2021-2023
FHWA
DBE Methodology & Goal
PUBLIC CONSULTATION FORUM

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION

IUP

PennState Harrisburg

Introduction

- Welcome
- Purpose of the Forum
- The Regulatory Mandate
- Overview of the Methodology
- Questions & Discussion

The Regulatory Mandate

CREATING A LEVEL PLAYING FIELD IN COMPETING FOR FEDERALLY-FUNDED TRANSPORTATION PROJECTS

DBE Regulation - 49 CFR Part 26

- Title 49 Code of Federal Regulations Part 26
  - Establishes requirements for DBE Programs
  - Triennial DBE Goals
  - FHWA Funded Projects
- Key terms
  - Strict Scrutiny
  - Compelling Interest
  - Narrowly Tailored
- Two-step process
- Race Conscious/Race Neutral Projections

Objectives of the DBE Program

- Non-discrimination in the award and administration of DOT-assisted contracts
- Level playing field for DBEs to compete fairly
- DBE program is narrowly tailored
- Only eligible firms participate as DBEs

Objectives (continued)

- Remove barriers to participation in contracts
- Assist the development of DBE firms
- Provide appropriate flexibility in establishing and providing opportunities for DBEs

DBE Program – Two Phases

- Goal Setting
  - Local Market Analysis
  - Overall Goal Determination
- Goal Implementation
  - Project Goals
  - Bid Process
  - Monitoring Goals
  - Good Faith Efforts

DBE Goal Timeline

March 2020 - Public Consultation Forums

June 2020 – Public Comment Period (30 days)

July 2020 – Goal Calculation (actual data)

August 1, 2020 - DBE Goal Submission

October 1, 2020 – Begin Using Overall Goal

DBE Methodology Overview

PennDOT FY 2021-23 DBE Methodology		
Step-1	RWA DBEs	• Construction (Primes, Subs, & Suppliers) & Technical Consulting • Prime and Subcontractors = raw count from PennDOT prequalification lists • Suppliers = Supplier bulletins • Technical Consulting = Raw counts of firms ECMS
	Potential DBE Analysis	• Tailored geographic market • Firms identified as women- or minority-owned in Dunn & Bradstreet; weighted by NAICS code frequency; race-neutrality measure; highest of potential or actual
Step-2	Capacity Adjustments	• Construction Primes = Prime Capacities relative to contracts being let • Construction Subs = Interaction of Primes and Sub, averaged with median DBE Sub participation for last five years • Suppliers = averaged with the median DBE supplier participation for last five years • Technical Consulting = allocation of personnel & measuring impact of personnel capacity on contract award
	Disparity Adjustment	• Adjust DBE dollars for business ownership disparity difference
	Weighting	• Weighted ratios by market distribution of dollars

Step 1 – Baseline Goal

DETERMINING THE RELATIVE AVAILABILITY OF DBE FIRMS

Goals are Ratios

DBE ÷ EU = Goal

DBE *= Disadvantaged Business Enterprises*

EU *= Enterprise Universe*

<u>Note:</u> Multiple ratios comprise the overall goal

Step 1 – Baseline Goal

1. Identify Ready, Willing, & Able firms
   - DBE firms
   - Non-DBE firms
2. Define Local Market
3. Identify Potential DBE firms
4. Calculate Baseline Ratio
5. Determine Relative Availability by Sub-market based on Department expenditures

Sub-market Categories

- Technical Consulting
- Service Consulting
- Research
- Construction
  - Prime Contractors/Primes
  - Sub-Contractors/Subs
  - Suppliers

Sub-markets Defined

- Technical Consultants ("TC") - engineering or consultant inspection of highway construction work
- Service Consultants ("SC") - all services other than technical consulting or research.
- Researchers ("R") - transportation-related research.

