



Labor-Hours Modeling: Transparency and Accountability in Contract Negotiations – Part 1

2023 PEPS Conference

Michael Haithcock, PE – TP&D Abilene District

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Key Contributors

- Cliff Hallford - PEPS Division
- Brian Chiu & Kevin Clark – Transportation Programs Division
- Ben McCulloch, Strategic Planning Division
- ACEC Texas



Labor-Hours Modeling: Transparency and Accountability in Contract Negotiation

2022 PEPS Conference

Michael Haithcock, P.E. – Abilene District

Cliff Hallford, PMP – PEPS Division

Lauren D. Garduño, P.E. - Ports to Plains Alliance

Safety: Mission

ZERO

If we could save time in getting to
contract Notice To Proceed,
... and ultimately to our finished project,
... we could take a big step,
... in Ending The Streak.

Mission Zero – Safety Is Intentional



Safety Never Stops!



Become Administratively Qualified

[Texas Department of Transportation](#) > [Business](#) > [Consultants](#)
> [Architectural, Engineering and Surveying Consultants](#) > [Getting Started](#)

Administrative qualification is a process TxDOT uses to verify that your firm has an indirect cost rate that meets TxDOT requirements.

Become Administratively Qualified

You may demonstrate administrative qualification by an audit or by self-certification of its incorporated entity or business segment. TxDOT requires the use of direct labor cost as the allocation base for allocating indirect costs.

- [Paycheck Protection Program \(PPP\) - Updated](#)
- [Certified Public Accountant \(CPA\) Audit](#)
- [Self-Certification](#)
- [Safe Harbor Rate](#) (applies to Texas firms only)
- [Overhead Review Process for Administrative Qualification](#)

Submit Qualification Documentation

After an audit is complete, you must submit qualification documentation for review.

- [Submittal and Review Process](#)

Requirements for Processes

The administrative qualification requirements for the four selection processes – Comprehensive, Federal, Streamlined, and Accelerated – are addressed in the [Texas Administrative Code](#), Title 43, Subchapter C, in Sections 9.34(b), 9.35(b), 9.36(b), and 9.37(b), respectively. The requirements are further explained below:

- [Comprehensive, Streamlined and Accelerated Processes](#)
- [Federal Process](#)

When it comes to business in Texas, PEPS is a leader in:

- 1) *Innovation*
- 2) *Fair and Equitable Practices*
- 3) *Transparency and Trust*



Significantly less time to get a contract under NTP

Labor-hours normalized and outliers eliminated

Consultant contract amounts become predictable

PEPS employees optimized and process improved



Significantly less time to get a contract under NTP

Negotiations without regard to consultant salaries

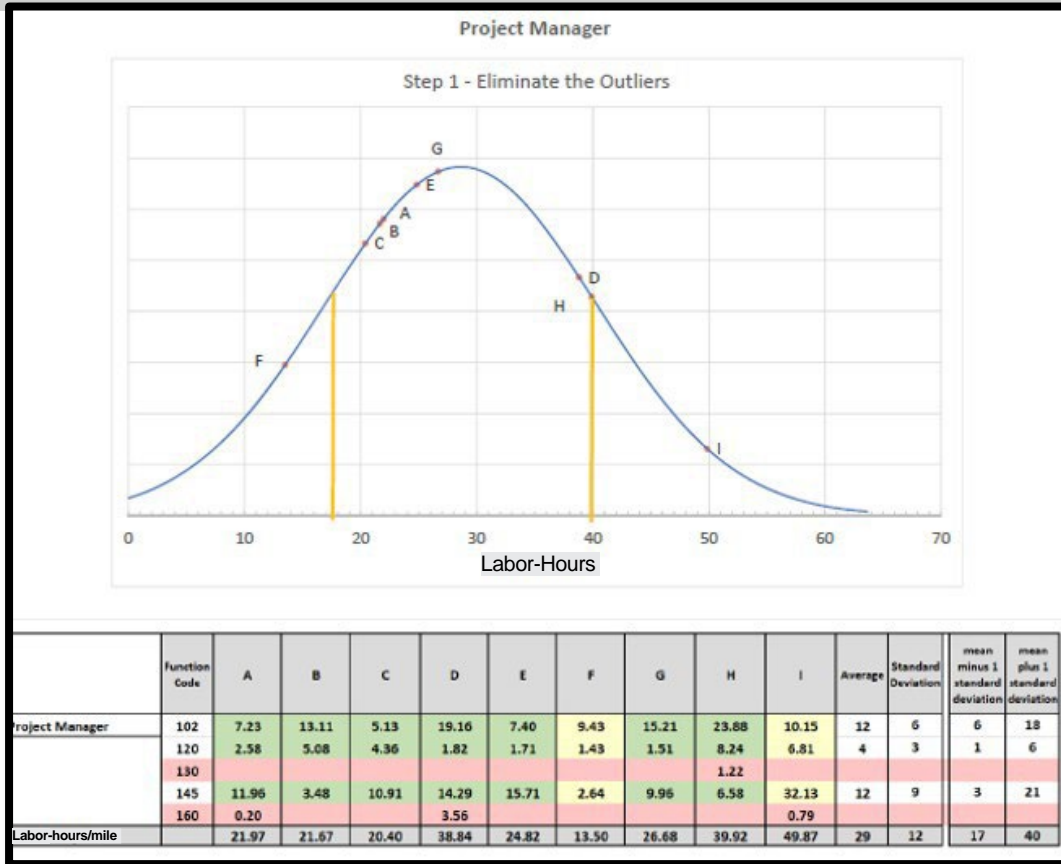
Consistency among TxDOT project managers

Negotiations without regard to construction cost



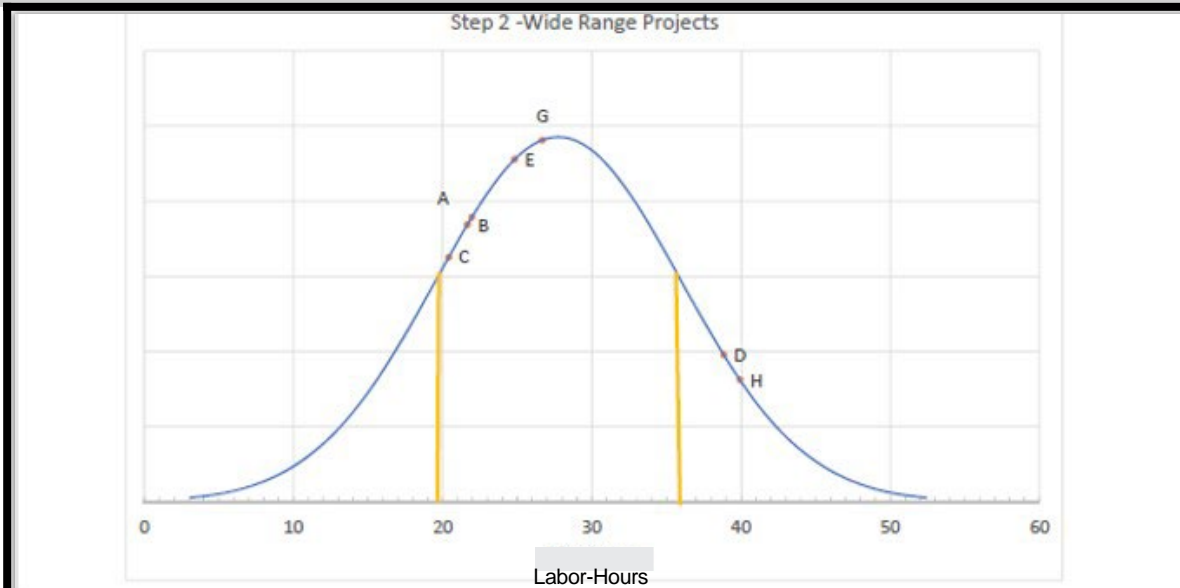
| | |
|-------------------|----------------------------------|
| REGION: | West Texas |
| FUNCTIONAL CLASS: | Rural Arterial |
| TYPE OF WORK: | Environmental & Schematic |
| DESIGN CRITERIA: | 4R New Location & Reconstruction |
| SCALE: | Over 30 Miles |
| DISTRICTS: | Odessa, Abilene, & Lubbock |

