



Equity in Infrastructure: Final Presentation Spring 2023

April 27, 2023



EQUITY IN
INFRASTRUCTURE
PROJECT



COLUMBIA | CBIPS

Center for Buildings, Infrastructure and Public Space

Research Team



Siddhi Deshpande

B.Arch Architecture
MS Civil Engineering
Student

Real Estate Dev., Construction, &
Finance

Email: sd3595@columbia.edu



Rajveer Gurbaxani

BE Civil Engineering
MS Civil Engineering
Student

(1) Construction Engineering &
Management
(2) Real Estate Dev., Construction,
& Finance

Email: rog2115@columbia.edu



Alejandro Lizcano

BS Civil Engineering
MS Civil Engineering
Student

(1) Construction Engineering &
Management
(2) Real Estate Dev., Construction,
& Finance

Email: al4370@columbia.edu

Content



1. Research Cornerstone
2. Interviews Overview
3. Contracting Review
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6. Fraud Schemes Review



01) RESEARCH CORNERSTONE



Research Cornerstone

“ The Equity in Infrastructure Project (EIP) exists to improve public contracting practices by creating **more opportunities for Historically Underutilized Businesses** (HUBs) to build **generational wealth and reduce the racial wealth gap by creating more prime**, joint venture and equity contracting opportunities for these firms. Through our Pledge, EIP works to secure commitments from public agencies to increase the number, size and scope of contracts going to HUBs by **facilitating access and reducing barriers to compete for business.** ”

- *Equity in Infrastructure Project (EIP, 2021) - ([link](#))*

Founding Agencies



Supporters



Let's Do Better Together

1%

BLACK-OWNED BUSINESS REVENUE

As a share of the revenue generated by white-owned businesses

\$2trillion

SPENT ANNUALLY

By federal, state, and local governments on goods, services and construction, making them key customers for businesses

18%

SHARE OF U.S. BUSINESSES WITH EMPLOYEES

Owned by Black, Hispanic, Asian or Native Americans

9%

SHARE OF ALL FEDERAL SPENDING IN FY2020

Spent on minority-owned small businesses

Main Challenges

1. Procurement / Contracting
2. Access to Capital
3. Certification
4. Support Services (Mentorship)
5. Engagement (Obstacles to start taking action)

Status Quo

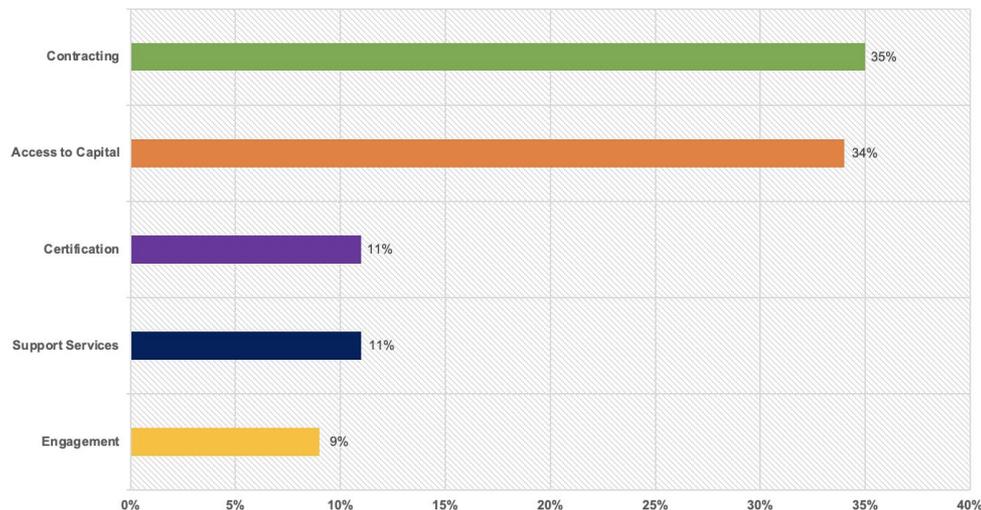
“Total revenue of Black-owned businesses in 2017 was **\$128 Billion** versus **\$11.6 Trillion** for white-owned businesses”

-(EIP MBE HUB Whitepaper, 2021)



Proportion of Revenue between Black-Owned and White-Owned businesses is **1:100**

HUB CHALLENGE AREAS:



Source: AN HISTORIC OPPORTUNITY: Building Wealth for Historically Underutilized Businesses.

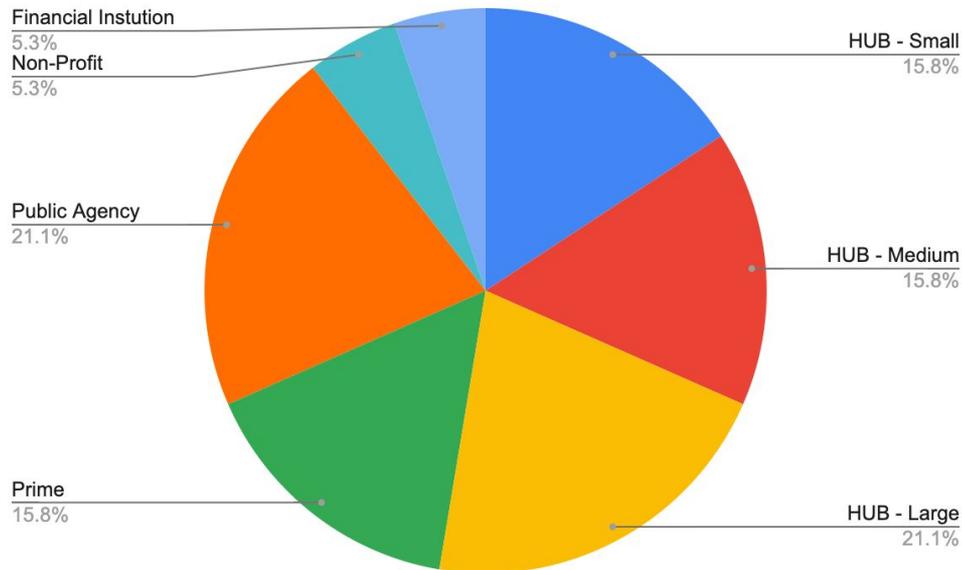
(EIP MBE HUB Whitepaper, 2021)

02) INTERVIEWS OVERVIEW



INTERVIEWS OVERVIEW

We interviewed a total of 18 different organizations including prime contractors, DBE contractors, DBE consultants, as well as banking institutions. In addition we had access to interview several departments of US-DOT that deal with Equity Related Issues.



CBIPS-EIP: Distribution of the Interviews for Spring 2023

INTERVIEWS OVERVIEW

Interview	Name	Company	Position	Type	Discipline
1	Sheila Misheni	Citi Bank	VP	Financial Institution	Banking
2	Athena Ullah	STV	Chief of Staff to the CEO & President	Prime	AEC
3	G. 'Ram' Ramanujam	Somat Engg.	CEO	DBE	Geotech. consultant
4	Nefretiti Harrison	Build America Bureau	Highway & Bridge Transportation Specialist	Federal Agency	Government
5	Jeff Price	US-DOT (Policy Office)	Transportation Specialist	Federal Agency	Government
6	Deborah Bradley	Deborah Bradley Construction and Management Services Inc.	President	MWBE	Contractor
7	Diana Mendes	HNTB	Corporate President, Infrastructure and Mobility Equity	Prime	AEC
8	Elizabeth Velez	Velez Organization	President and Principal	MWBE	AEC
9	Wendell Stemley	NAMC & Black IPO	President	Org & DBE	CM
10	Eric Hirani	Infinite Consulting Corp	President	DBE	Consulting
11	Mekka Bolling	Atmos Solutions	VP Compliance Director	DBE	Contractor
12	Roberto Leon	CSA Group	Senior Vice President	MBE	AEC
13	Samuel Padilla	Padilla Construction	President	MBE	Contractor
14	Richard Gonzalez	Richard Gonzalez Architect PLLC	Principal	DBE	Architecture
15	Leonardo San Roman & Peter Kontakos	US-DOT (OSDBU)	Managers	Federal Agency	Government
16	Marc Pentino & Martha Kenley	US-DOT (DBE Program)	Equal Opportunity Specialist & National DBE program manager	Federal Agency	Government
17	Wayne Lambert	Turner & Townsend	Director of Supplier Diversity	Prime	AEC
18	Albert Odjidja	McKissack & McKissack	Executive Vice President	MWBE	AEC

HUB Interviews



Somat Engineering
INCORPORATED



Prime Company & Financial Institution Interviews



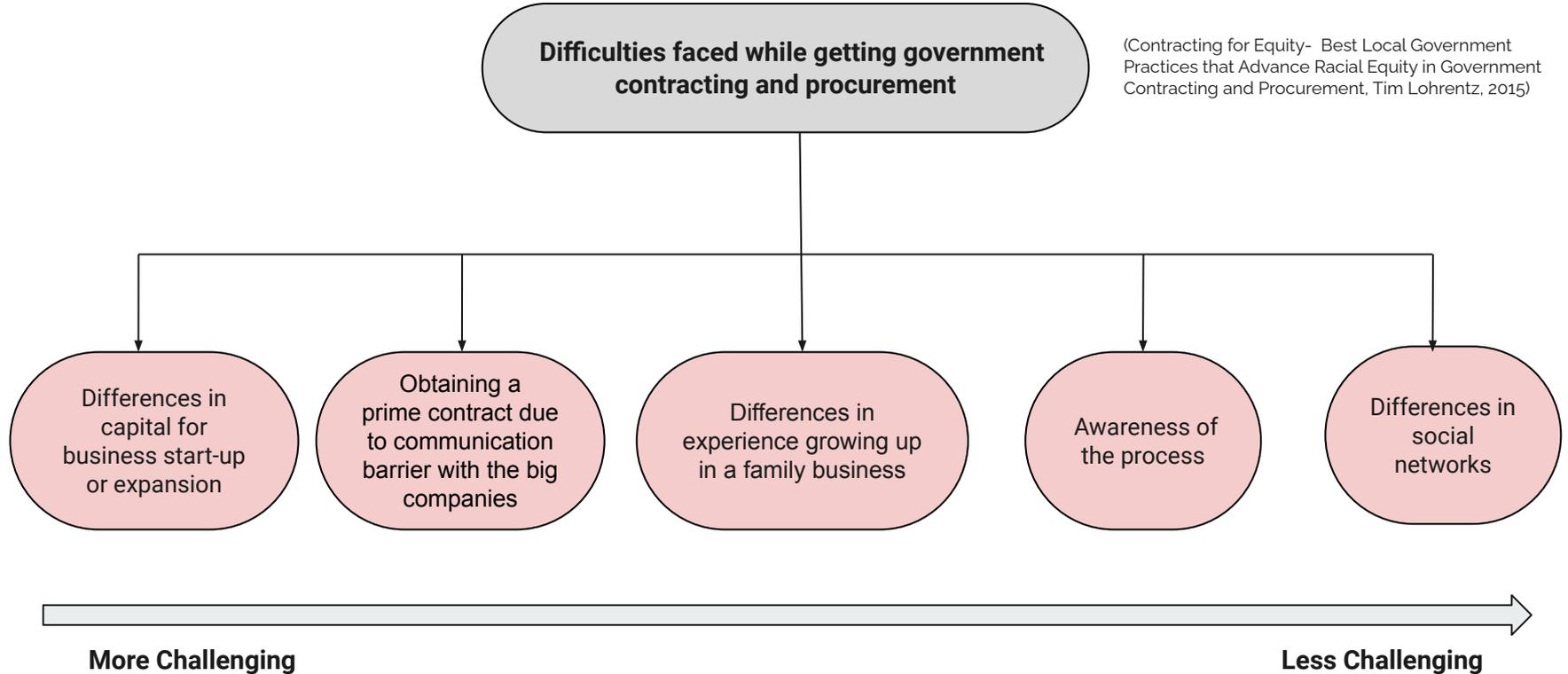
Federal Agency & Non-Profit Interviews



03) CONTRACTING REVIEW

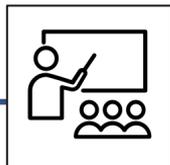


Contracting



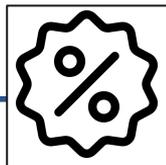
Contracting

Solutions



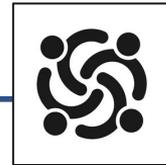
Training

- Organise various individual coaching as well as trainings which focus on bidding and contracting.
- Mentor-Protégé program



Bid-Discounts

- Employ an SBE bid discount policy if the contractors decides to bid on a specific project.



Culture Change

- Implement culture of change strategies to change attitudes and awareness which will lead to changes in habit and behavior.

Contracting - New Explorations



Qualified Firms -

Finding firms which are certified and specialize in a particular discipline



Lack of Awareness

Limited accessibility to upcoming projects and resources.



Capacity -

Do they have the capacity to allocate their resources?



Complacency

Certification is not a guarantee of success or a steady stream of contracts



Compliance -

Non compliance of State DOTs towards the DBE goals and obligations



Limited Selection -

Due to established relationships, the contracts go to known subs.

Recommendations



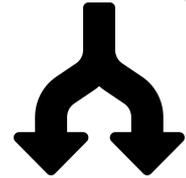
Mentor protégé programs provide mutual benefit for both the mentor and the protégé.



Penalties must be charged if the prime contractors do not comply with the Federal DBE participation goals



Analysis of strengths of the winning proposal and understanding where your proposal fell short.



Segregate the SBE and DBE subcontractor participation goals while awarding a contract.