Sub-markets Defined (cont'd)

- Prime Contractors ("P") - highway construction work by contracting directly with PennDOT
- Subcontractors ("S") - highway construction work by only contracting with Prime Contractors.
- Suppliers ("SP") - manufacture and/or sell materials used in the performance of highway construction work; or that perform trucking services, but are not Prime Contractors or Subcontractors

Ready, Willing, & Able Firms

Must demonstrate they are ready, willing, and able to bid for the types of work that will be funded during next three years

Ready: In business (DBEs must be certified)

Willing: Registered Business Partner*

Able: Existing capacity, capability, and resources

**Required of all prequalified contractors (both DBE and non-DBE)*

Identifying Ready, Willing, & Able Firms

1. Identify universe of RWA firms by sub-market
2. Identify all RWA DBE firms as a subset of the universe of RWA firms
3. Eliminate any firms that are:
   - No longer in business
   - Lack the requisite requirements to perform work on Department contracts
   - Otherwise found not RWA
4. Eliminate DBE Firms that are:
   - Facing imminent decertification

Determining Potential DBEs

1. Identify ready, willing, and able firms (DBEs and non-DBEs) within PennDOT.
2. **Define the local market for all federally-assisted contracting based on where the majority of contractors were awarded or where federally-assisted funds were spent.**
3. **Identify the number of potential DBE firms within that local market area using a measure of race neutrality.**
4. Baseline ratio of DBEs is calculated by dividing the total number of DBEs (current and potential) by the number of all ready, willing, and able firms (DBEs and non-DBEs) within the local market.
5. PennDOT used anticipated expenditures to yield a relative availability of DBEs within each sub-market.

Local Market Analysis

Distinguishing between "Local Market" and "Sub-Market":

- **Local Market Area** refers to a geographic area. In our case, it refers to states . (map)
- **Sub-market** refers to type of business.

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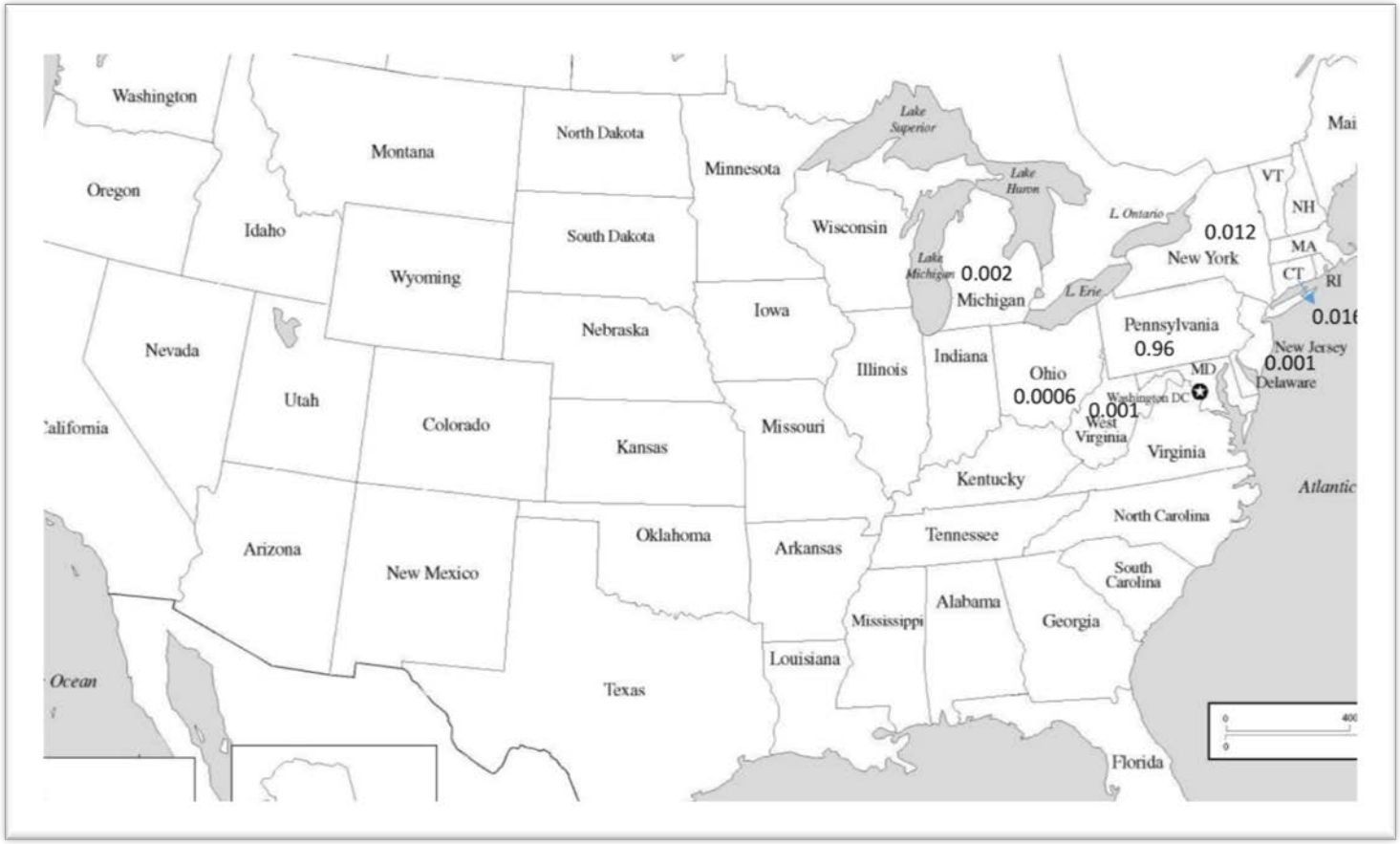
Local Market Area - Primes