Project Manager – Step 1



Total Data

- Within one standard deviation
- Outlier
- Insufficient data



Eliminate the Outliers

| | Function Code | A | B | C | D | E | G | H | Average | Standard Deviation | mean minus 1 standard deviation | mean plus 1 standard deviation |
|------------------|---------------|-------|-------|-------|-------|-------|-------|-------|---------|--------------------|---------------------------------|--------------------------------|
| Project Manager | 102 | 7.23 | 13.11 | 5.13 | 19.16 | 7.40 | 15.21 | 23.88 | 13 | 7 | 6 | 20 |
| | 120 | 2.58 | 5.08 | 4.36 | 1.82 | 1.71 | 1.51 | 8.24 | 4 | 2 | 1 | 6 |
| | 130 | | | | | | | 1.22 | | | | |
| | 145 | 11.96 | 3.48 | 10.91 | 14.29 | 15.71 | 9.96 | 6.58 | 10 | 4 | 6 | 15 |
| | 160 | 0.20 | | | 3.56 | | | | | | | |
| Labor-hours/mile | | 21.97 | 21.67 | 20.40 | 38.84 | 24.82 | 26.68 | 39.92 | 28 | 8 | 20 | 36 |

- Within one standard deviation
- Outlier
- Insufficient data

TxDOT Labor-Hours / Mile for Job Titles

| Roadway | | |
|----------------------|------------|-----------------|
| Project Manager | Average 28 | Range 20 to 36 |
| Deputy PM | Average 26 | Range 21 to 32 |
| Senior Engineer | Average 24 | Range 18 to 31 |
| Engineer | Average 72 | Range 51 to 93 |
| Engineer-in-Training | Average 94 | Range 81 to 106 |
| Design Tech | Average 43 | Range 11 to 74 |

| Environmental | | |
|-------------------------|------------|----------------|
| Senior Environmentalist | Average 22 | Range 17 to 27 |
| Environmental Scientist | Average 61 | Range 40 to 81 |
| Public Involvement | Average 20 | Range 16 to 24 |

| Survey and Database | | |
|---------------------|------------|----------------|
| Survey Manager | Average 13 | Range 8 to 18 |
| Survey Technician | Average 26 | Range 10 to 41 |
| LIDAR Technician | Average 65 | Range 48 to 83 |
| Ortho Specialist | Average 12 | Range 10 to 15 |

TxDOT CONNECT PS-CAMS

Contract Type - PS&E

Project Type - Preventative Maintenance

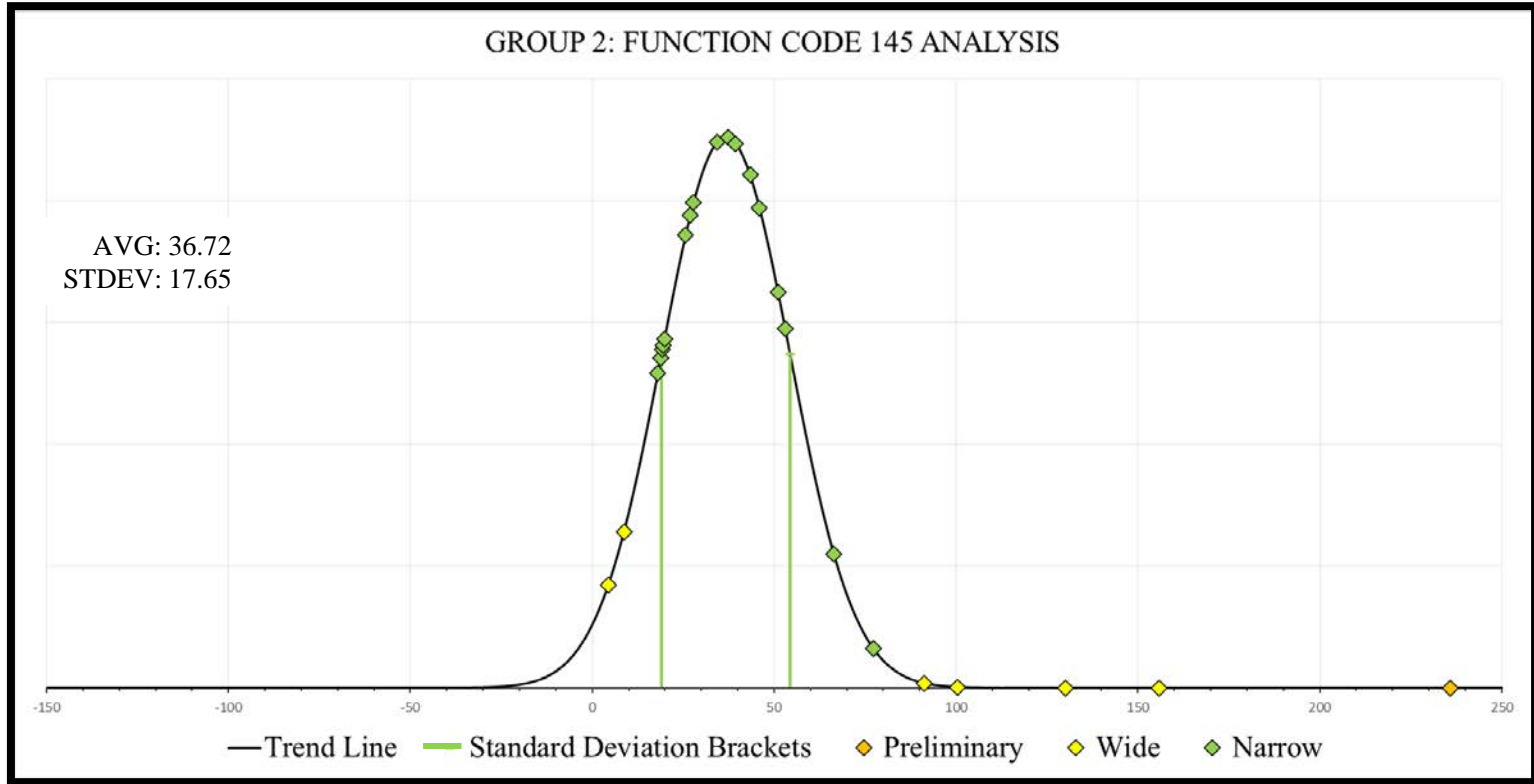
Functional Classification

Design Criteria

Construction Cost Per Mile

| | | |
|---------|------------|---------|
| Group 1 | FM / RM | PM / 2R |
| Group 2 | SH / US | PM / 2R |
| Group 3 | Interstate | PM |
| Group 4 | FM / RM | 3R |
| Group 5 | SH / US | 3R |