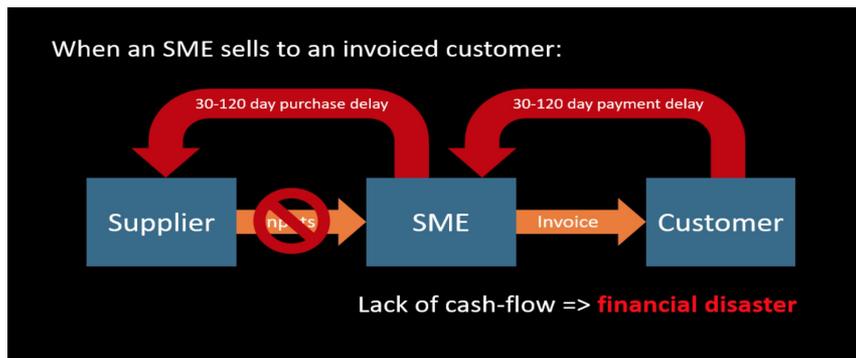
04) ACCESS TO CAPITAL REVIEW



Biggest Challenges (Literature Review)

Challenge 1 : Lags in cash flow

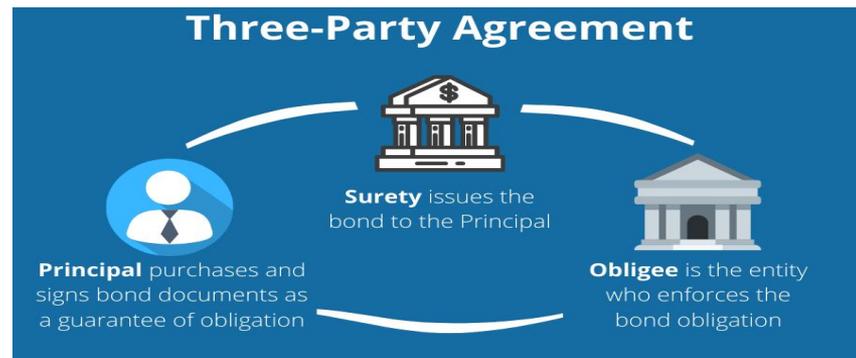
Businesses who aren't eligible for a traditional bank loan won't have the capital they need to initiate a project, and they are less likely to take on jobs that would help them grow.



(Payson Johnston, The Supply-Chain Finance Problem, May 2018)

Challenge 2 : Surety Bonds

Any Federal construction contract valued at **\$150,000** or more requires a surety bond when bidding or as a condition of contract award . Most State and municipal governments as well as private entities have similar requirements .



(Surety Bond Insider, July 2022)

Recommended Solutions (Literature Review)

Solution 1 : Non-Traditional Lending

- Contractors can partner with nonprofit lenders who offer short-term working capital loans with 90-day terms (or less).
- These types of arrangements substantially mitigate risks for both the lender and the surety company .

Solution 2 : Surety Bond Resources



- The U .S . Small Business Administration (SBA) offers guarantees for surety bonds, with underwriting criteria that are more accessible than those for the general marketplace.

Access to Capital - New Explorations

- Lack of awareness about zero collateral loans (Goldman Sach)
- Primes often lower sub's rates to lower their bid.
- Financial Institutions can't carry percentage completion debt on their books and hence don't lend to sub contractors.
- No financial institution is above or parallel to the federal government. (Auditing regulations)
- Quality higher education plays a huge role in understanding financing opportunities.
- Public agencies that provide training to DBEs, often only focus on the navigation aspect of the procurement process.
- Complacency is a huge reason why DBEs face access to capital issues.



Access to Capital - Recommendations

Recommendations:

- Build America Bureau **provides loans** to state and local governments to complete their capital projects **at federal rates**. They have also provided loans to prime contractors at the same rates. A possible policy change is to see the feasibility of **granting these same loans to DBE firms** involved in capital projects.
- Federal and state agencies should set up **bonding education programs**. OSDBU has set a great precedent.
- There should be a policy change regarding **surety bond requirements** for government projects. NYCSCA has set a great example by pushing the **minimum contract value to \$1M**.
- DBEs should **look back** at projects and study what they did right/wrong and invest a major portion of profits **back into the company / company assets** that can be used as **collateral for future LOC**. Equity and liquidity are key.
- DBE owners should actively participate in chapter meetings of organizations like ASCE, CMAA, NAMC, WTS to expand their network and **open doors for future joint ventures**
- Prime contractors can play their part by agreeing to a pay when paid clause in their subcontractor agreement.

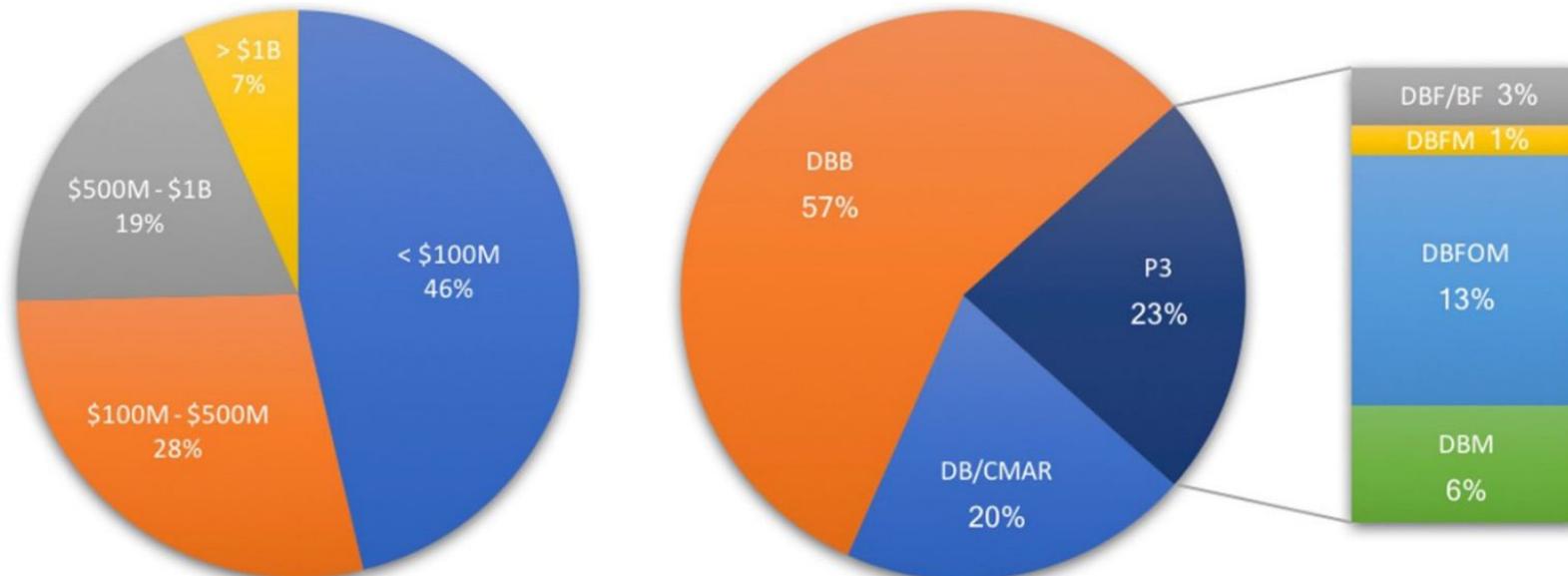
05) DELIVERY METHODS REVIEW



Public-Private Partnership and Social Equity: An Empirical Study of the Disadvantaged Business Enterprise Program

By- Kunqi Zhang and Qingbin Cui (2021)

Project distributions by contract size and delivery method.



Source: Public-Private Partnership and Social Equity: An Empirical Study of the Disadvantaged Business Enterprise Program , Kunqi Zhang and Qingbin Cui, 2021

BF = build-finance; CMAR = construction manager at risk; DB = design-build; DBB = design-bid-build; DBF = design-build-finance; DBFM = design- build-finance-maintain; DBFOM = design-build-finance-operate-maintain; DBM = design-build-maintain; P3 = public-private partnership

Equity Considerations when using: Design Build

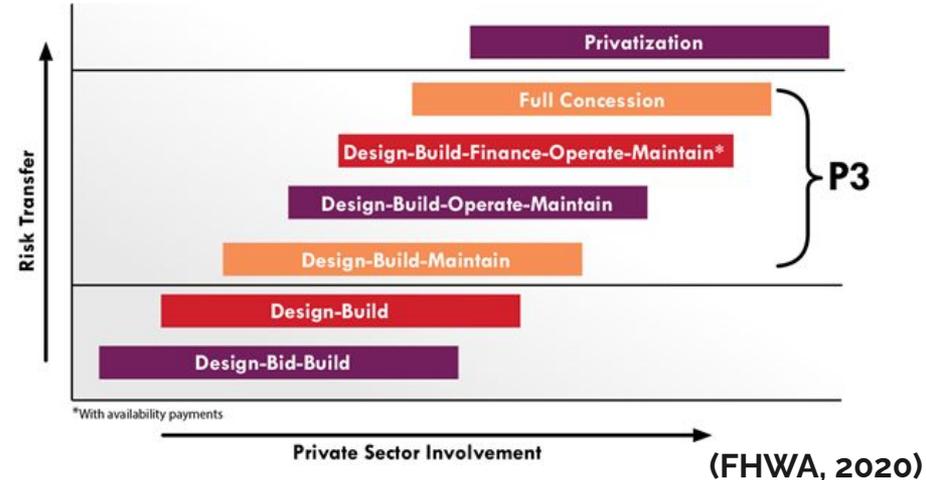
Challenges with DB:

- **DB are lump-sum contracts.**
 - DB is usually the **more convenient** delivery method since it **commences earlier**; otherwise, the design and funding stage may require a longer duration.
 - **Cost estimation in a DB contract is conceptual**, this is a vulnerability when it comes to contracting DBEs.
 - DB "is a gamble that **not everyone** can afford" (Ram, 2023)

DB projects allocate a great amount of risk to the design consultant. Expectations are not initially 100% clear .

DBE **training** is a **key point** for bolstering **contracting** in the **infrastructure** industry for HUBs.

Solution: Contract **unbundling** and better DBE contract **goal setting**.

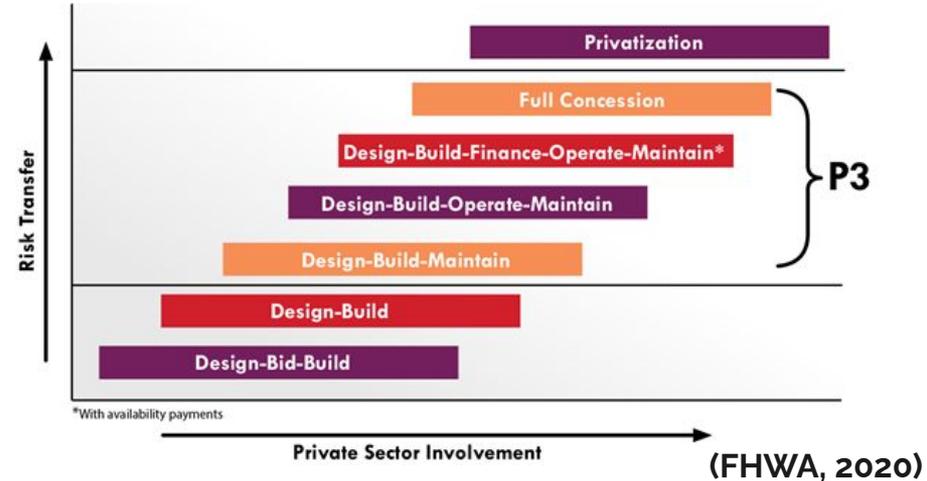
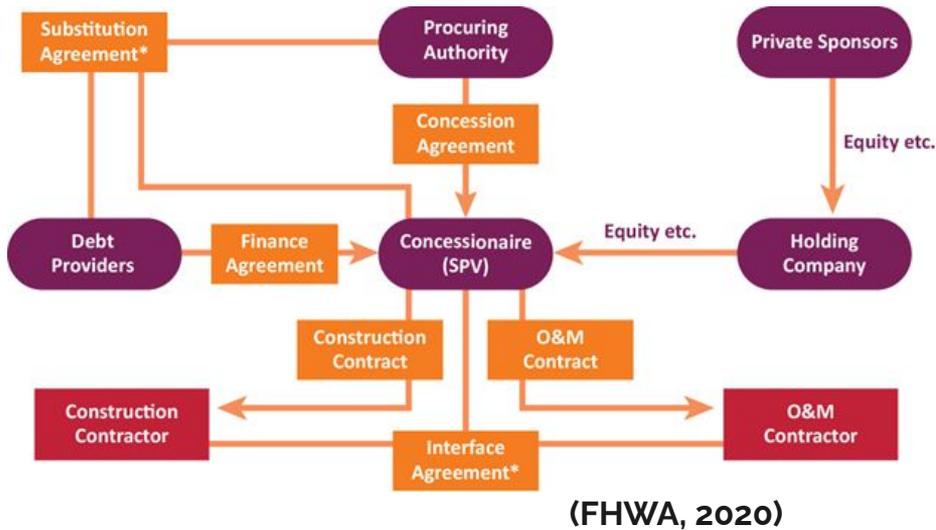


Risk is proportional to level of integration. This also applies to the DBE firms within the P3 space. Example: O&M

“If I were a small company I would stay away from DB”

- Roberto Leon, SVP - CSA Group, ACE Mentor

Equity Considerations when using: P3 Delivery

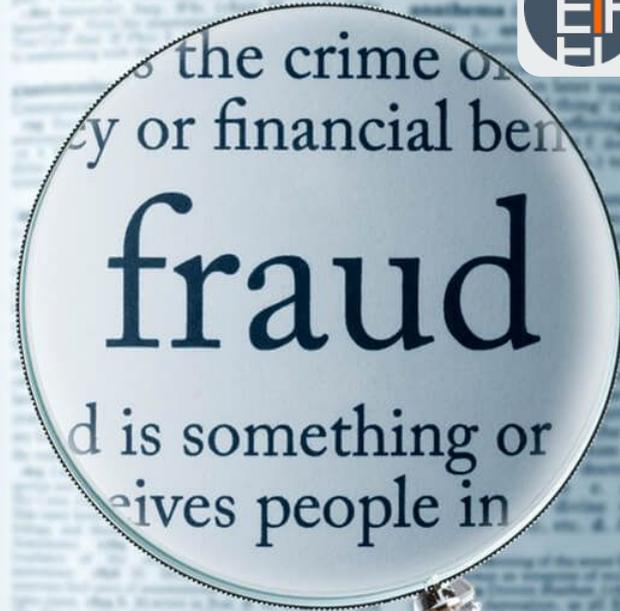


Prime Perspective: “How are we going to be sure that our subs are going to be around in a 20 or 30 year term?”