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Local Market Area - Jurisdictions

Established using calculations that weight jurisdictions within and outside of the Commonwealth according to the:

- Number of contractors and subcontractors from those jurisdictions who have been awarded contracts, or
- Amount of federally-assisted funds paid to firms in those jurisdictions.

Local Market Area – Sub-markets Weighting Factors

Technical Consultant - The funds paid to Technical Consultants by state as a percent of all funds paid on Technical Consultant activity.

Service Consultant – The number of Service Consultant firms by state as a percent of all Service Consultant firms.

Research - The number of Research firms by state as a percent of all Research firms.

Prime Contractor - The face amount of successful bids on prime contracts.

Subcontractor - The funds paid to Subcontractors by state as a percent of all funds spent on Subcontractor activity.

Supplier – The number of Supplier firms by state as a percent of all Supplier firms.

Measuring Race Neutrality

- Define race neutrality for each sub-market
- Determined by calculating all PennDOT non-DBEs as a percent of all non-women and minority firms doing business in Pennsylvania
- Example: Pennsylvania Prime Contractors

  PennDOT non-DBEs = 556

  All non-women and minority firms 2,611

  Measure of Race Neutrality 21.29%

  (556 / 2,611) = 0.2129

Calculating Potential DBE Firms

Example: Pennsylvania Prime Contractors

Measure of Race Neutrality = 21.29%

All women and minority Prime firms in PA = 190

Existing PennDOT DBE Primes = 18

Local market area weight = 0.856

Weighted Potential DBE Primes =

(((.2129 * 190) – 18) * .856) = 25.4

Total PennDOT DBEs (existing plus potential) = (18 + 25) = 43

Rules of Applying Race Neutrality

- When PennDOT's DBE ratio is *lower* than that in the local market, the DBE ratio is adjusted upward to match the measure of race neutrality.
- When PennDOT's DBE ratio is *higher* than that in the local market, the expected DBE ratio remains at the higher level. No adjustment is made since this ratio reflects the actual number of PennDOT DBEs relative to all firms.

Applying Race Neutrality - Results

Market Category	***PennDOT DBE Ratio***	***Local Market DBE Ratio***
Technical Consulting	32.6%	22.8%
Service Consulting	32.3%	23.2%
Research	22.0%	19.7%
Prime's	3.1%	7.2%
Subcontractor	15.9%	11.8%
Suppliers	3.7%	8.8%

Denotes figures used in calculation of new DBE Goal.

Data Sources

All data is taken from internal PennDOT, UCP or publicly available sources*

- **PennDOT or UCP Data**

  EUs and DBEs for each market category

- **Hoovers Database (a Dunn and Bradstreet product)**

  Number of all firms, women owned and minority owned firms located in Pennsylvania and other states that match the NAICS codes sub-market profile

*except as noted for the North American Industry Classification System (NAICS) Code Profile.