Group 2: Function Code 145 Analysis

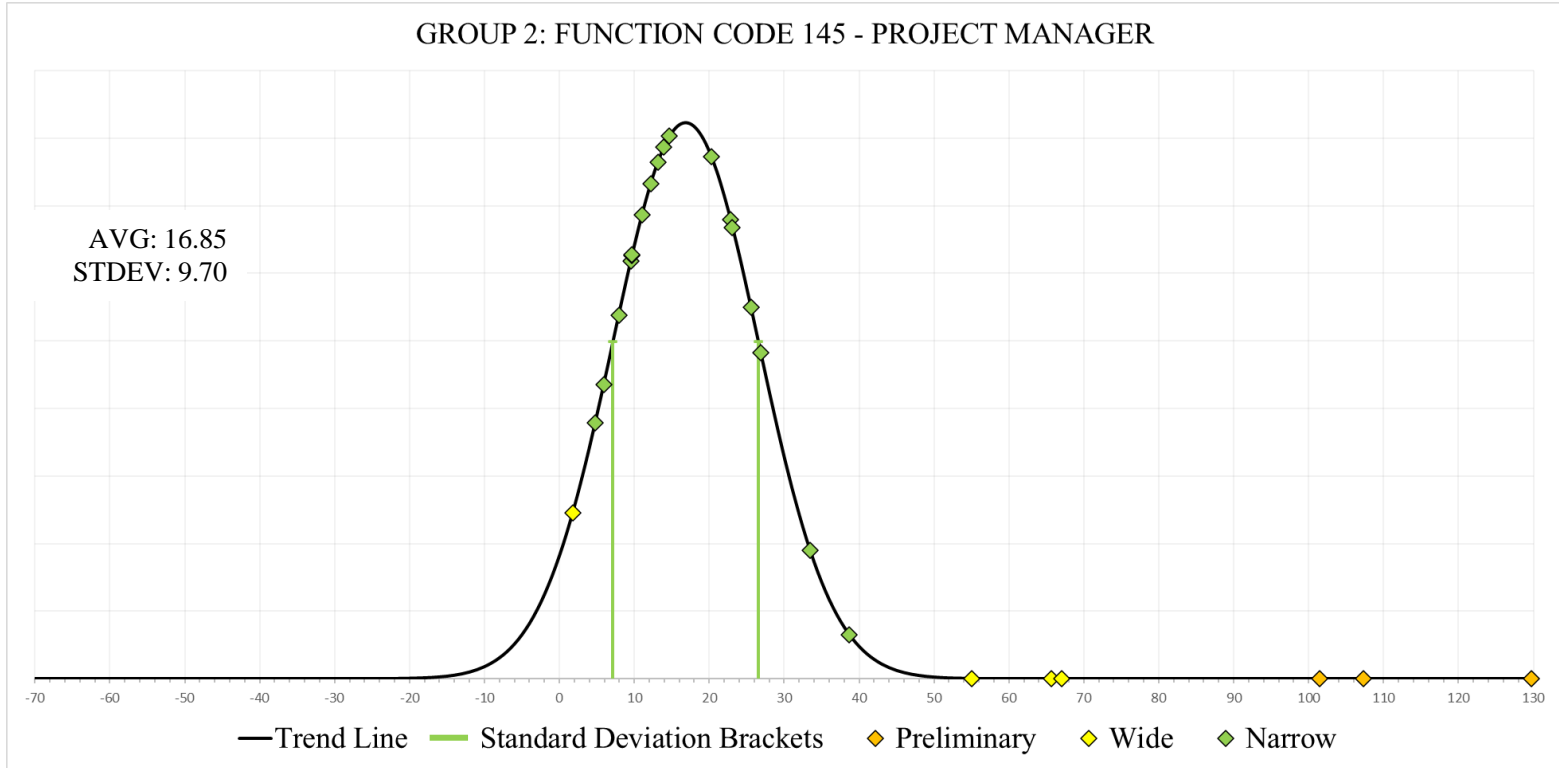


Function Code 145 and 160 Summary (all 5 Groups - 100 Projects)



| Group | Functional Class | Design Criteria | Number of Projects | | Function Code 145 - Project Management | Function Code 160 - Roadway |
|-------|------------------|-----------------|--------------------|---------|----------------------------------------|-----------------------------|
| 1 | FM | PM / 2R | 25 | Average | 26.44 | 124.65 |
| | | | | Std Dev | 6.65 | 47.72 |
| | | | | | Narrow | Wide |
| 2 | SH | PM / 2R | 26 | Average | 36.72 | 105.57 |
| | | | | Std Dev | 17.65 | 46.61 |
| | | | | | Narrow | Narrow |
| 3 | Interstate | PM | 24 | Average | 23.83 | 85.69 |
| | | | | Std Dev | 11.32 | 41.11 |
| | | | | | Narrow | Narrow |
| 4 | FM | 3R | 23 | Average | 42.65 | 174.21 |
| | | | | Std Dev | 28.35 | 69.38 |
| | | | | | Narrow | Narrow |
| 5 | SH | 3R | 17 | Average | 49.24 | 183.84 |
| | | | | Std Dev | 25.20 | 64.07 |
| | | | | | Narrow | Narrow |

Group 2: Function Code 145 – Labor Classification Analysis



Job Title Summary Function Code 145



| Group | Functional Class | Design Criteria | Project Manager / Mile | Engineer (Project) / Mile | Engineer-In-Training / Mile |
|-------|------------------|-----------------|------------------------|---------------------------|-----------------------------|
| 1 | FM | PM / 2R | 20.67 | 4.61 | 6.18 |
| | | | | | |
| | | | | | |
| 2 | SH | PM / 2R | 16.85 | 11.60 | 2.85 |
| | | | | | |
| | | | | | |
| 3 | Interstate | PM | 9.79 | 5.55 | 7.47 |
| | | | | | |
| | | | | | |
| 4 | FM | 3R | 16.77 | 7.67 | 7.32 |
| | | | | | |
| | | | | | |
| 5 | SH | 3R | 21.98 | 9.54 | 4.63 |
| | | | | | |
| | | | | | |

Function Code 102 - Feasibility Studies



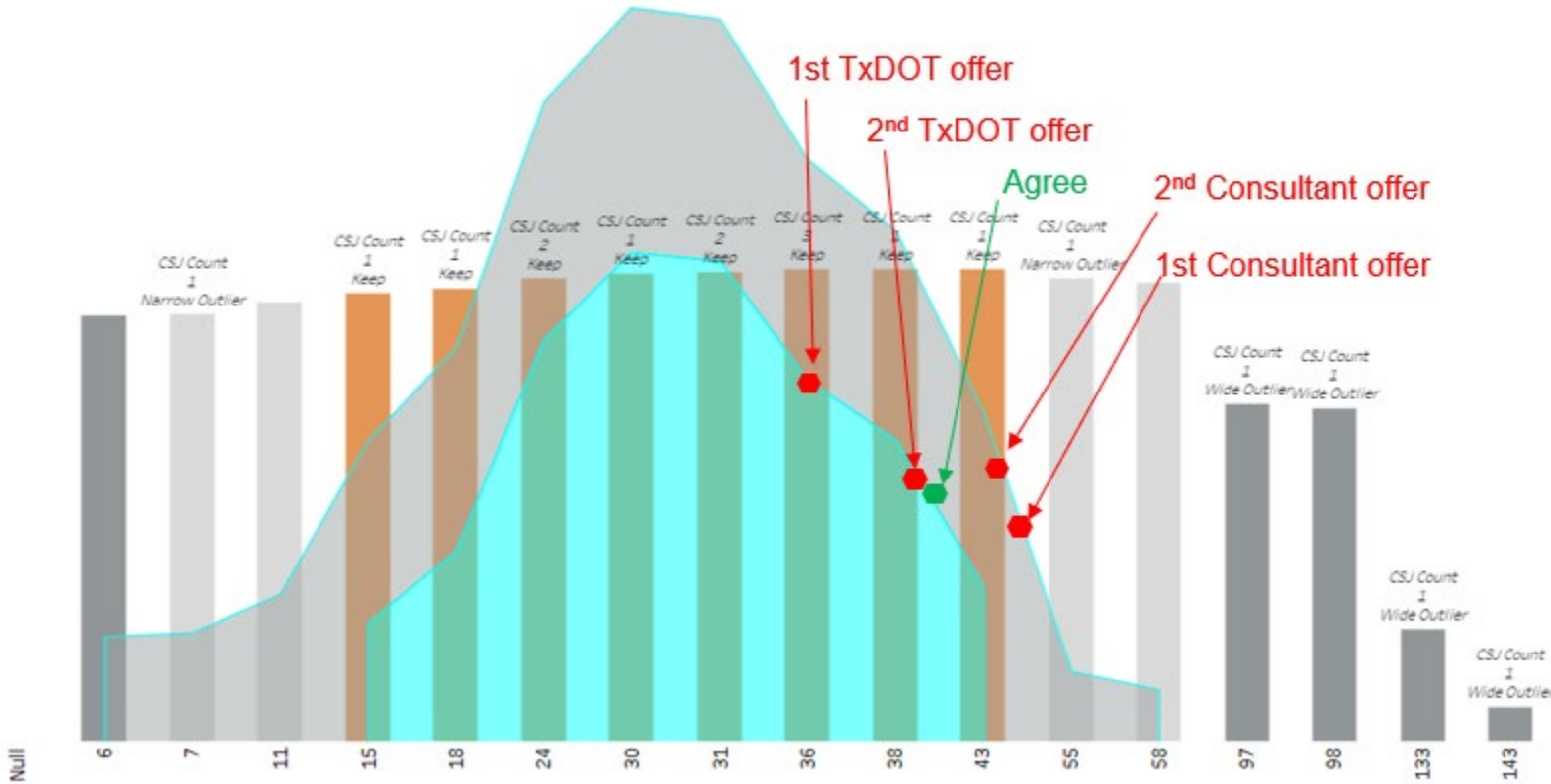
| | | | | |
|----------------|-----------------|-------|------------------|-----------------|
| Fn Code 102 | Design Criteria | Group | Functional Class | Design Criteria |
| | PM / 2R | 2 | SH | PM / 2R |