Risk is proportional to level of integration. This also applies to the DBE firms within the P3 space. Example: O&M

Solution: Contract **unbundling** and better DBE contract **goal setting**.

o6) FRAUD SCHEME OVERVIEW



Investigations related to DBE Fraud

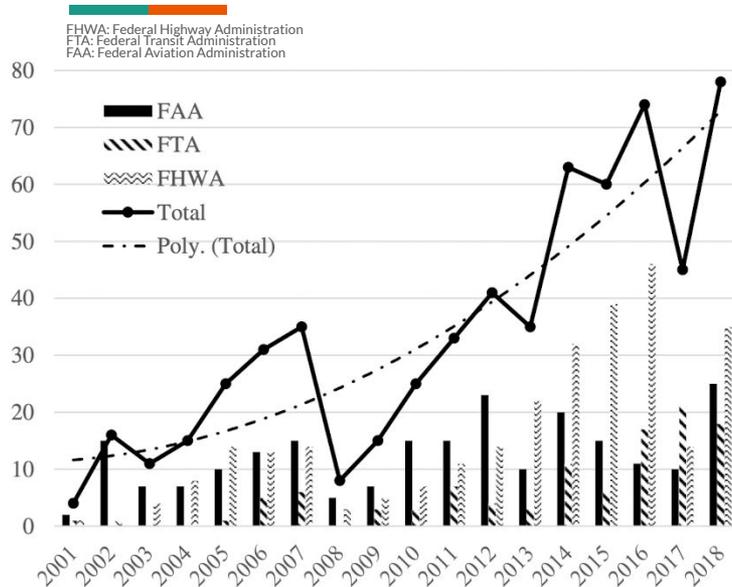


Fig. 4. USDOT OIG’s DBE fraud investigations under FHWA, FTA, and FAA.

Recommendations:

- Create a unified DBE fraud database to run data analytics and bolster prevention and detection.
- Link DBE denial and decertification to OIG investigations.
- Mandatory anti fraud DBE training for HUB and prime contractors.
- Generate AWARENESS of DBE fraud in the industry.
- New policy for stronger punishment.

Graph extracted from: Fraud and Abuse Schemes in the DBE Program (2020). Hongtao Dang, P.E., S.M. ASCE; and Jennifer S. Shane, Ph.D., M.ASCE. Page 5.

(Hongtao Dang and Jennifer S. Shane, 2020).

Recommendations CBIPS Equity in Infrastructure Team

FRAUD PREVENTION

- Fraud investigations have been incrementing in the past years. The case studies analyzed lead to the conclusion that it is because there is a lack of a cross national standard when it comes to certifying DBEs.
- Every State DOT in the US has its own standards and procedures, as well as other transportation agencies, when it comes to certifying DBEs. This lack of centralization generates trust conflicts between the different agencies procedures and might bolster frauds.
- Fraud awareness training should be implemented for agencies, prime contractors, and DBE companies.

- The decentralization of DBE certification also implies a decentralization in DBE fraud prevention. DBE fraud databases should be shared and unified to flag out DBE companies that are being investigated or that have been guilty of fraud. This information is not often shared between agencies and states.
- The ideal scenario will be to have a nationwide DBE certification protocol. Today, this is far from being the case, but a good intermediate step towards the future is to push for policy that incentives a unique DBE certification system per STATE that is not only valid for public infrastructure AEC projects but also for private ones as well.





Thank you



References

- An Historic Opportunity: Building Wealth for Historically Underutilized Businesses. (2021). Nowak Metro Finance Lab. Retrieved on Sep 08, 2022, from: <https://drexel.edu/nowak-lab/publications/reports/Building%20Wealth%20for%20Historically%20Underutilized%20Businesses/>
- Amekudzi-Kennedy, A. (2016, April 1). Effective utilization of disadvantaged business enterprises (DBE) in alternative delivery projects: strategies and resources to support the achievement of DBE goals : Georgia DOT research project 14-42 : final report. <https://rosap.nhl.bts.gov/view/dot/31120>
- Fraud and Abuse Schemes in the DBE Program (2020). Hongtao Dang, P.E., S.M. ASCE; and Jennifer S. Shane, Ph.D., M.ASCE.
- Strategies and Resources for Government Agencies to Utilize Disadvantaged Business Enterprises in Transportation Design-Build Projects.(2019). Ashuri, Amekudzi-Kennedy, Amoaning-Yankson, Liang, and Cao. Retrieved on Oct 31, 2022 from:<https://ascelibrary.org/doi/epdf/10.1061/%28ASCE%29LA.1943-4170.0000317>
- Contracting for Equity Best Local Government Practices that Advance Racial Equity in Government Contracting and Procurement. (2015) Tim Lohrentz, Insight Center for Community Economic Development. https://belonging.berkeley.edu/sites/default/files/gare-contract_for_equity_0.pdf
- Minority-Owned Enterprises and Access to Capital from Community Development Financial Institutions, (2021) By Mels G. de Zeeuw, Victor E. da Motta, <https://www.frbsf.org/community-development/publications/community-development-investment-review/2021/may/minority-own-ed-enterprises-and-access-to-capital-from-community-development-financial-institutions/>
- Opportunities to Increase Inclusion of Small Businesses in Government Contracting (2016), U.S. Department of Housing and Urban Development (Small Contractors Initiative: Bonding & Access to Capital)
- Approaches to applying DBE goals to CONSTRUCTION MANAGER AT RISK AND CONSTRUCTION MANAGER/GENERAL CONTRACTOR METHODS : NHCRP Synthesis 481 (2015). From : <https://nap.nationalacademies.org/read/22112/chapter/6>

APPENDIX 1:



Equity in Infrastructure: Final Round of Interviews



Center for
Buildings,
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& Public Space



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Research Team



Siddhi Deshpande

B.Arch Architecture
MS Civil Engineering
Student

Real Estate Dev., Construction, &
Finance

Email: sd3595@columbia.edu



Rajveer Gurbaxani

BE Civil Engineering
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& Finance

Email: rog2115@columbia.edu



Alejandro Lizcano

BS Civil Engineering
MS Civil Engineering
Student

(1) Construction Engineering &
Management
(2) Real Estate Dev., Construction,
& Finance

Email: al4370@columbia.edu

Content

1. Interview: Mekka Bolling - Atmos Solutions Inc.
2. Interview: Eric Hirani - Infinite Consulting Corp
3. Interview: Roberto Leon - CSA Group
4. Interview: Samuel Padilla - Padilla Construction
5. Interview: Richard Gonzalez - Richard Gonzalez Architects PLLC
6. Interview: Velez Organization
7. Interview: USDOT - OSDBU
8. Interview: USDOT - DBE Program
9. Final Phase Discussion



01)
INTERVIEW:
Mekka Bolling -
Atmos Solutions
Inc.



Atmos
Solutions Inc.



Mekka Bolling

- Vice President
- Compliance Director

Interview Highlights - Challenges



Design Build - Has different capacities which can vary from large to small scale.



First establish personal credit and then use it as a foundation to develop the company's credit profile.



Building a good relationship with the agency and completing past projects on time, within budget, and with no risk can greatly influence outcomes.



There need to be various training programs available to assist back offices in managing tasks such as payroll, invoicing, and overall back office operations.



Limited accessibility to upcoming projects and resources. There are instances when resources are only found at the last minute, resulting in missed opportunities.



To improve the chances of winning future project awards, it's crucial to analyze the strengths of the winning proposal and understand the qualifying points evaluated to select the winner.

02) INTERVIEW: Eric Hirani - Infinite Consulting Corp



Eric Hirani

- President
- BS, Civil Engineering - Columbia University
- Diversity and Inclusion Officer - Long Island (YPO)

Interview Highlights - Challenges



The construction industry requires significant capital investment, and payroll is typically issued on a weekly basis. Late payments can result in a carry-over of expenses over time, causing financial strain on the company.



Attending events and conferences with federal agency representatives in different states provides an opportunity to establish face-to-face meetings, build relationships, explore potential collaborations, and get a foot in the door.



One effective strategy for securing public work contracts is to identify and reach out to prime contractors who are likely to bid on the project. Projects are typically advertised on websites, allowing potential contractors to locate and contact the prime contractor.



The Tier 1 Small Business Program at MTA is a program designed to provide opportunities to small businesses to participate in MTA's procurement process and compete for contracts.

03)
INTERVIEW:
CSA Group
Roberto Leon



HIGHLIGHTS

- Main obstacle for MBE is “access to reliable capital” and lag in payments
 - It is key to maintain basic operations
 - Invoicing lag from prime to client
 - Preferred payment from client would be ideal
- When small minority come grow “people go back from where they came” and help their community
 - CSA is committed to help minority owned firms because it is their way to give back to their origins
 - We have had project where we only subcontract (100%) minority owned firms
- Disparity studies are also important because their could also be imbalances within the MBE realm
 - Public policy is all about constant calibration
- Training:
 - Networking - “We are in the people business”
 - Administrative problem and back office



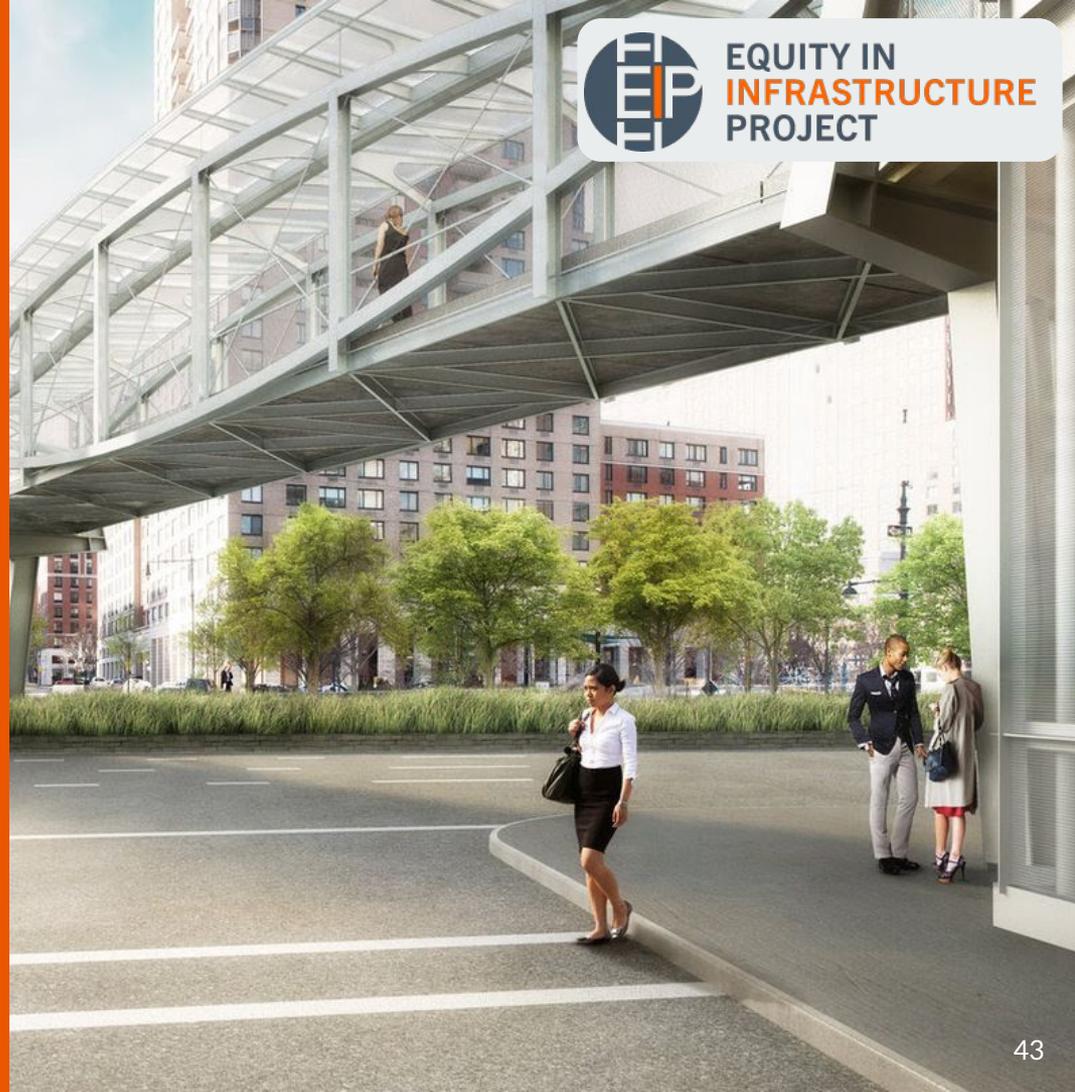
Roberto Leon

Senior Vice President
CSA Group
ACE Mentor

CORPORATE VIEW

- CSA Group is a MBE not a DBE
 - Offices Miami, Panama, New York and Midwest
- They are one of the most notable prime contractors in Puerto Rico
- Joint Ventures are the best way to build a relationship with a prime contractor and the way to get ahead in the game
- DB Projects - Designers bear the greater part of the risk
 - “If I were a small company I would stay away from DB”
- Unbundling is a viable idea and it depends on how homogenous or not the scope of the project is

04) INTERVIEW: Padilla Construction Samuel Padilla



Interview: Padilla Construction

HIGHLIGHTS

- “In infrastructure DBEs are just put to fulfill requirements” (or to network)
 - Companies do what they are required to do
- Trainings needed in the DBE space:
 - Knowing the Agency and Requirements
 - Estimating
 - Back Office (accounting)
 - Corporate Structure
- Project Managers within a prime contractor care about their project, it is their job.
 - Best way for a DBE to stand out: Performance Portfolio and Following Up
- Unbundling contracts creates opportunities
- “There was and still is social injustice, some people were born into injustice”



Samuel Padilla

President
Padilla Construction

BUSINESS VIEW

- “CASH IS KING!”
 - Financial equity is the main obstacle
 - DBEs need to show they have “skin in the game”.
- Networking Dynamics - Private vs. Public
 - Private Sector: Conventional Networking
 - Public Sector: Specific to each agency and through events
- Recognition is important because “you do business with the people you know”.