STEP-1 Strengths

- Uses a data-driven approach to identifying potential DBEs
- Moves PennDOT beyond using only the prequalification list.
- Addresses latent barriers DBEs may encounter in contracting with PennDOT as required in 29 CFR 26.45 (d).
- Moves all capacity adjustments to step-2 and eliminates firms that are clearly not RWA in step-1.

Step-2 Adjustments

EACH SUB-MARKET IS ADJUSTED FOR CAPACITY USING THE MOST NARROWLY TAILORED DATA AVAILABLE

Technical Consulting (TC) Adjustments

TC Sub-Markets:

- Inspection
  - Prime
  - Subs
    - All firms that perform inspection work may be subs, those with at least 6 employees are counted as primes.
- Design
  - Prime
  - Subs
    - Any design firm performing any of the design work types may be either a prime or a sub.

TC Personnel Capacity Adjustments

- All EU firms' personnel are allocated across work types based on the Department's expenditures.
- Allocated personnel figures are then weighted according to Department expenditures for each work type.
- DBE personnel/EU personnel = DBE personnel ratio
  - Inspection Prime DBE personnel ratio = 0.1042
  - Inspection Sub DBE personnel ratio = 0.1101
  - Design Prime and Sub DBE personnel ratio = 0.0838

TC Unit Adjustments

- Unit ratios for each work type are weighted by Department work type expenditures
  - Inspection Prime DBE Unit Ratio = 0.2775
  - Inspection Sub DBE Unit Ratio = 0.2828
  - Design Prime and Sub DBE Unit Ratio = 0.2549

TC-Weighting Unit and Personnel Ratios

- Statistical analyses completed for each submarket to determine the amount of contract dollar award attributable to personnel capacity
- R^2 figure shows percentage of contract dollar award attributable to personnel capacity
  - Inspection Prime R^2 = 0.6009
  - Inspection Sub R^2 = 0.4264
  - Design Prime R^2 = 0.5444
  - Design Sub R^2 = 0.5450

TC Ratio Calculation

- Equation: (R^2*DBE Personnel Ratio) + ((1- R^2)*DBE Unit Ratio) = DBE Submarket Ratio
  - Inspection Prime Ratio = 0.1733
  - Inspection Sub Ratio = 0.2092
  - Design Prime Ratio = 0.1673
  - Design Sub Ratio = 0.1617
- Ratios are weighted according to Department expenditures to yield TC ratio of 0.1695

Service Consulting

- Step-1 ratio (0.3226) is averaged with the median past participation for last five years (0.0784) to yield an adjusted ratio of 0.2005.

Research

- Step-1 ratio (0.2195) is averaged with the median past participation for last five years (0.1690) to yield an adjusted ratio of 0.1182

Construction

- Primes
- Subs
- Suppliers

Construction Primes

- The Department calculates a financial capacity figure for each construction prime.
- To successfully bid on a construction contract, a prime must have capacity to perform at least 51% of the contract's face value.
- Two key points:
  - On smaller contracts almost all primes have sufficient capacity, excess capacity is irrelevant to bidding process.
  - Primes with smaller capacity cannot bid on large projects.

Construction Prime Calculation

- Using last year's bids as a guide, the Department divides contract awards into five bands (or ranges) counting the primes (DBE and EU) that have sufficient capacity to bid on each range of contracts.
  - Excludes excess capacity from each calculation
  - Calculate the number of firms and the median capacity of those firms (DBE & EU) for each band. The number of firms are multiplied by the median capacity to yield a median unit capacity
  - DBE median unit capacity/EU median unit capacity = DBE ratio for each band
  - Each band ratio is weighted by the dollar amount of contracts awarded in that band to yield the prime ratio (0.0510) .