Miles 4.4

| | | 1 Project Manager / Mile | 2 Engineer (Senior) / Mile | 3 Engineer (Design) / Mile | 4 Engineer (Project) / Mile | 5 Engineer-In-Training / Mile | 6 Engineering Tech / Mile | 7 CADD / Mile | 8 Admin / Mile | 9 Support MGR / Mile | Sum 1-9 | Total | Range |
|---------------|--------|--------------------------|----------------------------|----------------------------|-----------------------------|-------------------------------|---------------------------|---------------|----------------|----------------------|---------|--------|-----------------|
| | Model | 23.32 | 20.24 | 7.00 | 28.47 | 28.03 | 13.64 | 9.20 | 0.35 | 1.80 | 132.05 | 152.85 | 112.02 - 189.29 |
| 1st Submittal | Lauren | 54.00 | 36.00 | 0.00 | 36.00 | 36.00 | 16.00 | 16.00 | 4.00 | 2.00 | 200.00 | 210.00 | |
| 1st Submittal | Cliff | 28.00 | 28.00 | 0.00 | 28.00 | 28.00 | 12.00 | 12.00 | 2.00 | 2.00 | 140.00 | 160.00 | |
| 2nd Submittal | Lauren | 48.00 | 36.00 | 0.00 | 36.00 | 32.00 | 16.00 | 16.00 | 4.00 | 2.00 | 190.00 | 194.00 | |
| 2nd Submittal | Cliff | 32.00 | 34.00 | 0.00 | 36.00 | 32.00 | 12.00 | 16.00 | 8.00 | 2.00 | 172.00 | 172.00 | |
| 3rd Submittal | Lauren | 48.00 | 34.00 | 0.00 | 32.00 | 32.00 | 12.00 | 8.00 | 4.00 | 2.00 | 172.00 | 180.00 | |
| 3rd Submittal | Cliff | 48.00 | 34.00 | 0.00 | 32.00 | 32.00 | 12.00 | 8.00 | 4.00 | 2.00 | 172.00 | 180.00 | |

AGREE

Function Code 102 - Feasibility Studies



Summary



| Function Code | 1 Project Manager / Mile | 2 Engineer (Senior) / Mile | 3 Engineer (Design) / Mile | 4 Engineer (Project) / Mile | 5 Engineer-In-Training / Mile | 6 Engineering Tech / Mile | 7 CADD / Mile | 8 Admin / Mile | 9 Support MGR / Mile | Other Job Titles | TOTAL |
|---------------|--------------------------|----------------------------|----------------------------|-----------------------------|-------------------------------|---------------------------|---------------|----------------|----------------------|------------------|---------|
| 102 | 48.00 | 34.00 | 0.00 | 32.00 | 32.00 | 12.00 | 8.00 | 4.00 | 2.00 | 8.00 | 180.00 |
| 120 | 4.00 | 4.00 | 0.00 | 4.00 | 2.00 | 2.00 | 1.00 | 1.00 | 0.00 | 0.00 | 18.00 |
| 145 | 90.00 | 40.00 | 0.00 | 30.00 | 0.00 | 0.00 | 0.00 | 12.00 | 0.00 | 8.00 | 180.00 |
| 160 | 36.00 | 24.00 | 0.00 | 110.00 | 120.00 | 110.00 | 60.00 | 8.00 | 0.00 | 32.00 | 500.00 |
| 161 | 24.00 | 18.00 | 0.00 | 60.00 | 100.00 | 32.00 | 32.00 | 2.00 | 2.00 | 0.00 | 270.00 |
| 162 | 16.00 | 28.00 | 0.00 | 40.00 | 100.00 | 40.00 | 60.00 | 12.00 | 4.00 | 0.00 | 300.00 |
| 163 | 40.00 | 40.00 | 0.00 | 80.00 | 120.00 | 60.00 | 32.00 | 8.00 | 8.00 | 37.00 | 425.00 |
| Total | 258.00 | 188.00 | 0.00 | 356.00 | 474.00 | 256.00 | 193.00 | 47.00 | 16.00 | 85.00 | 1873.00 |

Contract Cost



| Function Code | 1 Project Manager / Mile | 2 Engineer (Senior) / Mile | 3 Engineer (Design) / Mile | 4 Engineer (Project) / Mile | 5 Engineer-In-Training / Mile | 6 Engineering Tech / Mile | 7 CADD / Mile | 8 Admin / Mile | 9 Support MGR / Mile | Other Job Titles | TOTAL |
|---------------|--------------------------|----------------------------|----------------------------|-----------------------------|-------------------------------|---------------------------|---------------|----------------|----------------------|------------------|---------------------|
| 102 | 48.00 | 34.00 | 0.00 | 32.00 | 32.00 | 12.00 | 8.00 | 4.00 | 2.00 | 8.00 | 180.00 |
| 120 | 4.00 | 4.00 | 0.00 | 4.00 | 2.00 | 2.00 | 1.00 | 1.00 | 0.00 | 0.00 | 18.00 |
| 145 | 90.00 | 40.00 | 0.00 | 30.00 | 0.00 | 0.00 | 0.00 | 12.00 | 0.00 | 8.00 | 180.00 |
| 160 | 36.00 | 24.00 | 0.00 | 110.00 | 120.00 | 110.00 | 60.00 | 8.00 | 0.00 | 32.00 | 500.00 |
| 161 | 24.00 | 18.00 | 0.00 | 60.00 | 100.00 | 32.00 | 32.00 | 2.00 | 2.00 | 0.00 | 270.00 |
| 162 | 16.00 | 28.00 | 0.00 | 40.00 | 100.00 | 40.00 | 60.00 | 12.00 | 4.00 | 0.00 | 300.00 |
| 163 | 40.00 | 40.00 | 0.00 | 80.00 | 120.00 | 60.00 | 32.00 | 8.00 | 8.00 | 37.00 | 425.00 |
| Total Hours | 258.00 | 188.00 | 0.00 | 356.00 | 474.00 | 256.00 | 193.00 | 47.00 | 16.00 | 85.00 | 1873.00 |
| Contract Cost | \$66,409.20 | \$41,939.04 | \$ - | \$61,089.60 | \$48,803.04 | \$25,625.60 | \$18,767.32 | \$4,032.60 | \$3,477.76 | \$12,155.00 | \$282,299.16 |



- ★ John Lamb, Lamb-Star
- ★ Dawn Green, KCI
- ★ Doug Dillon, BGE
- ★ Don Green, RS&H
- ★ Todd Thurber, LJA
- ★ Lee Ann Dixon, Walter P. Moore
- ★ Kelly Kaatz, HDR
- ★ Dave Lubitz, Aguirre & Fields
- ★ John Hamilton, Parkhill
- ★ Travis Isaacson, The Rios Group



ACEC LOE Labor Hour Tool December Meeting

Doug Dillon: In previous discussions, there was question about using hours in a particular contract and if hours hit a max in contract, TxDOT didn't have the ability to track those hours. So, there is question about these additional hours and how they are tracked. If you are using data from those contracts to assign and generate labor hour efforts for activities and if the majority of contracts use all the hours in the contract, then the concern is that there is additional effort that was required that doesn't show up in data. So, it would understate labor hours required for activity. So, not capturing the true cost.