05)
INTERVIEW:
Richard Gonzalez
Architects PLLC
Richard Gonzalez



Interview: Richard Gonzalez

HIGHLIGHTS

- Mentorship and training are key to grow a company
 - Invoicing, business structure, backend, and networking opportunities
- Personal relationship with PM within a prime is key to get new work as a subconsultant
- Mentorship program based on metrics
- Training: management and procurement (how to get the work), and back office
- He has not reached out to non profit organizations and associations - Lack of awareness
- When it comes to access to capital, for small minority owned businesses the main obstacle is the lack of collateral.
- When it comes to working with the government in a way “you become your own financing institution”
- Guaranteeing to stay in the market is important

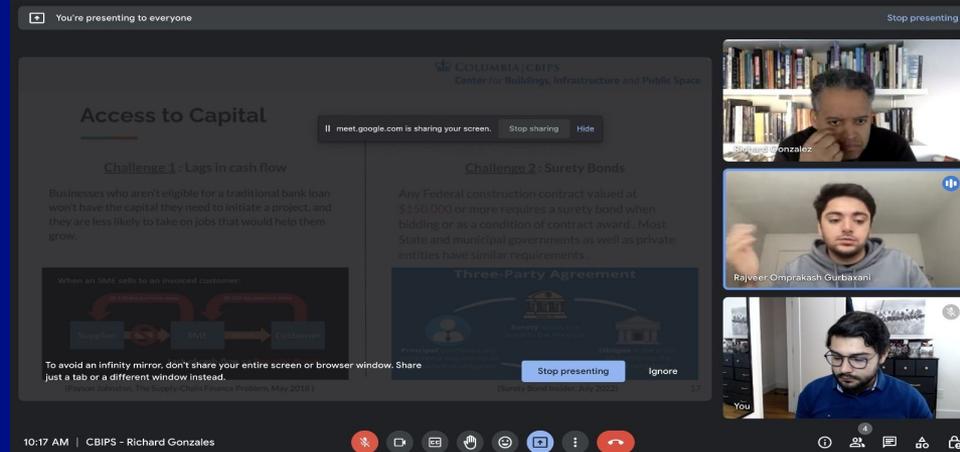


Richard Gonzalez **Architect** PLLC

Richard Gonzalez

Principal

Richard Gonzalez Architect PLLC



The screenshot shows a Google Meet interface with a presentation slide titled "Access to Capital" from the Columbia CBIPS Center for Buildings, Infrastructure and Public Space. The slide is divided into two columns, each with a challenge and a diagram. The left column is titled "Challenge 1 - Lags in cash flow" and discusses capital requirements for small businesses. The right column is titled "Challenge 2 - Surety Bonds" and discusses requirements for federal construction contracts. Below the text are two diagrams: "Three-Party Agreement" and "Three-Party Agreement" (repeated). The bottom of the slide contains a note about screen sharing and a "Stop presenting" button. The Meet interface includes a top bar with "You're presenting to everyone" and "Stop presenting" buttons, a right-hand sidebar with three video thumbnails (Richard Gonzalez, Rajveer Omprakash Gurbakani, and You), and a bottom toolbar with various meeting controls.

10:17 AM | CBIPS - Richard Gonzales

06) INTERVIEW : Velez Organization (DBE Success story)

VELEZ
ORGANIZATION

- Founded - 1972 by Andrew Velez
- Discipline - Construction & Construction Management



Elizabeth Velez
President & Principal,
Velez Organization

HIGHLIGHTS

- DBEs often struggle because of lack of quality higher education.
- Velez runs a Mentor program for NYC School Construction Authority (NYCSCA)
- DBEs don't look back at projects to assess if they achieved their goals.
- SCA doesn't require you to issue surety bonds under \$1M.
- SBA surety bond and working capital resources is the reason for Velez's success.
- Been around for 50 years, doesn't face issues approaching primes. (Knows the owners directly)
- Successful DBEs play the biggest role in equity in infrastructure.




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Contracting

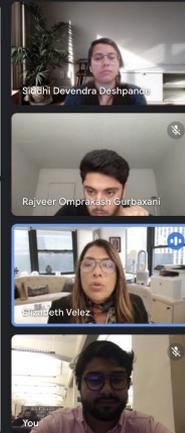
Difficulties faced while getting government contracting and procurement

(Contracting for Equity - Best Local Government Practices that Advance Racial Equity in Government Contracting and Procurement, Tim Lohrentz, 2019)

Differences in capital for business start-up or expansion
 Obtaining a prime contract due to communication barrier with the big companies
 Differences in experience growing up in a family business
 Awareness of the process
 Differences in social networks

More Challenging Less Challenging

12



07) INTERVIEW : US DOT Office of Small and Disadvantaged Business Utilization (OSDBU)



Peter Kontakos

Regional Assistance Division
Manager,
Office of Small and Disadvantaged
Business Utilization (OSDBU)



Leonardo San Roman

Procurement Assistance Division
Manager,
Office of Small and Disadvantaged
Business Utilization (OSDBU)



HIGHLIGHTS

- OSDBU has set up Bonding Education Program.
- OSDBU also offers technical and business management training to DBEs. As compared to Mentor Protege programs, this program has no legal obligations.
- As a DBE firm, you should seek training offered by both public agencies and prime contractors.
- No penalties and waivers for non compliance with DBE goals is a huge problem.
- Policy suggestion: National reciprocity of DBE information.
- Unbundling projects is not a black and white issue. It depends on the DBE whether they

U.S. Department of Health and Human Services

OSDBU

OFFICE OF SMALL AND DISADVANTAGED BUSINESS UTILIZATION



08) INTERVIEW : US DOT - DBE Program



Martha Kenley
National DBE Program Manager,
Federal Highway Administration



Marc Pentino
Lead Equal Opportunity Specialist,
U.S. Department of Transportation



HIGHLIGHTS

- 'Access to capital' and 'Contracting' are very broad issues to look into when trying to solve the DBE issue.
- Non compliance is an issue but it is by no means a fundamental one. State Compliance Reviews will improve things.
- Complacency is a huge challenge once DBEs receive their certifications.
- Mentor protege programs do not offer enough incentive/return for bigger companies.
- Primes are bound to be hesitant to hire new DBEs.
- Every state thinks that they do a better job with giving out DBE certifications. Reciprocity is essential.
- Rising concerns of Social disadvantage



08)

Final Phase

Final Phase

- With the literature review we have done in the first part of the research with the extensive field interviews, there is enough material to build a document with recommendations, good practices, and possible policy changes.
- Future Research Topics:
 - Survey + Focus Groups
 - Additional research topics
 - Certifications
 - Support Systems
 - Engagement
 - Unbundling of Contracts
- EIP Pledge Metrics

APPENDIX 2:



Equity in Infrastructure: Round of Interviews



Center for
Buildings,
Infrastructure
& Public Space



EQUITY IN
INFRASTRUCTURE
PROJECT

Research Team



Siddhi Deshpande

B.Arch Architecture
MS Civil Engineering
Student

Real Estate Dev., Construction, &
Finance

Email: sd3595@columbia.edu



Rajveer Gurbaxani

BE Civil Engineering
MS Civil Engineering
Student

(1) Construction Engineering &
Management
(2) Real Estate Dev., Construction,
& Finance

Email: rog2115@columbia.edu



Alejandro Lizcano

BS Civil Engineering
MS Civil Engineering
Student

(1) Construction Engineering &
Management
(2) Real Estate Dev., Construction,
& Finance

Email: al4370@columbia.edu

Content



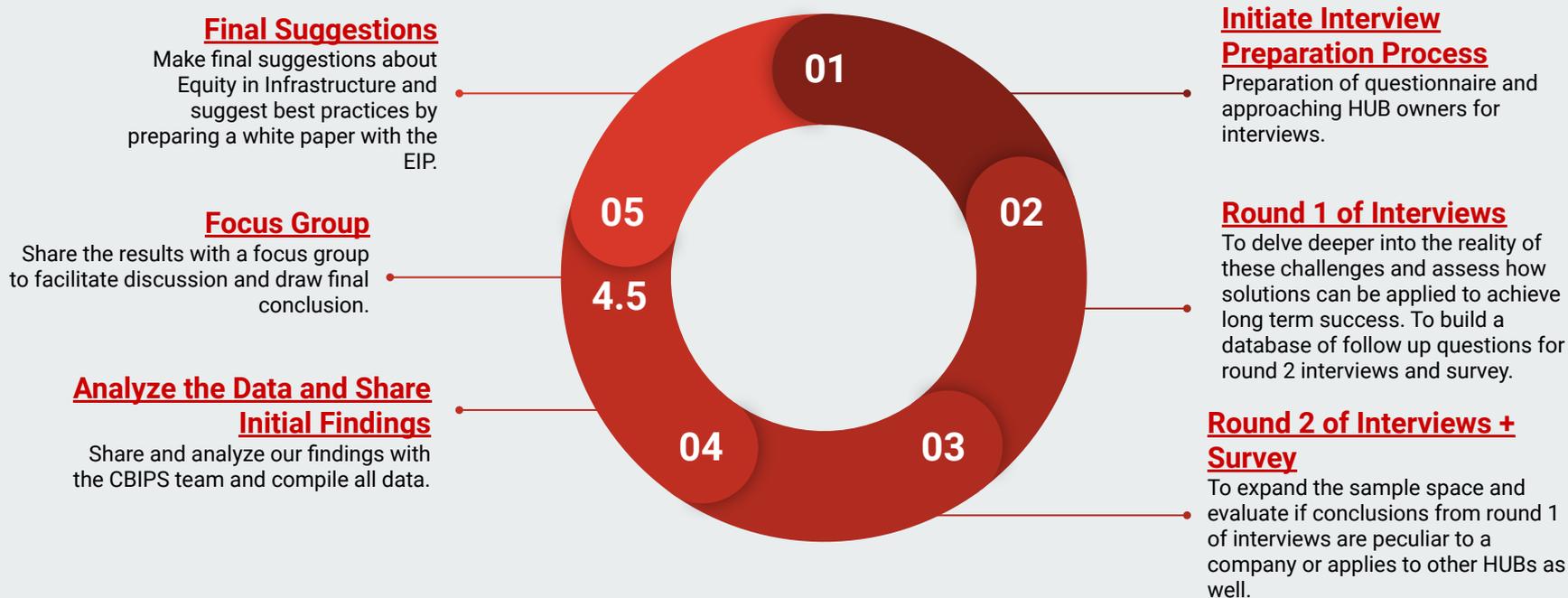
1. Research Cycle
2. Interview: DBC
3. Interview: HNTB
4. Interview: Black IPO and NAMC
5. Interview: Upcoming Agenda



01) Research Cycle



RESEARCH CYCLE



02) INTERVIEW: Deborah Bradley Construction and Management Services Inc.

DBC

General Contractors ■ Construction Managers



Deborah Bradley

- President and Founder
- MBA from Columbia University
- NYC Building Congress Member

Interview Highlights - Challenges



The union can be pressuring and unhelpful, leaving MWBE's without any support.



Some companies may establish their daughters' names for DBE/MWBE certifications, but it is the father who handles the project operations



When a design build project is in its final phase, a firm may face the possibility of being dropped out of consideration



Occasionally, developers and larger associations may not be able to follow through on commitments made at the outset of a project



Non-profit organizations offer valuable programs and assistance to address various challenges, but they may not be able to provide financial support or aid in dealing with larger corporations.



Returning to business after the COVID-19 pandemic and recession may require implementing new technological requirements and re-evaluating your strategy

03)
INTERVIEW:
HNTB
Diana Mendes



Interview: HNTB

HIGHLIGHTS

- DBE Program mindset and framing issue.
- Lags in Payment Issue
 - 'Pay when paid' contract clause
 - Less than 10 day payment lag
- HNTB: Main private partner of EIP
 - The Partners Program
 - 1 Year Program
 - Specialized business training
 - Requires leadership commitment on resources
 - Priority consideration
- EIP - Metrics Chapter
 - DBE Participation dashboard
 - Contractual goal, commitments, track type of work outsourced, & offices performance.



HNTB

Diana Mendes

Corporate President, Infrastructure and
Mobility Equity - HNTB
Advisory Board Member - EIP

CORPORATE VIEW

- DBEs play for different teams at the same time. Exclusivity is key to a trusting and start of real partnership with DBEs.
- DBEs main obstacle from the corporate perspective:
 - (1) Brand Recognition and Networking
 - (2) Staff turnover of key personnel
 - (3) Lack of business and management skills
- Democrats vs. Republican States (and Midwestern Values)
 - Dallas, TEXAS example. From DBE sub to prime.

04) INTERVIEW : National Association of Minority Contractors & Black IPO



Are we asking the right questions?

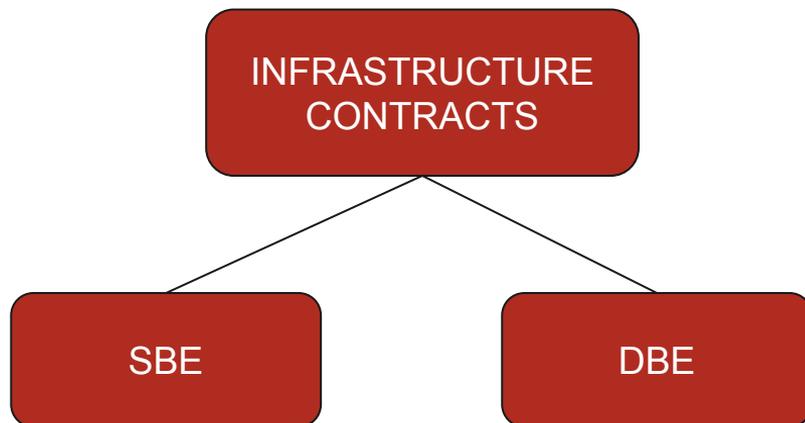
- The biggest problem **is not** contracting or access to capital. It is the **non compliance** of State DOTs with the DBE goals and obligations. (This is the case in over 50% of the states)
- Example: Nevada has **never met their DBE obligation** to the Federal government. Hispanic women owned companies received **\$0 out of \$700M** worth of contracts awarded to women owned businesses.
- Reason: No punishment, Waivers.



