or small businesses.
 - ADOT contracts awarded from October 2013 to September 2018: Researchers obtained this information from ADOT and examined the number of contracts suitable in size and scope for bidding by DBEs and SBEs, and the number and percentage of contracts awarded to DBEs as prime contractors.

DATA ANALYSIS

Researchers analyzed qualitative and quantitative data to identify:

- Race-neutral strategies
- Strategies not implemented or not fully implemented at ADOT
- Strategies not in conflict with Arizona laws and regulations (e.g., no discrimination against or preference for race- or gender-based groups)

They noted an intersection of successful race-neutral strategies reported by study participants and identified in the literature and strategies that are potentially applicable to ADOT in terms of cost, personnel needs, or other implementation parameters. That area of intersection represented the basis for the preliminary recommended strategies for achieving DBE goals through race-neutral means.

PRESENTATION OF FINDINGS AND PRELIMINARY RECOMMENDATIONS

In a workshop with select ADOT staff, researchers presented the study findings and preliminary recommendations of race-neutral DBE strategies and services that had been ranked highest in perceived effectiveness and applicability for ADOT. The group discussed each of the recommended strategies and services and potential implementation methods and identified the ADOT or state agency units or departments integral to successful implementation.

The group also identified additional practices for implementation that are related to strategies and services currently employed by ADOT, such as expanding web-based training options to make training more accessible to small businesses. These additional practices were included in the final recommendations.

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