John T. Hamilton: Benefit in time of supply chain trouble and inflation. Salaries for the consultant and materials for TxDOT. If this expedites the process, then we save tax-payer money. When looking at cost of project, it may have gone up 2 million then consultant fee increases by 55,000, then it's up a million or two in construction cost. Expediting is a benefit for all parties involved.

Donald Glenn: When looking at data, the tool is intended to be used statewide. Will we take a look at differences between districts? Even though a project scope may be same, the effort needed may be different. Will we break it down by district to normalize these differences? Level of effort comes down to scope and what's required by one district may vary between the other.

Lee Anne Dixon: One concern is to make sure it works for smaller firms. So, small firms may only have one EIT or one in each category, or even a lot of EIT's and one senior manager. This can be a challenge when looking at it by category. **Lee Anne** likes that we are trying to come up with accurate hours for projects versus salaries. There is still concern that we run into with districts who are trying to come under a million to avoid a longer review period. Districts are asking to come down x amount of money to shorten review process, this in turn removes a lot of effort on consultant side. Consultants want to see tool help get to end result faster instead of overthinking the process. Want tool to be helpful but not restrictive in that it limits the consultant. Would like it to be one aspect of negation and not the most important aspect when coming to an agreement in scope and fee.



“The LOE Tool will be used for all types of TxDOT Projects”

- We are loading data for low-risk Preventative Maintenance projects, the model will not be complete for six months, then needs reviewing, testing, tweaking, and testing some more – we are very, very early in the process.

“The LOE Tool has already been developed without consultant input and is being sold to us.”

- | | | |
|-----------|---------------------------|----------------------|
| • Phase 1 | Abilene | 9 E&S |
| • Phase 2 | Abilene, PEPS | 100 PSE (Groups 1-5) |
| • Phase 3 | Abilene, PEPS, BARS, ACEC | 200 PSE (Groups 1-5) |



The Labor-Hour data must be correct / accurate for the proposed project.

- In the case of the 9 x \$9M West Texas Environmental and Schematic corridors, we had a near perfect sample to examine.
- Imperative that TxDOT only use historical data from successful contracts on highly similar projects.

The Labor-Hour data must be applied accurately to each project.

- Each project has unique unknowns and risk involved for each job title.
- A contract will often be higher than the average number of labor-hours per mile due to the various complexity of a project.



No two projects are the same

- The purpose of this tool is to get TxDOT and consultants closer to a contract that is fair and equitable for both sides.
- The tool does not replace engineering judgement or common sense in negotiations.

What if we use subconsultants for some services in the contract?

- Labor-hours can be reviewed by the Function Code instead of by the entire Job Title.
- The Prime can add the sub-consultant's hours to the Prime's Job Title for those services or that Function Code can be reviewed separately.



The model has been tweaked and the data is highly accurate

All Contracts beginning in 2024 or 2025 are entered

IT has perfected the format of the data and tableaus

TxDOT PMs have been trained on how to use the tool

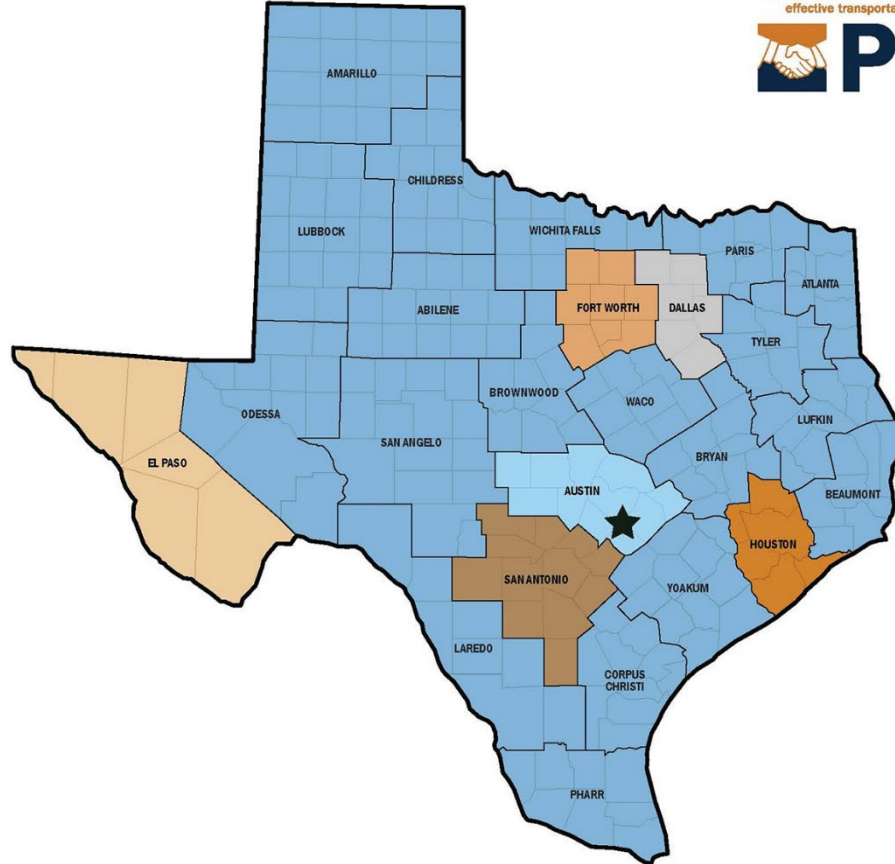
Consultants are receiving the market rate of Labor Hours

Negotiations are much faster and more efficient

Contract information is much more transparent

PROFESSIONAL ENGINEERING PROCUREMENT SERVICES

Procuring the most qualified consultants to deliver effective transportation solutions for Texans



In FY23 with the help of BARS - PEPS hired Data Analysts to collect data



Maintenance – No Widening

| | | | |
|----------------|-------------------|----------------|----------------|
| Group 1 | FM / RM | PM / 2R | 42 CSJs |
| Group 2 | SH / US | PM / 2R | 39 CSJs |
| Group 3 | Interstate | PM | 26 CSJs |
| Group 4 | FM / RM | 3R | 55 CSJs |
| Group 5 | SH / US | 3R | 33 CSJs |



Group 1 - 5 Summary

| Group-Summary ² | Functional Class-Summary | Design Criteria-Summary | Number of Projects-Summary | | Function Code-Summary | | | | | | |
|----------------------------|--------------------------|-------------------------|----------------------------|-----------------|-----------------------|-----------|--------------------------|---------------|----------------|---------------------------|------------|
| | | | | | 102 - Route | 120 - ENV | 145 - Project Management | 160 - Roadway | 161 - Drainage | 162 - Signing and Marking | 163 - Misc |
| 1 | FM | PM/2R | 42 | Average-Summary | 18.60 | 3.29 | 27.49 | 125.38 | 89.07 | 47.38 | 108.36 |
| | | | | Std Dev-Summary | 7.24 | 1.26 | 6.63 | 42.14 | 49.53 | 20.88 | 50.67 |
| 2 | SH | PM/2R | 39 | Average-Summary | 30.00 | 6.52 | 40.24 | 101.84 | 60.48 | 51.73 | 108.26 |
| | | | | Std Dev-Summary | 16.05 | 7.35 | 20.91 | 33.68 | 16.87 | 21.19 | 44.32 |
| 3 | Interstate | PM | 26 | Average-Summary | 19.37 | 1.05 | 26.63 | 112.52 | 28.98 | 37.25 | 53.47 |
| | | | | Std Dev-Summary | 8.96 | 0.52 | 16.61 | 130.58 | 13.33 | 18.74 | 30.15 |
| 4 | FM | 3R | 55 | Average-Summary | 25.54 | 4.18 | 46.79 | 227.58 | 188.11 | 49.43 | 137.57 |
| | | | | Std Dev-Summary | 20.18 | 3.08 | 31.30 | 88.84 | 114.44 | 23.49 | 58.15 |
| 5 | SH | 3R | 33 | Average-Summary | 22.24 | 5.94 | 38.08 | 195.32 | 49.37 | 44.05 | 107.21 |
| | | | | Std Dev-Summary | 14.26 | 5.15 | 19.01 | 100.05 | 31.74 | 29.24 | 60.30 |