Mr. Wendell Stemley
NAMC (National President)
Black IPO Inc. (President & CEO)

Interview Highlights : Contracting

1. Small companies **love big projects**. Gives them a **better chance of participation**. Small projects don't facilitate growth.
2. If the corporation sets its sights on achieving a DBE compliance goal, the **PM's preference would be secondary**.
3. DBE certification **does not generate work**. They won't be separately informed about projects. However, (refer diagram)



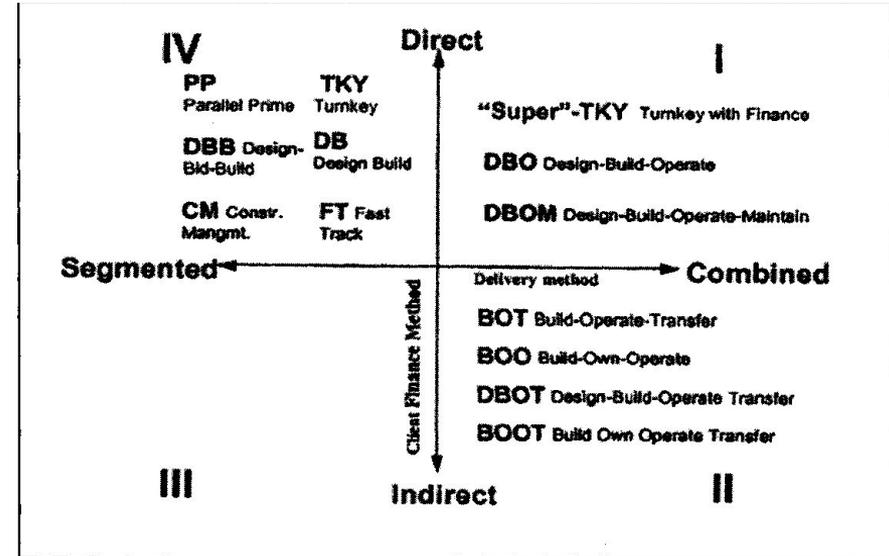
Interview Highlights : Access To Capital

1. Financial institutions can't carry **percentage of completion debt** on their books.
2. This prohibits them from loaning money to sub-contractors.
3. **No financial institution is above the federal government.** (Auditing regulations)



Interview Highlights : Delivery Methods

1. Companies even **fail to prequalify** to submit a design proposal for DB projects.
2. Even if they do, it is difficult for them to come up with an accurate cost estimate as they do not have enough experience.
3. DBE goals should be applied even in the proposal phase.



Source: Miller (2000), Case Studies In Infrastructure Delivery

05) Upcoming Interviews

Upcoming Interviews:

- Atmos Solutions - Mekka Bolling
- CSA Group - Roberto Leon
- JPCL - Hasma Hashimi
- US DOT - Leonardo San Roman
- Infinite - Eric Harini
- Velez Org - Elizabeth Velez
- Turner & Townsend - Wayne Lambert
- Padilla Construction Services - Samuel Padilla
- Keybanc - Thomas Mulvihill-
- Richard Gonzales Architect - Richard
- Sabir Richardson and Weisberg Engineering and Architecture - Richard Franklin

APPENDIX 3:



Equity in Infrastructure: Round 1 of Interviews

February 16, 2022



Center for
Buildings,
Infrastructure
& Public Space



EQUITY IN
INFRASTRUCTURE
PROJECT

Research Team



Siddhi Deshpande

B.Arch Architecture
MS Civil Engineering
Student

Real Estate Dev., Construction, &
Finance

Email: sd3595@columbia.edu



Rajveer Gurbaxani

BE Civil Engineering
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Email: al4370@columbia.edu

Content

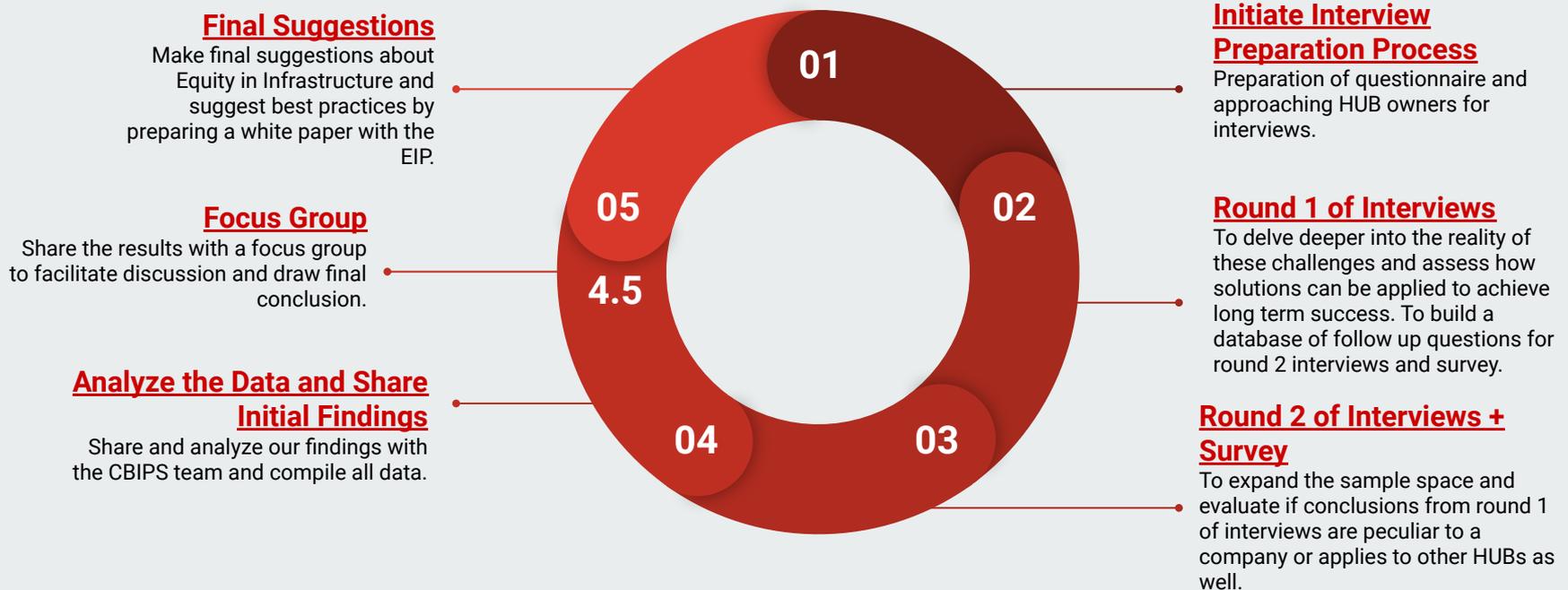
1. Research Cycle
2. Interview: CitiBank
3. Interview: STV Inc
4. Interview: US DOT - Build America Bureau
5. Interview: US DOT - Policy Making
6. Interview: Somat Engineering (DBE)
7. STV Inc. Agile Project Management



01) Research Cycle



RESEARCH CYCLE



02) INTERVIEW : CITI BANK



Interview: CitiBank

Insight from financial institutions - General Observations

Create a Classification System

Classify between different sizes of annual revenue.



Survey About the Current Awareness of Financial Products



Suggested Questions

- Ask for a range of the average operational costs of running their business.
- Range of annual total revenue.
- What financial products are you aware that your bank could offer you?
- Who do you bank with and why?
- Have you considered any other bank?
- Have you ever had any financial consultant or advisor? (DBE Consulting)



Sheila Misheni



- Former CBIPS Fellow
- VP US Personal Banking Analytics

DBE Program Size Standards	
*(Firms must meet both SBA and the DBE Statutory Cap)	
*Affiliation has the same meaning the term has in the Small Business Administration (SBA) regulations ♦.	
SBA Size Measure	DBE Statutory Cap
SBA business size standard(s) found in 13 CFR part 121 appropriate to the type(s) of work the firm seeks to perform in DOT-assisted contracts, including the primary industry classification of the applicant. See 13 CFR part 121.201	Size limit = \$28.48 million

03) INTERVIEW: STV Inc.



Athena Ullah

- STV, New York
- Chief of Staff to the CEO & President
- Client relationship management

Interview Highlights - Challenges



Qualified Firms -

Finding firms which are certified and specialize in a particular discipline



Administrative Burden -

Challenges with cash flows and on-time payments.



Capacity -

Do they have the capacity to allocate their resources?



Adjusting the rates -

Sometimes sub's rates are lowered in order to go for a lower bidder.



Capabilities -

Most of the firms can operate locally.
Difficulty to move to a different area.



Limited Selection -

Due to established relationships, the contracts go to known subs.

Interview Highlights - Challenges

The screenshot shows a Google Meet window with a presentation slide. The slide is titled "Next Steps" and "DESIGNING THE CENTRALIZED EIP DASHBOARD". It features a flow diagram with "Inputs" on the left and "Outputs" on the right. The inputs are listed as:

1. Certification (s)
2. Location
3. NAICS Codes
4. Industry Type
5. Sub vs. Prime
6. Contracted Values

The outputs are represented by three numbered questions:

1. How will the dashboard be utilized amongst the Deputies?
2. What are the desired outputs of the dashboard?
3. How do we measure success? (e.g. the transition of HUBS from subcontractors to primes/jy/equity partners?)

The presentation is being shared from a Microsoft PowerPoint application. The Meet interface shows a sidebar with other participants: Siddhi Devendra Deshpande, Alejandro Lizcano, Athena Ullah, and You. The bottom status bar indicates the time is 3:07 PM and the location is Columbia University - Equity In Infrastructure.

04) INTERVIEW: BUILD AMERICA BUREAU



Nefretiti Harrison

- Washington DC
- Highway & Bridge Transportation Specialist
- Infrastructure and financing programs

Introduction

Build America Bureau

- Provides technical assistance and encouraging innovative best practices in project planning, financing, delivery, and monitoring.
- Streamlines credit opportunities.
- Provides access to grants
- Long-term, low interest, fixed-rate loans.

Working with the Build America Bureau



INITIAL ENGAGEMENT
Pre-planning exchanged on programs.



PROJECT DEVELOPMENT
Project & sponsor eligibility for financial assistance.



CREDITWORTHINESS
Finance reviewed and underwriting conducted.



PROJECT DELIVERY
Construction occurs, project begins operations.

Build America Funding By the Numbers

\$10 Million

for 10 Regional Infrastructure Accelerator Grants

\$16.9 Billion

In Private Activity Bonds have been issued

\$7.5 Billion

In Railroad Rehabilitation & Improvement Financing

\$38.7 Billion

Awarded in TIFIA Assistance

Project Development



ROADS



AIRPORTS



RAIL



TRANSIT



PORTS

Interview Highlights

1

Merely formulating policies is insufficient; we need to guarantee that **equitable conduct** is being implemented.

2

Design Build is usually the more convenient delivery method since it commences earlier; otherwise, the design and funding stage may require a longer duration.

3

Frequent conferences on the process are organized, but numerous individuals fail to attend due to a lack of awareness regarding the opportunity.

4

NYC DOT Navigator tool is a new tool to help communities apply for grants and plan and deliver infrastructure projects and services.

5

Smaller firms can make use of **joint ventures** with a larger partner for their capital needs.

6

State DOTs and agencies are willing to provide assistance, but due to limited outreach and people's reluctance, they are not able to offer their services to those in need.

05)
INTERVIEW:
US DOT
OFFICE OF
POLICY COORD.
AND DEV.



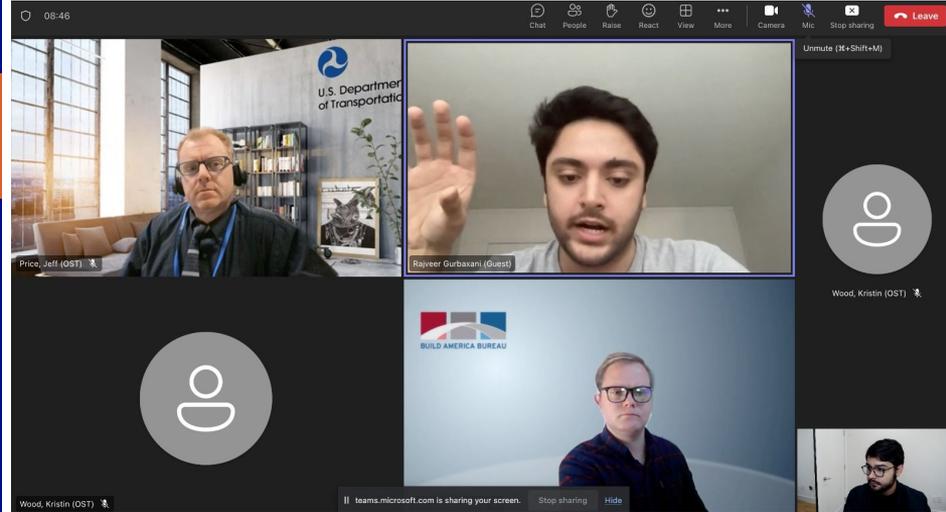
US DOT - POLICY

HIGHLIGHTS

- US DOT considers the DBE program a priority.
- Main challenge they have identified is the lack of understanding and over complicated process to become certified.
- They have also identified that an obstacle DBEs find is in seeking the work opportunities.

UPCOMING INTERVIEWS

- Leonardo San Roman - Manager, Procurement Assistance Division Office of Small and Disadvantaged Business Utilization |Office of the Secretary of Transportation
- Peter Kontakos - Manager, Regional Assistance Division Office of Small and Disadvantaged Business Utilization, Office of the Secretary of Transportation



FRANCIS KROL

- US DOT - BUILD AMERICA BUREAU
 - ASSOCIATE - Credit Underwriter

KRISTIN WOOD

- US DOT - BUILD AMERICA BUREAU
 - Transportation Specialist

JEFF PRICE

- US DOT - OFFICE OF POLICY COORDINATION AND DEV.
 - Transportation Specialist

o6) INTERVIEW: SOMAT ENGINEERING (DBE)



About Somat Engineering

- Founded : January 1986
- Founder : Mr. Ramji Patel
- **President and CEO : G. "Ram" Ramanujam**
- Discipline : Geotech. Consultant firm
- Region : Michigan, Ohio, Maryland
- DBE/SBE/MBE certifications : Michigan, Ohio, Maryland, and Virginia, and the cities of Detroit, Cleveland, Baltimore, and Washington, District of Columbia.