Construction Subs

- Primes may perform subcontracting work
- Subcontracting market is segmented into:
  - Primes as subs (PAS)
  - Subs only (SO)
- DBE Prime goal is never met
  - DBE primes make up for shortfall through subcontracting work
  - Shortfall in dollars is shifted from PAS to SO
  - PAS ratio (0.1332) and SO ratio (0.1585) are then weighted according to the revised weightings to yield a preliminary subcontractor ratio of (0.1469)

Construction Subs Capacity Adjustment

- Preliminary Sub ratio (0.1469) is averaged with the median sub past participation for the last five years (0.2645) to yield an adjusted sub ratio of (0.2057)

Suppliers

- The Step-1 supplier ratio (0.0676) was averaged with the supplier median past participation for the last five years (0.3059) to yield an adjusted ratio of 0.1868

Federal Transit Authority DBE Goal

- Uses Bidders Lists generated by sub-recipients of FTA funds flowing through the Department.
- All projects are classified according by NAICS codes.
- Step-1 for each project is calculated by determining the ratio of ready, willing, and able (RWA) DBE firms to all RWA firms for each NAICS code.
- Ratios are weighted according to estimated expenditures in each NAICS code.
- Step-2 adjustments are based on past participation.

Adjusting for Disparity

- Focus on DBE dollars versus DBE units

$$\frac{\textbf{DBE \$}}{\textbf{EU \$}}$$

- Increase dollars/contracts to DBE firms by the *difference* between actual/potential DBEs and "would be" DBEs absent disparity
  - Construction: 17.3% - 9.3% = 8% disparity difference
  - Professional Services/TC: 15.8% - 11.3% = 4.5% disparity difference

Sample Calculation using Disparity Difference

Construction/Construction Primes, Subs, & Suppliers

	Units	Ratio	Dollars	Disparity Difference	Adjusted Dollars	Adjusted Ratio
DBE	22	0.04889	$98	8.0%	$106	0.0528
EU	450		$2,000		$2,000	

Construction-Related Professional Services/Technical Consulting

	Units	Ratio	Dollars	Disparity Difference	Adjusted Dollars	Adjusted Ratio
DBE	70	0.1556	$311	4.5%	$321	0.1606
EU	450		$2,000		$2,000	

Goal Calculation – Estimated w/out Disparity Difference

Submarket	Step-1 Baseline Ratio	Step-2 Adjusted Ratio	Weighting	Weighted Ratios
TC	0.32598	0.16955	0.06115	0.01037
SC	0.32258	0.20049	0.00045	0.00009
R	0.21951	0.11821	0.00300	0.00035
P	0.07243	0.05100	0.70438	0.03593
S	0.15854	0.20571	0.18050	0.03713
Sp	0.08785	0.19686	0.05052	0.00995
Total				0.09381 or 9.4%

Goal Calculation – Estimated with Disparity Difference

Submarket	Step-1 Baseline Ratio	Step-2 Adjusted Ratio	Disparity Difference	Disparity Adjusted Ratio	Weighting	Weighted Ratios
TC	0.32598	0.16955	4.5%	0.17718	0.06115	0.01084
SC	0.32258	0.20049	4.5%	0.20951	0.00045	0.00009
R	0.21951	0.11821	4.5%	0.12353	0.00300	0.00037
P	0.07243	0.05100	8%	0.05508	0.70438	0.03880
S	0.15854	0.20571	8%	0.22216	0.18050	0.04010
Sp	0.08785	0.19686	8%	0.21261	0.05052	0.01074
Total						0.10094 or 10.09%

Race-Conscious/Race-Neutral Calculation

- Median Race-neutral attainment for last five years is 1.92%
- Race-conscious goal = 8.17%
- Race-neutral goal = 1.92%

FHWA STEP-2 Strengths

- Process is narrowly tailored to PennDOT's contracting practices and the geographic market area
  - Potential DBE analysis
  - Capacity adjustment
- All capacity adjustments made in Step-2
  - Uses narrowly tailored measures of capacity for construction primes, technical consulting (design & construction inspection)
  - Uses past participation for research, service consulting, subcontractors, suppliers
- Data is taken from internal Department sources or publicly available sources except interim use of historical NAICS Code Profiles
- Incorporates findings from the 2018 PennDOT Disparity Study

Questions & Discussion

Conclusion

PennDOT

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For More Information….

DBE Program Information

PennDOT - http://www.penndot.gov/about-us/EqualEmployment/Pages/Disadvantaged-Business-Enterprise.aspx

FHWA - https://www.transportation.gov/civil-rights/disadvantaged-business-enterprise

PA DBE Goals - https://padbegoals.com