Legend

- Narrow
- Wide

Group-Summary

(All)

Function Code-Summary

(All)

Labor-Hours by Job Title

| Function Code-Summary | Group-Summary | Functional Class-Sum.. | Design Criteria-Su.. | Function Code Number of Projects | Avg. Project Manager / Mile | Avg. Engineer (Senior) / Mile | Avg. Engineer (Design) / Mile | Avg. Engineer (Project) / Mile | Avg. Engineer-In-Training / Mile | Avg. Engineering Tech / Mile | Avg. CADD / Mile | Avg. Admin / Mile | Avg. Support MGR / Mile | Avg. Average Hours / Mile | Avg. |
|--------------------------|---------------|------------------------|----------------------|----------------------------------|-----------------------------|-------------------------------|-------------------------------|--------------------------------|----------------------------------|------------------------------|------------------|-------------------|-------------------------|---------------------------|------|
| 102 - Route | 1 | FM | PM/2R | 21 | 3.69 | 2.14 | 1.94 | 6.92 | 5.57 | 1.03 | 0.74 | 0.26 | 0.38 | 18.60 | |
| | 2 | SH | PM/2R | 24 | 4.00 | 4.36 | 3.42 | 6.16 | 7.17 | 2.90 | 1.27 | 0.15 | 0.36 | 30.00 | |
| | 3 | Interstate | PM | 17 | 3.84 | 2.94 | 3.81 | 2.34 | 3.83 | 1.27 | 0.26 | 0.17 | 0.01 | 19.37 | |
| | 4 | FM | 3R | 43 | 3.51 | 2.97 | 2.32 | 5.23 | 7.12 | 2.40 | 0.24 | 0.63 | 0.23 | 25.54 | |
| | 5 | SH | 3R | 25 | 4.48 | 4.86 | 2.82 | 6.94 | 7.95 | 1.14 | 0.54 | 0.58 | 0.47 | 22.24 | |
| 120 - ENV | 1 | FM | PM/2R | 19 | 0.54 | 0.39 | 0.20 | 0.74 | 0.76 | 0.31 | 0.32 | 0.00 | 0.03 | 3.29 | |
| | 2 | SH | PM/2R | 26 | 1.32 | 1.23 | 0.10 | 1.30 | 0.97 | 0.83 | 0.48 | 0.00 | 0.29 | 6.52 | |
| | 3 | Interstate | PM | 11 | 0.24 | 0.02 | 0.06 | 0.27 | 0.22 | 0.00 | 0.12 | 0.00 | 0.12 | 1.05 | |
| | 4 | FM | 3R | 28 | 0.55 | 0.64 | 0.39 | 0.80 | 0.55 | 0.76 | 0.28 | 0.04 | 0.14 | 4.18 | |
| | 5 | SH | 3R | 19 | 1.39 | 0.86 | 0.40 | 0.74 | 2.29 | 1.07 | 1.03 | 0.11 | 0.22 | 5.94 | |
| 145 - Project Management | 1 | FM | PM/2R | 24 | 13.11 | 5.75 | 0.67 | 2.72 | 1.19 | 0.30 | 0.08 | 5.23 | 2.26 | 27.49 | |
| | 2 | SH | PM/2R | 24 | 16.15 | 5.16 | 2.35 | 6.02 | 0.82 | 0.09 | 0.74 | 5.37 | 1.44 | 40.24 | |
| | 3 | Interstate | PM | 17 | 9.53 | 3.40 | 1.22 | 4.06 | 2.68 | 0.07 | 0.39 | 3.22 | 1.23 | 26.63 | |
| | 4 | FM | 3R | 40 | 19.11 | 6.60 | 1.79 | 6.80 | 2.50 | 0.22 | 0.39 | 5.77 | 2.80 | 46.79 | |
| | 5 | SH | 3R | 17 | 23.42 | 7.62 | 1.21 | 10.76 | 1.18 | 0.23 | 0.18 | 7.41 | 1.72 | 38.08 | |
| 160 - Roadway | 1 | FM | PM/2R | 25 | 7.79 | 6.27 | 13.39 | 20.04 | 40.18 | 30.78 | 20.48 | 0.37 | 1.86 | 125.38 | |
| | 2 | SH | PM/2R | 21 | 4.62 | 7.40 | 12.31 | 13.65 | 34.02 | 14.04 | 9.66 | 0.32 | 2.38 | 101.84 | |
| | 3 | Interstate | PM | 23 | 6.06 | 6.10 | 7.06 | 16.22 | 36.15 | 7.06 | 32.45 | 0.12 | 1.05 | 112.52 | |
| | 4 | FM | 3R | 32 | 7.05 | 10.48 | 27.38 | 21.32 | 65.78 | 47.43 | 45.35 | 0.06 | 2.72 | 227.58 | |
| | 5 | SH | 3R | 19 | 7.15 | 14.05 | 46.75 | 27.22 | 77.52 | 30.64 | 52.49 | 1.57 | 3.51 | 195.32 | 29 |
| 1 | FM | PM/2R | 22 | 2.44 | 8.22 | 11.85 | 10.91 | 38.41 | 19.49 | 5.36 | 0.29 | 1.99 | 89.07 | | |
| 2 | SH | PM/2R | 26 | 1.32 | 1.23 | 0.10 | 1.30 | 0.97 | 0.83 | 0.48 | 0.00 | 0.29 | 6.52 | | |
| 3 | Interstate | PM | 11 | 0.24 | 0.02 | 0.06 | 0.27 | 0.22 | 0.00 | 0.12 | 0.00 | 0.12 | 1.05 | | |
| 4 | FM | 3R | 28 | 0.55 | 0.64 | 0.39 | 0.80 | 0.55 | 0.76 | 0.28 | 0.04 | 0.14 | 4.18 | | |
| 5 | SH | 3R | 19 | 1.39 | 0.86 | 0.40 | 0.74 | 2.29 | 1.07 | 1.03 | 0.11 | 0.22 | 5.94 | | |
| 1 | FM | PM/2R | 24 | 13.11 | 5.75 | 0.67 | 2.72 | 1.19 | 0.30 | 0.08 | 5.23 | 2.26 | 27.49 | | |
| 2 | SH | PM/2R | 24 | 16.15 | 5.16 | 2.35 | 6.02 | 0.82 | 0.09 | 0.74 | 5.37 | 1.44 | 40.24 | | |
| 3 | Interstate | PM | 17 | 9.53 | 3.40 | 1.22 | 4.06 | 2.68 | 0.07 | 0.39 | 3.22 | 1.23 | 26.63 | | |
| 4 | FM | 3R | 40 | 19.11 | 6.60 | 1.79 | 6.80 | 2.50 | 0.22 | 0.39 | 5.77 | 2.80 | 46.79 | | |
| 5 | SH | 3R | 17 | 23.42 | 7.62 | 1.21 | 10.76 | 1.18 | 0.23 | 0.18 | 7.41 | 1.72 | 38.08 | | |
| 1 | FM | PM/2R | 25 | 7.79 | 6.27 | 13.39 | 20.04 | 40.18 | 30.78 | 20.48 | 0.37 | 1.86 | 125.38 | | |
| 2 | SH | PM/2R | 21 | 4.62 | 7.40 | 12.31 | 13.65 | 34.02 | 14.04 | 9.66 | 0.32 | 2.38 | 101.84 | | |
| 3 | Interstate | PM | 23 | 6.06 | 6.10 | 7.06 | 16.22 | 36.15 | 7.06 | 32.45 | 0.12 | 1.05 | 112.52 | | |
| 4 | FM | 3R | 32 | 7.05 | 10.48 | 27.38 | 21.32 | 65.78 | 47.43 | 45.35 | 0.06 | 2.72 | 227.58 | | |
| 5 | SH | 3R | 19 | 7.15 | 14.05 | 46.75 | 27.22 | 77.52 | 30.64 | 52.49 | 1.57 | 3.51 | 195.32 | 29 | |
| 1 | FM | PM/2R | 22 | 2.44 | 8.22 | 11.85 | 10.91 | 38.41 | 19.49 | 5.36 | 0.29 | 1.99 | 89.07 | | |
| 2 | SH | PM/2R | 26 | 1.32 | 1.23 | 0.10 | 1.30 | 0.97 | 0.83 | 0.48 | 0.00 | 0.29 | 6.52 | | |
| 3 | Interstate | PM | 11 | 0.24 | 0.02 | 0.06 | 0.27 | 0.22 | 0.00 | 0.12 | 0.00 | 0.12 | 1.05 | | |
| 4 | FM | 3R | 28 | 0.55 | 0.64 | 0.39 | 0.80 | 0.55 | 0.76 | 0.28 | 0.04 | 0.14 | 4.18 | | |
| 5 | SH | 3R | 19 | 1.39 | 0.86 | 0.40 | 0.74 | 2.29 | 1.07 | 1.03 | 0.11 | 0.22 | 5.94 | | |