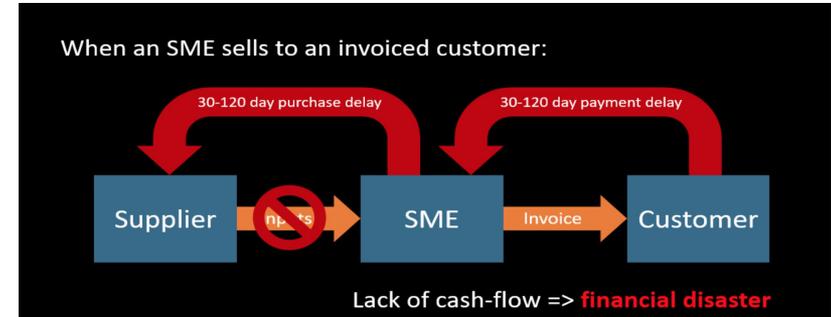
Interview Highlights : Contracting

1. The main challenge with approaching a prime is developing **relationships** with the PM.
2. The company works in black dominated region of the country, and has come across a lot of organisations that help DBEs. (COMTO, WTS, NAMC)
3. Training Requirements :
 - a. DBEs need is to understand that DBE programs are **just a doorway**.
 - b. How do DBEs clear **prequalification**?

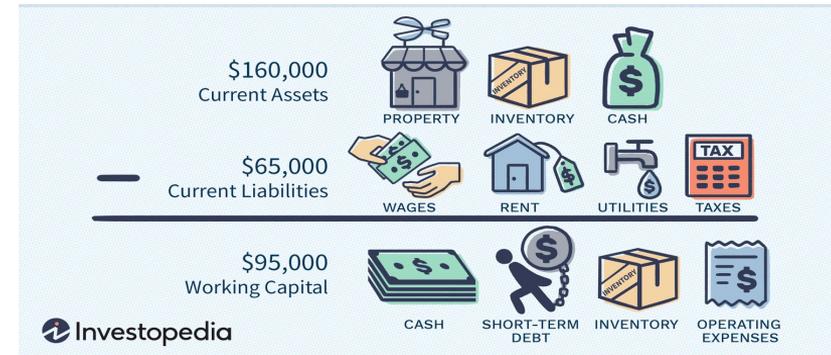


Interview Highlights : Access To Capital

1. The company initially used credit cards to meet payroll and the founder and CEO use **personal assets as collateral** for line of credit.
2. **Not enough awareness** about non-traditional lending.
3. Goldman Sachs gives unsecured loans (without collateral) but the amounts **are not enough** for DBEs trying to become primes.
4. As they are a consultant firm, **access to working capital** is a much bigger issue than project initiation funding



(Payson Johnston, The Supply-Chain Finance Problem, May 2018)

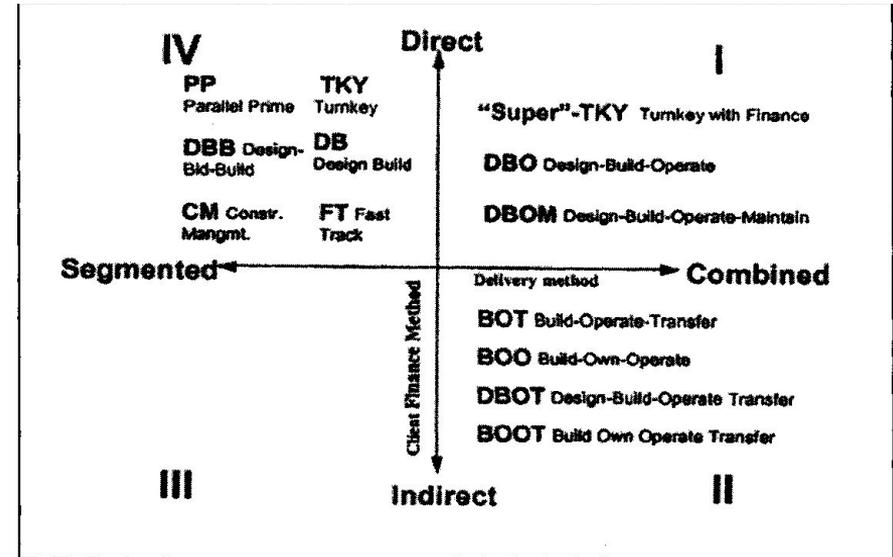


(Investopedia, Working Capital: Formula, Components, and Limitations, Jun 2022)

Interview Highlights : Delivery Methods

1. When DBEs are involved in DB projects, they work on proposals. **The cost for this work is barely covered by the stipend.**
2. The biggest risk in a DB project is that DBEs are hired at a fixed price. **Cost estimations is crucial.**
3. State of Michigan sold \$1.5B worth of bonds before covid.

No federal funding = No federal DBE program



Source: Miller (2000), Case Studies In Infrastructure Delivery

07) STV Inc. AGILE PROJECT MANAGEMENT

Question to solve:

Why do companies outsource?



APPENDIX 4:



Equity in Infrastructure: Final Presentation Fall 2022

December 23, 2022



EQUITY IN
INFRASTRUCTURE
PROJECT



COLUMBIA | CBIPS

Center for Buildings, Infrastructure and Public Space

Research Team



Siddhi Deshpande

B.Arch Architecture
MS Civil Engineering
Student

Real Estate Dev., Construction, &
Finance

Email: sd3595@columbia.edu



Rajveer Gurbaxani

BE Civil Engineering
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Email: rog2115@columbia.edu



Alejandro Lizcano

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Management

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& Finance

Email: al4370@columbia.edu

Content



1. Research Overview
2. Contracting Review
3. Access to Capital Review
4. DBEs and Non-Traditional Project Delivery Methods
5. DBE fraud Schemes
6. Next Research Steps



01) RESEARCH CORNERSTONE



Research Cornerstone

“ The Equity in Infrastructure Project (EIP) exists to improve public contracting practices by creating **more opportunities for Historically Underutilized Businesses** (HUBs) to build **generational wealth and reduce the racial wealth gap by creating more prime**, joint venture and equity contracting opportunities for these firms. Through our Pledge, EIP works to secure commitments from public agencies to increase the number, size and scope of contracts going to HUBs by **facilitating access and reducing barriers to compete for business.** ”

- *Equity in Infrastructure Project (EIP, 2021) - ([link](#))*

Founding Agencies



Supporters



Let's Do Better Together

1%

BLACK-OWNED BUSINESS REVENUE

As a share of the revenue generated by white-owned businesses

\$2trillion

SPENT ANNUALLY

By federal, state, and local governments on goods, services and construction, making them key customers for businesses

18%

SHARE OF U.S. BUSINESSES WITH EMPLOYEES

Owned by Black, Hispanic, Asian or Native Americans

9%

SHARE OF ALL FEDERAL SPENDING IN FY2020

Spent on minority-owned small businesses

Main Challenges

1. Procurement / Contracting
2. Access to Capital
3. Certification
4. Support Services (Mentorship)
5. Engagement (Obstacles to start taking action)

Status Quo

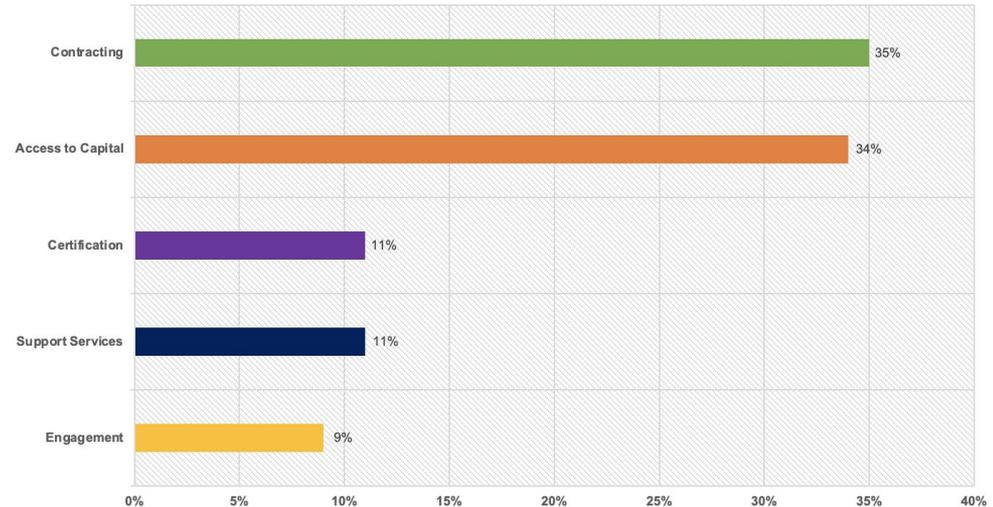
“Total revenue of Black-owned businesses in 2017 was **\$128 Billion** versus **\$11.6 Trillion** for white-owned businesses”

-(EIP MBE HUB Whitepaper, 2021)



Proportion of Revenue between Black-Owned and White-Owned businesses is **1:100**

HUB CHALLENGE AREAS:



Source: AN HISTORIC OPPORTUNITY: Building Wealth for Historically Underutilized Businesses.

(EIP MBE HUB Whitepaper, 2021)

Solutions suggested by the MBE HUB White Paper

- **EIP Reform #1:** Support DBE Project Mobilization → Credit lines and **financial resiliency**
- **EIP Reform #2:** Ensure Small Businesses are Paid Promptly → Liquidity obstacle that affect operations
- **EIP Reform #3:** Unbundle and Direct Contracting → Institutional barrier obstacles
- **EIP Reform #4:** Raise the Personal Net Worth Cap → Current barrier for maintaining DBE status
- **EIP Reform #5:** Unified Supplier Diversity Unit → Marketplace initiative as a mechanism to make DBEs visible in the industry

(EIP MBE HUB Whitepaper, 2021)

Paths: (1) Procedures, (2) Practices, and (3) Programs

General Information

Equity in Infrastructure Team

FOLLOWING SLIDES

- Now that we have discussed the cornerstone of this research project, we should continue with the exploration of the main challenges that this team has researched in a literature review for the following topics:
 - **Contracting and Access to Capital**
 - In addition, two subtopics have been added to this research project since they complement the holistic perspective of the Equity in Infrastructure Project:
 - DBE Fraud Schemes
 - Implications of different Delivery Methods in DBE participation

- The following content in this presentation is a summary of the literature review that the (CBIPS) Equity in Infrastructure Research Team has compiled.
 - At the end of each chapter there will be a slide with brief bullet points that will describe recommendations and best practices based on the research done in the 2022 Fall Semester at Columbia University CBIPS.



02) CONTRACTING REVIEW



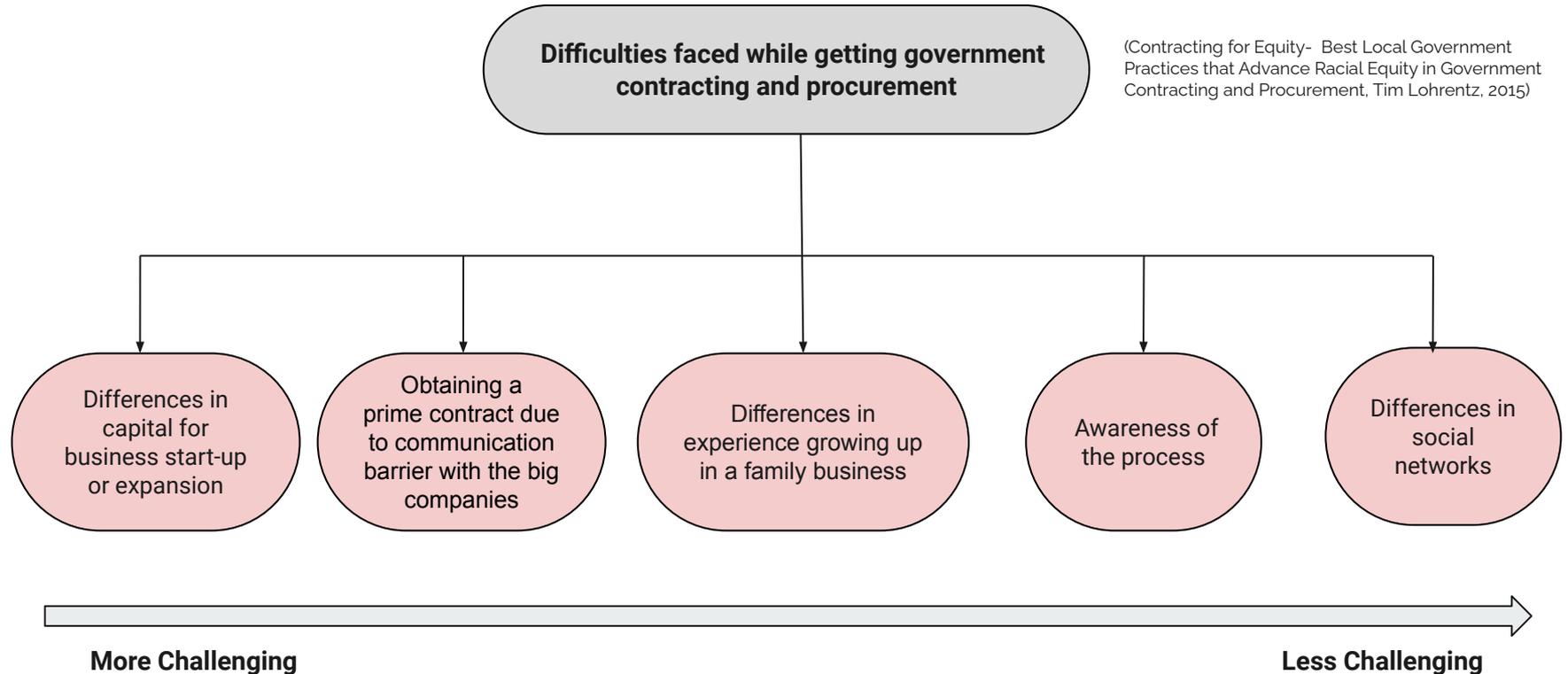
Contracting

Inclusive contracting refers to the process of **creating the environment for businesses owned by people of color and/or , minority groups, women** to participate in a procurement and contracting process.