| | | | |
|----------------------------------------------------|------------------------------------------------|-------------------------------------|----------------------------------|
| * Project ID: A00059408 | Project Name: 1200' WEST FM 820 TO MITCHELL CO | | |
| Project Type: Construction | Project Subtype: Roadway | Project Stage: PS&E | Project Status: Active |
| * District / Division: Abilene - 08 | County: Howard | Highway: SH 350 | Control Section: 0693-01 |
| Combined Project Letting Estimate: \$18,500,000.00 | * Estimated Let Date: 01/01/2024 | Controlling Project ID: 0693-01-034 | Control Section Job: 0693-01-034 |

Location Map

Highway: SH 350 Display Name: SH 350 Control Section: 0693-01



1.

Moderate risk project with pavement rehab

2.

We are improving the pavement design to 2r design criteria

3.

The project is 13 miles long, so consultant hours might be lower than the LOE sum of total hours

4.

We are matching profile, not getting cross sections or improving drainage, traffic control by standard

5.

PS&E needs to be done in approximately six months



| Function Code | Miles | Consultant |
|---------------|-------|------------|
| 102 | 13.5 | 100 |
| 120 | 13.5 | 21 |
| 145 | 13.5 | 364 |
| 160 | 13.5 | 2373 |
| 161 | 13.5 | 0 |
| 162 | 13.5 | 532 |
| 163 | 13.5 | 1260 |
| Total | | 4650 |
| | | |

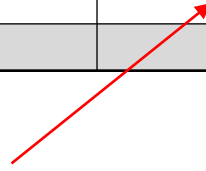
FIRST SUBMITTAL



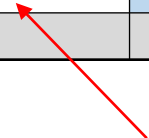


| Function Code | Labor Hours / Mile | Miles | Consultant | MH | Final |
|---------------|--------------------|-------|------------|--------|-------|
| 102 | 30.0 | 13.5 | 100 | 400 | 100 |
| 120 | 2.5 | 13.5 | 21 | 34 | 21 |
| 145 | 34.0 | 13.5 | 364 | 459 | 364 |
| 160 | 101.0 | 13.5 | 2373 | 1363.5 | 2473 |
| 161 | 53.0 | 13.5 | 0 | 715.5 | 0 |
| 162 | 55.0 | 13.5 | 532 | 742.5 | 532 |
| 163 | 93.0 | 13.5 | 1260 | 1255.5 | 1260 |
| Total | | | 4650 | 4970 | 4750 |
| | | | | | 0.96 |

FIRST SUBMITTAL



THEN THE FLOP





THEN NEGOTIATE THE DISTRIBUTION OF LABOR HOURS

| FINAL | PM | Senior Engineer | Design Engineer | Project Engineer | EIT | Engineer Tech | CADD | Admin | Support | Total | Dollar |
|-----------|--------|-----------------|-----------------|------------------|--------|---------------|-----------------|-------|---------|-------|---------------|
| | 570 | 380 | 380 | 855 | 1425 | 760 | 357 | 16 | 7 | 4750 | \$ 801,626.17 |
| | 12.00% | 8.00% | 8.00% | 18.00% | 30.00% | 16.00% | 7.52% | 0.34% | 0.15% | | |
| | | | | | | | | | | | |
| | | | | | | | Senior Eng Tech | | | | |
| Submittal | 571 | 380 | 428 | 856 | 1416 | 366 | 712 | 24 | 0 | 4753 | \$ 818,947.13 |
| | 12.01% | 7.99% | 9.00% | 18.01% | 29.79% | 7.70% | 14.98% | 0.50% | 0.00% | | |

Scoped in the field on March 2, 2023
 Work Authorization Approved in 28 Days
 Contract is 4.45% Construction Cost
 DCC held May 15th and 60% Plan Review July 12th
 PSE Package will be turned in October 1



| | | | |
|-------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------|--------------------------------------------|
| *Project ID: A00194636 | Project Name: IH 20 FR AT HOPKINS RD NOLAN COUNTY | | |
| Project Type: Construction | Project Subtype: Roadway | Project Stage: PS&E | Project Status: Active |
| *District / Division: Abilene - 08 | County: Nolan | Highway: IH 20 | Control Section: |
| Combined Project Letting Estimate: \$4,000,000.00 | *Estimated Let Date: 05/01/2024 | Controlling Project ID: 0006-02-130 | Control Section Job: 0006-02-130 |

Project Details

Limits From:

SFR EB EXIT TO HOPKINS RD INTERSECTION

Limits To:

NFR WB EXIT

Project Classification:

RER - Rehabilitation of Existing Road

Responsible District:

Abilene

Budget Responsible District:

Abilene

Short Description:

Rehabilitate Existing Roadway

Project Description:

REHAB FRONTAGE ROADS AND INTERSECTION 10" CRCP



1. This is a relatively high-risk project
2. We are doing full reconstruction on i-20 frontage roads with concrete pavement
3. The project is 3 miles long, so consultant hours should be higher than the LOE sum of total hours
4. Not changing profile, drainage, or getting cross sections
5. Traffic control will be unique and difficult
6. PS&E needs to be done in approximately six months



| FC |
|-------|
| 102 |
| 120 |
| 145 |
| 160 |
| 162 |
| 163 |
| Total |
| |

| Miles | Consultant |
|-------|------------|
| 3.0 | 62 |
| 3.0 | 14 |
| 3.0 | 154 |
| 3.0 | 828 |
| 3.0 | 55 |
| 3.0 | 446 |
| | 1559 |
| | |

FIRST SUBMITTAL





WE NEGOTIATED EACH FUNCTION CODE

| FC | Ave / Mile | Miles | Consultant | MH | Final |
|-------|------------|-------|------------|------|-------|
| 102 | 33.0 | 3.0 | 62 | 99 | 76 |
| 120 | 6.0 | 3.0 | 14 | 18 | 18 |
| 145 | 44.0 | 3.0 | 154 | 132 | 144 |
| 160 | 154.0 | 3.0 | 828 | 462 | 675 |
| 162 | 55.0 | 3.0 | 55 | 165 | 120 |
| 163 | 100.0 | 3.0 | 446 | 300 | 388 |
| Total | | | 1559 | 1176 | 1421 |
| | | | | | |

FIRST SUBMITTAL

THEN THE FLOP



THEN NEGOTIATE THE JOB TITLE LABOR HOURS BY PERCENT

| PM | Senior Engineer | Design Engineer | Project Engineer | EIT | Engineer Tech | CADD | Admin | Support | Total |
|--------|-----------------|-----------------|------------------|--------|---------------|-------|-------|---------|-------|
| 170 | 114 | 114 | 256 | 440 | 200 | 100 | 16 | 11 | 1421 |
| 11.96% | 8.02% | 8.02% | 18.02% | 30.96% | 14.07% | 7.04% | 1.10% | >1% | |

| | Project Manager | Senior Engineer | Design Engineer |
|--------------|-----------------|-----------------|-----------------|
| FC 102 | 20 | 12 | 12 |
| FC 120 | 8 | 3 | 2 |
| FC 145 | 90 | 12 | 8 |
| FC 160 | 18 | 45 | 28 |
| FC 161 | 12 | 12 | 24 |
| FC 162 | 12 | 6 | 16 |
| FC 163 | 20 | 24 | 24 |
| Total | 170 | 114 | 114 |