Inclusive business participation in local government procurement and contracting is **an important source of income and jobs** in communities of color and helps to **strengthen community and business partnerships.**

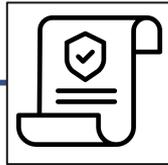


Contracting



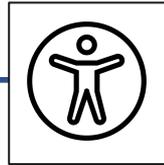
Contracting

Solutions



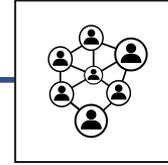
Policy

- Establishing an overall policy that advances equity within the localized context.
- Set city goals for the number of contracts awarded to MWBEs/SMEs.



Accessibility

- Digitize, link, and publish procurement information and data from planning to implementation.
- Establish user-friendly Online subcontracting system.

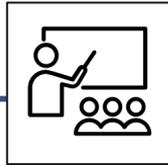


Widen the Reach

- Get the word out about upcoming opportunities.
- Encourage and organize Prime-sub networking and social networking events.

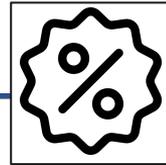
Contracting

Solutions



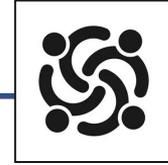
Training

- Organise various individual coaching as well as trainings which focus on bidding and contracting.
- Mentor-Protégé program



Bid-Discounts

- Employ an SBE bid discount policy if the contractor decides to bid on a specific project.



Culture Change

- Implement culture of change strategies to change attitudes and awareness which will lead to changes in habit and behavior.

Recommendations CBIPS Equity in Infrastructure Team

CONTRACTING

Contracting is the most common challenge MWBE's face.

Since getting a contract is the initial step of any construction project, it is crucial to find feasible solutions to overcome the challenges.

- To broaden participation of MWBEs in contracting a place for MWBEs to engage, policies and programs that support equity should be established.
- A culture of change strategy can be implemented to alter perceptions and awareness, which can result in modifications to routines and behavior.

- A central online system can facilitate towards an easy and accessible experience for subcontracting process.
- By lowering some percentage i.e allowing a price differential of a bid for purposes of evaluating and calculating the value contracting bid, we can increase the participation of MWBE's in the bidding process.
- In order to provide beneficial developmental assistance, we should establish Mentor-Protégé programs in which a mentor can support a MWBE to execute a small project.
- MWBEs can benefit from websites that help by hosting social networking events we can widen the MWBE's reach resulting into strong connections with bigger companies.

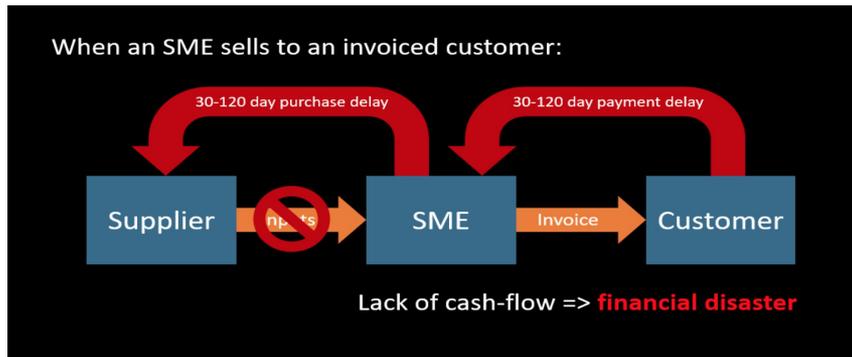
03) ACCESS TO CAPITAL REVIEW



Access to Capital

Challenge 1 : Lags in cash flow

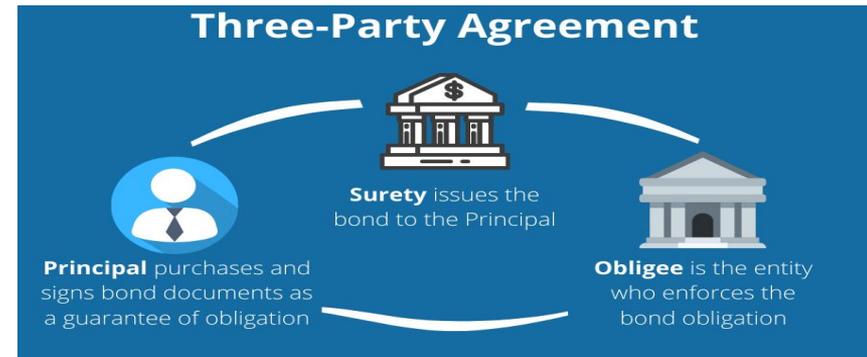
Businesses who aren't eligible for a traditional bank loan won't have the capital they need to initiate a project, and they are less likely to take on jobs that would help them grow.



(Payson Johnston, The Supply-Chain Finance Problem, May 2018)

Challenge 2 : Surety Bonds

Any Federal construction contract valued at **\$150,000** or more requires a surety bond when bidding or as a condition of contract award. Most State and municipal governments as well as private entities have similar requirements.



(Surety Bond Insider, July 2022)

Access to Capital

Challenge 3 : Access to working capital



(Investopedia, Working Capital: Formula, Components, and Limitations, Jun 2022)

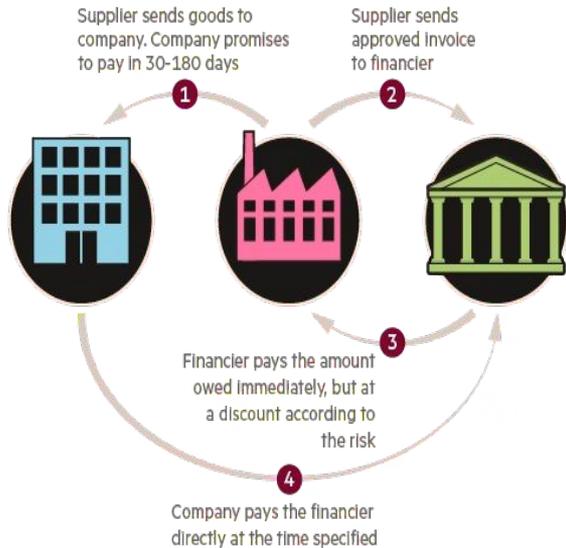
Challenge 4 : Approval rates at CDFIs

Type	Approvals	Rejections
White Owned	208	50
Black Owned	58	36

- Minority owned firms are significantly less likely to offer business assets as collateral.
- This is a result of racial barriers to economic mobility and credit access that have contributed to a wealth gap.

Access to Capital

Solution 1 : Supply Chain Finance



(FT Research)

Solution 2 : Surety Bond Resources



- The U.S. Small Business Administration (SBA) offers guarantees for surety bonds, with underwriting criteria that are more accessible than those for the general marketplace.

Access to Capital



Solution 3: Non-Traditional Lending

- Contractors can partner with nonprofit lenders who offer short-term working capital loans with 90-day terms (or less).
- These types of arrangements substantially mitigate risks for both the lender and the surety company.

Solution 4

- Better collaboration between CDFIs and larger financial institutions or Minority Depository Institutions (MDIs) could contribute to more extensive credit provision for HUBs.
- CDFIs can provide pre- and post-investment technical assistance to help potential borrowers qualify for capital
- Policymakers could subsidize CDFI operations by increasing the amount of capital made available through the CDFI fund.

Recommendations CBIPS Equity in Infrastructure Team

ACCESS TO CAPITAL

- Prime contractors hold important relationships with the banks they work with in the development of relevant capital projects.
 - Prime AEC corporations could push for better access to capital policies in the financial sector. This could potentially be a part of the EIP pledge.
 - Banks have a big interest in providing financial services to prime construction companies, this stake could serve a mechanism to leverage equity in infrastructure when it comes to access to capital.

- Ecosystem organizations should be set up to support HUBs to apply for short term loans and connect them to sources that can provide them with these short term loans.
- More federal or institutional guarantees should be set up to encourage surety companies to bond small businesses who might otherwise have difficulty obtaining bonding on their own.
- Better collaboration between CDFIs and larger financial institutions or Minority Depository Institutions (MDIs) could contribute to more extensive credit provision for HUBs.
- Supply Chain Financing can help maintain critical cash flow across supply chains and ultimately helps HUBs grow their business as it focuses on the creditworthiness of the buyer, who often is a more established entity such as a large corporate or government.

04) DELIVERY METHODS REVIEW



Equity Considerations when using: Design Build

Challenges with DB:

- **DB are lump-sum contracts.**
 - There is no guidelines on how the contractor allocates the project budget to various activities. This means the contractor could meet his DBE obligation by just contracting **with one DBE firm** for just one discipline of the project.
 - **Cost estimation in a DB contract is conceptual**, this is a vulnerability when it comes to contracting DBEs. (ROM)

Several state **DOT** focus their attention on mainly the **DBE** participation in the **construction** phase.

DBE training is a **key point** for bolstering **contracting** in the **infrastructure** industry for HUBs.

(Ashuri, Amekudzi-Kennedy, Amoaning-Yankson, Liang, and Cao, 2019)

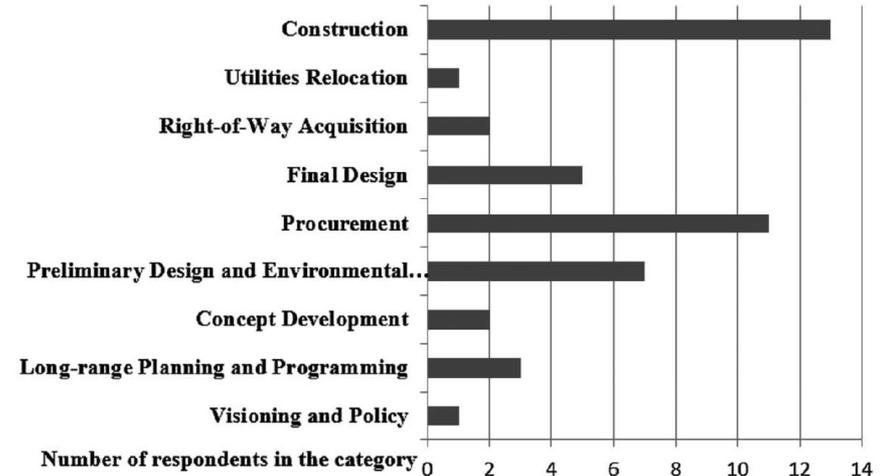


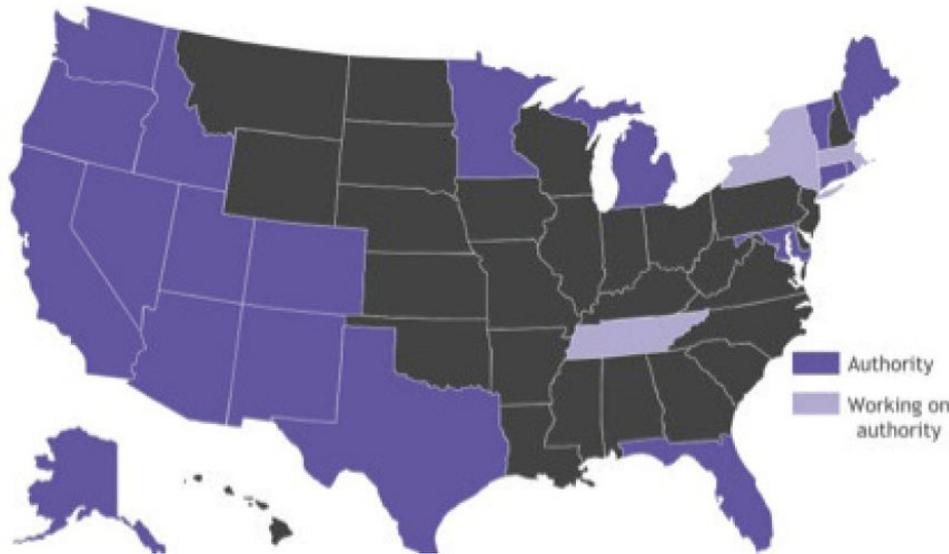
Fig. 4. Areas where DBE participation goals are set, applied, promoted, and/or assessed.

(Ashuri, Amekudzi-Kennedy, Amoaning-Yankson, Liang, and Cao, 2019)

Solution: Contract **unbundling** and better DBE contract **goal setting**.

APPROACHES TO APPLYING DBE GOALS TO CONSTRUCTION MANAGER AT RISK AND CONSTRUCTION MANAGER/GENERAL CONTRACTOR METHODS - NHCRC Synthesis 481 (2015)

States DOTs with legislative authorities to use CMAR/CMGC



(NHCRC synthesis 481, Figure 4, 2015)

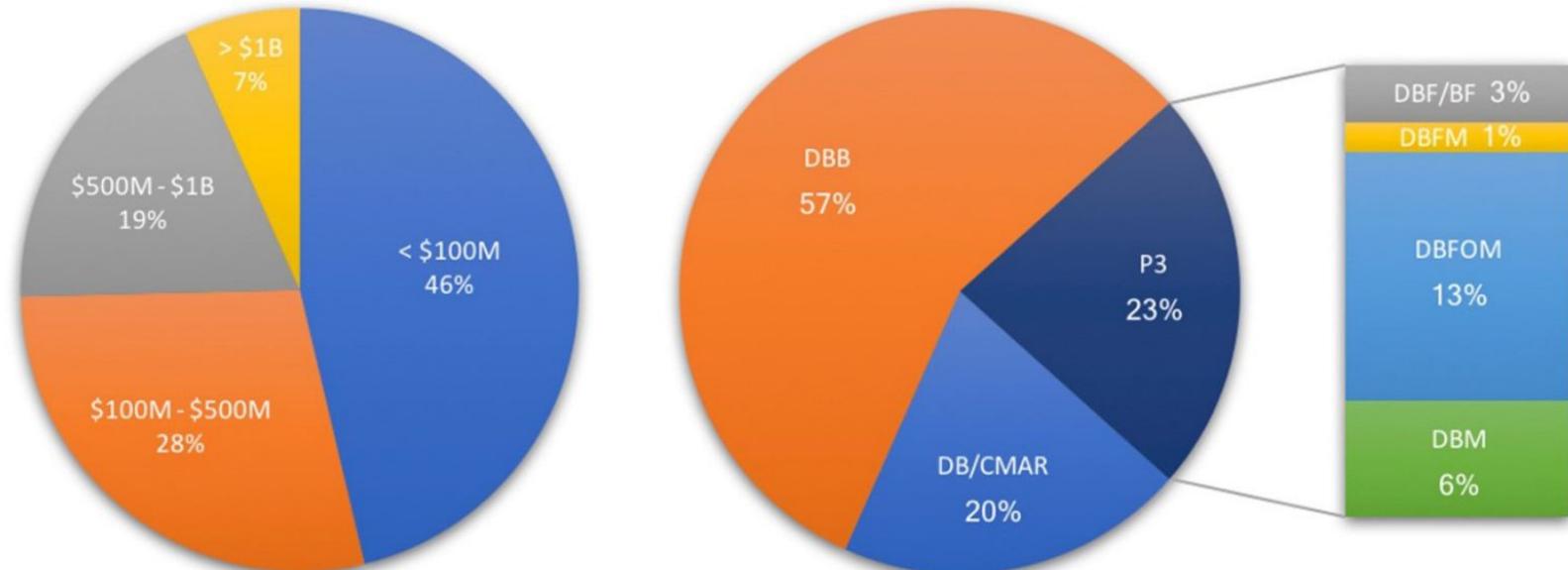
States That Have Applied DBE Contract Goals to CMAR/CMGC Projects	Use Same Methods as for Design-Bid-Build Projects	Always or Sometimes Use New Methods
Arizona		•
California		•
Colorado	•	Considering
Connecticut	•	
Michigan		•
Minnesota		•
Nevada		•
Oregon		•
Rhode Island	Unclear	
Utah		•
Total	2	7

(NHCRC synthesis 481, Table 5, 2015)

Public-Private Partnership and Social Equity: An Empirical Study of the Disadvantaged Business Enterprise Program

By- Kunqi Zhang and Qingbin Cui (2021)

Project distributions by contract size and delivery method.



Source: Public-Private Partnership and Social Equity: An Empirical Study of the Disadvantaged Business Enterprise Program , Kunqi Zhang and Qingbin Cui, 2021

BF = build-finance; CMAR = construction manager at risk; DB = design-build; DBB = design-bid-build; DBF = design-build-finance; DBFM = design-build-finance-maintain; DBFOM = design-build-finance-operate-maintain; DBM = design-build-maintain; P3 = public-private partnership

Current Practices to Set and Monitor DBE Goals on Design-Build Projects and Other Alternative Project Delivery Methods - By: David J. Keen, Lindsay Edinger, Keith Wiener, and Ed Salcedo (2015)

Good Practices: DB Delivery Method & DBE Participation

STATE TRANSPORTATION AGENCY	DESCRIPTION
Colorado DOT	DBE commitment for prime contractors in two stages: DBE commitment for engineering firms right after the contract is awarded and later on for construction businesses.
New York State DOT	Most DBE cannot provide a quote with incomplete designs. Solution: Increase the effort to include DBEs in design.
South Carolina DOT	DBE commitment plan in the proposal and 180 days after the award the commitments.

Public–Private Partnership and Equity



Conclusions

- Results revealed that P3 associates with higher DBE goals than design–bid–build (DBB).
- Facing criticism that P3 contracts unfairly favor large firms, agencies implementing the delivery method and P3 proponents grapple with public acceptance.
- The PPP Social Equity study provided empirical evidence that P3 offers a suitable choice with respect to setting and fulfilling DBE goals
- Plausible explanations include P3 being associated with a larger contract size, more public attention, more potential subcontracting opportunities with design included in the package, and intensified agency desire for greater diversity in DBE subcontracts.
- DBE Participation becomes a competitive POINT BASED evaluation factor that creates an equitable environment.

Recommendations CBIPS Equity in Infrastructure Team

DELIVERY METHODS

- Different delivery methods imply different challenges for DBE when it comes to their participation in capital projects.
- Design - Build (DB), is a delivery method that is gaining strong traction, were often cases the prime contractor requires bids from them with unfinished designs.
 - Recommendation: Implementation of delivery methods different from the traditional DBB require new approaches, vision, and techniques. It is imperative to establish a Mentor-Protégé program to train and guide DBEs in the adaptation of more integrated delivery methods. DB projects offer a great scenario for innovation, were DBEs could leverage and benefit from, thanks to their early involvement in the projects.

- Public Private Partnerships (PPP) are becoming a trend in capital infrastructure projects across the US. These projects are awarded on a point base “value procurement” system. Usually, there are two types of evaluation criterias: (1) Score/Point Base and (2) Pass/Fail.
 - Recommendation: In many PPP projects, the DBE participation is a PASS/FAIL criteria, this makes it a non competitive evaluation factor. It should always be score base, so that companies are encouraged to compete (instead of forced) in providing participation of minority owned businesses.
- As more integrated delivery methods gain traction, DBEs should be supported mainly in their risk assessment management for estimates and quantity takeoffs.
- PPP & DB projects should focus on providing important workload to few DBEs per project at a time, in order to provide them with enough experience that will leverage them to: (1) become successful subcontractors and to (2) grow to become prime.
- IPD implementation should be looked into more detail as a feasible solution because here all the stakeholders come into one single contractual agreement, which could potentially mitigate risks and leverage the growth of DBEs.

05) FRAUD SCHEME OVERVIEW



Investigations related to DBE Fraud

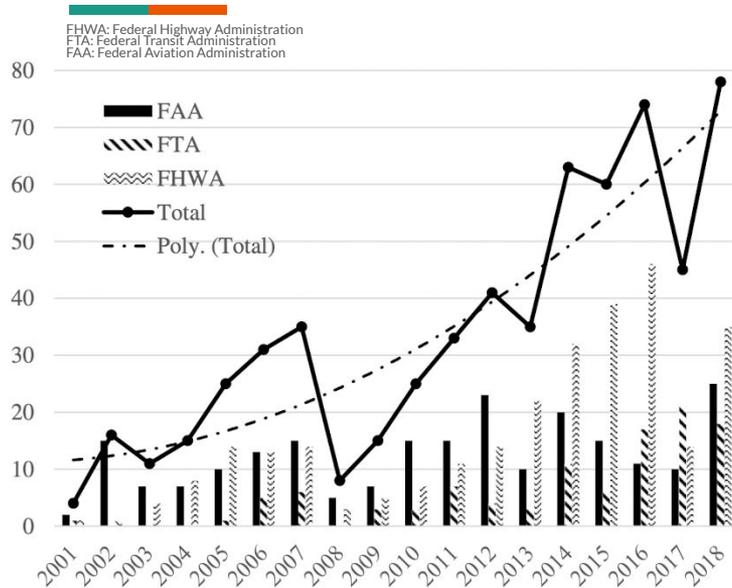


Fig. 4. USDOT OIG’s DBE fraud investigations under FHWA, FTA, and FAA.

- Between 2009 and 2019 more than 1,000 investigations have taken place in regards to fraud in the DBE program.
- Usual investigation time: 6 months to 48 months.
- The Department of Justice (DOJ) has defined and identified two common fraud schemes in the DBE program:
 - (1) Front Scheme
 - (2) Pass-Through Scheme
- USDOT OIG has also identified the following fraud schemes:
 - (1) Fabrication
 - (2) False Claims

Graph extracted from: Fraud and Abuse Schemes in the DBE Program (2020). Hongtao Dang, P.E., S.M. ASCE; and Jennifer S. Shane, Ph.D., M.ASCE. Page 5.

(Hongtao Dang and Jennifer S. Shane, 2020).

Other Schemes and Solutions

Table 1. Schemes of DBE fraud investigations

Companies involved	Scheme	Total no. of investigations
WMCC, Inc. and Century Steel Erectors	Front	10
Karen Construction, Inc. and Weber Steel	Front	9
Markina Construction Corporation and Schuykill Products, Inc.	Front	9
Fairview Contracting Corporation and Perini Construction, Inc.	Front	8
MS Construction and Crossboro Construction Contracting	Front	6
V.V.S.S. Co., Inc. and BCM Industries, Inc.	Front	3
Landsite Contracting Company and Perini Construction, Inc.	Front	1
Total investigations of DBE fronts = 46		
Styx, Cuthbertson Trucking Company, Inc. and Boggs Paving, Inc.	Pass-through	9
Verech International, Inc.	Pass-through	5
Global Marine Construction Supply	Pass-through	4
HD Supply Waterworks	Pass-through	4
Rexford Albany Municipal Supply Company, Inc. and ING Civil	Pass-through	4
Markias, Inc., Alpha Painting and Construction, Inc., and Liberty Maintenance Inc.	Pass-through	3
Navo Construction and Sonag Company Inc.	Pass-through	3
Patton Construction, Inc.	Pass-through	3
Sanzo Ltd.	Pass-through	3
Nationwide Fence and RMD Holdings	Pass-through	2
Total investigations of pass-through schemes = 40		
MarCon Construction	Fabrication	5
Daveck Consultants, LLC	Fabrication	3
TesTech and CESO International, LLC; CESO, Inc.; CESO Testing Technology, Inc.	Fabrication	2
Total investigations of fabrications = 10		
Tri-State Construction	False Claims	3
Civil Constructors, Inc.	False Claims	3
Premier Constructors	False Claims	3
Total investigations of false claims = 9		
Various indictments by Manhattan District Attorney's Office, New York	Bribery	4
Southeast Underground and Utilities, Inc.	Bribery	2
Total investigations of bribery = 6		
Mimosa Construction Inc.	Bankruptcy	4
Total investigations of bankruptcy = 4		

Table extracted from: Fraud and Abuse Schemes in the DBE Program (2020). Hongtao Dang, P.E., S.M. ASCE; and Jennifer S. Shane, Ph.D., MASCE. Page 6.

Other fraud schemes:

- False claims
- Money laundering
- Tax evasion
- Bankruptcy
- Corruption of public officials
- Wire and/or mail fraud
- Conspiracy

(Hongtao Dang and Jennifer S. Shane, 2020).

Possible Solutions:

1. Create a unified DBE fraud database to run data analytics and bolster prevention and detection.
2. Link DBE denial and decertification to OIG investigations.
3. Mandatory anti fraud DBE training for HUB and prime contractors.
4. Generate awareness of DBE fraud in the industry. (Hongtao Dang and Jennifer S. Shane, 2020).

Recommendations CBIPS Equity in Infrastructure Team

FRAUD PREVENTION

- Fraud investigations have been incrementing in the past years. The case studies analyzed lead to the conclusion that it is because there is a lack of a cross national standard when it comes to certifying DBEs.
- Every State DOT in the US has its own standards and procedures, as well as other transportation agencies, when it comes to certifying DBEs. This lack of centralization generates trust conflicts between the different agencies procedures and might bolster frauds.
- Fraud awareness training should be implemented for agencies, prime contractors, and DBE companies.

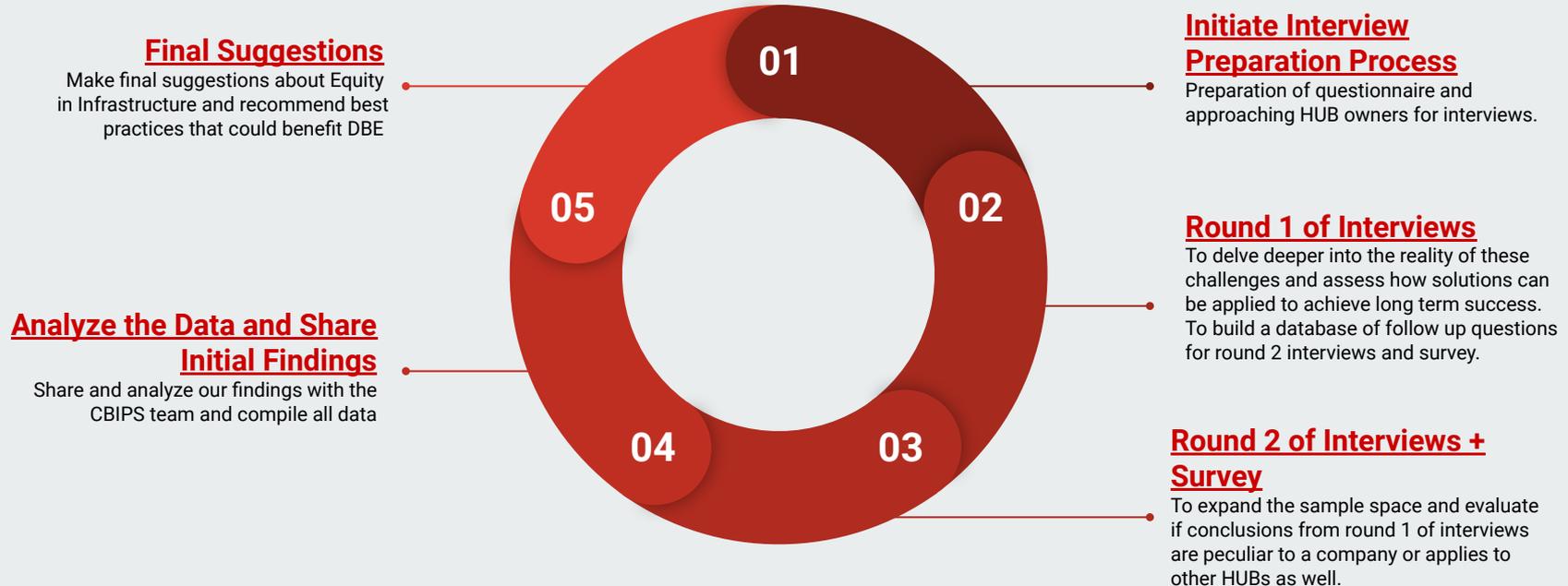
- The decentralization of DBE certification also implies a decentralization in DBE fraud prevention. DBE fraud databases should be shared and unified to flag out DBE companies that are being investigated or that have been guilty of fraud. This information is not often shared between agencies and states.
- The ideal scenario will be to have a nationwide DBE certification protocol. Today, this is far from being the case, but a good intermediate step towards the future is to push for policy that incentives a unique DBE certification system per STATE that is not only valid for public infrastructure AEC projects but also for private ones as well.



06) NEXT RESEARCH STEPS



NEXT STEPS





Thank you