OR NEGOTIATE THE JOB TITLE LABOR HOURS BY EACH FUNCTION CODE



| | | | |
|------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------|
| * Project ID: A00195423 | Project Name: US 380 HASKELL ECL TO THROCKMORTON | | |
| Project Type: Construction | Project Subtype: Roadway | Project Stage: PE | Project Status: Active |
| * District / Division: Abilene - 08 | County: Haskell | Highway: US 380 | Control Section: 0360-04 |
| Sealed Engineer's Estimate: \$7,735,157.45 | * Estimated Let Date: 12/05/2023 | Controlling Project ID: 0360-04-033 | Control Section Job: 0360-04-033 |

[- Project Details](#)

| | |
|-------------------------------------------------|------------------------------------------|
| Limits From: HASKELL EAST CITY LIMITS | Limits To: THROCKMORTON COUNTY |
|-------------------------------------------------|------------------------------------------|

| | | |
|------------------------------------------------|-----------------------------------------|------------------------------------------------|
| Project Classification: OV - Overlay | Responsible District: Abilene | Budget Responsible District: Abilene |
|------------------------------------------------|-----------------------------------------|------------------------------------------------|

Short Description:
Preventive Maintenance

Project Description:
OVERLAY



1. Very low risk project - simply an overlay project
2. Improving the pavement conditions is our only goal
3. Project is over 14 miles long, so consultant hours might be lower than the LOE sum of total hours
4. We are not getting cross sections, improving drainage, traffic control by standard
5. PS&E needs to be done in six months

| FC | Ave / Mile | Miles | Consultant |
|-------|------------|-------|------------|
| 102 | | 14 | 400 |
| 120 | | 14 | 20 |
| 130 | | 14 | 30 |
| 145 | | 14 | 162 |
| 160 | | 14 | 1050 |
| 161 | | 14 | 38 |
| 162 | | 14 | 314 |
| 163 | | 14 | 546 |
| Total | | | 2560 |
| | | | |

ACCEPTED AT FIRST OFFER 

| Work Description | Cost Category | AIG Technical Services, LLC | Total | | MH |
|---------------------------|------------------------|-----------------------------|--------------|-----|--------------|
| FC 102 (110) | Labor | 400 | 400 | | 0 |
| | Direct Expenses | | 0 | | 0 |
| | Unit Cost | | 0 | | 0 |
| | Subtotal FC 110 | 400 | 400 | 16% | 270 |
| FC 120 (120) | Labor | 20 | 20 | | 0 |
| | Direct Expenses | | 0 | | 0 |
| | Unit Cost | | 0 | | 0 |
| | Subtotal FC 120 | 20 | 20 | | 18 |
| FC 130 (130) | Labor | 30 | 30 | | 0 |
| | Direct Expenses | | 0 | | 0 |
| | Unit Cost | | 0 | | 0 |
| | Subtotal FC 130 | 30 | 30 | 1% | 0 |
| FC 145 (145) | Labor | 162 | 162 | | 0 |
| | Direct Expenses | | 0 | | 0 |
| | Unit Cost | | 0 | | 0 |
| | Subtotal FC 145 | 162 | 162 | 6% | 207 |
| FC 160 (150) | Labor | 0 | 0 | | 0 |
| | Direct Expenses | | 0 | | 0 |
| | Unit Cost | | 0 | | 0 |
| | Subtotal FC 150 | 0 | 0 | 0% | 0 |
| FC 160 (160) | Labor | 1,050 | 1,050 | | 0 |
| | Direct Expenses | | 0 | | 0 |
| | Unit Cost | | 0 | | 0 |
| | Subtotal FC 160 | 1,050 | 1,050 | 41% | 1,116 |
| FC 160 (161) | Labor | 38 | 38 | | 0 |
| | Direct Expenses | | 0 | | 0 |
| | Unit Cost | | 0 | | 0 |
| | Subtotal FC 161 | 38 | 38 | 1% | 0 |
| FC 160 (162) | Labor | 314 | 314 | | 0 |
| | Direct Expenses | | 0 | | 0 |
| | Unit Cost | | 0 | | 0 |
| | Subtotal FC 162 | 314 | 314 | 12% | 297 |
| FC 160 (163) | Labor | 546 | 546 | | 0 |
| | Direct Expenses | | 0 | | 0 |
| | Unit Cost | | 0 | | 0 |
| | Subtotal FC 163 | 546 | 546 | 21% | 558 |
| Grand Labor Totals | | 2,560 | 2,560 | | 2,466 |



Then negotiate the distribution of labor hours

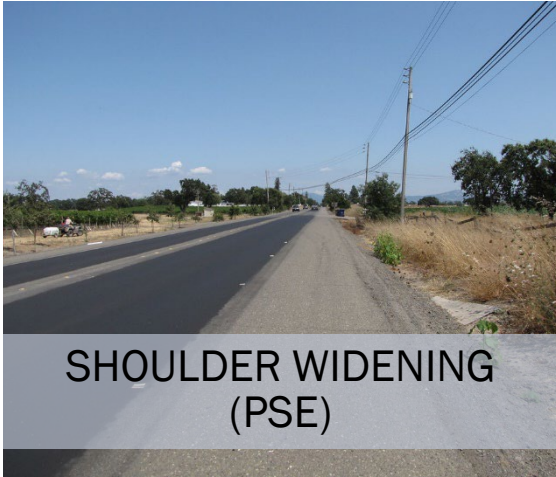


| Project Manager | Quality Manager | Engineer (Senior) | Engineer (Project) | Engineer (Design) | Engineer (Hydraulic) | Engineer-In-Training II | Engineer Technician - Senior | Administrative/Clerical | Total Hours |
|-----------------|-----------------|-------------------|--------------------|-------------------|----------------------|-------------------------|------------------------------|-------------------------|-------------|
| 207 | 80 | 401 | 488 | 546 | 8 | 732 | 80 | 20 | 2,562 |
| 8% | 3% | 16% | 19% | 21% | 0% | 29% | 3% | 1% | |





Some Other Contract Types That We Would Like to Examine in the Future





| | | |
|----------|--------------------------------------------------------|---------|
| Group 6 | Road and shoulder widening | 25 CSJs |
| Group 7 | Super 2 passing lanes | 29 CSJs |
| Group 8 | Off system bridges under \$500k construction | 47 CSJs |
| Group 9 | Off system bridges \$500k - \$1.5M construction | 38 CSJs |
| Group 10 | On system bridges FM/RM roads under \$2M construction | 20 CSJs |
| Group 11 | On system bridges FM/RM roads \$2M - \$4M construction | 18 CSJs |
| Group 12 | On system bridges US/SH roads under \$4M construction | 20 CSJs |
| Group 13 | On system bridges US/SH roads \$4M - \$8M construction | 18 CSJs |



Become Administratively Qualified

[Texas Department of Transportation](#) > [Business](#) > [Consultants](#)
> [Architectural, Engineering and Surveying Consultants](#) > [Getting Started](#)

Administrative qualification is a process TxDOT uses to verify that your firm has an indirect cost rate that meets TxDOT requirements.

Become Administratively Qualified

You may demonstrate administrative qualification by an audit or by self-certification of its incorporated entity or business segment. TxDOT requires the use of direct labor cost as the allocation base for allocating indirect costs.

- [Paycheck Protection Program \(PPP\) - Updated](#)
- [Certified Public Accountant \(CPA\) Audit](#)
- [Self-Certification](#)
- [Safe Harbor Rate](#) (applies to Texas firms only)
- [Overhead Review Process for Administrative Qualification](#)

Submit Qualification Documentation

After an audit is complete, you must submit qualification documentation for review.

- [Submittal and Review Process](#)

Requirements for Processes

The administrative qualification requirements for the four selection processes – Comprehensive, Federal, Streamlined, and Accelerated – are addressed in the [Texas Administrative Code](#), Title 43, Subchapter C, in Sections 9.34(b), 9.35(b), 9.36(b), and 9.37(b), respectively. The requirements are further explained below:

- [Comprehensive, Streamlined and Accelerated Processes](#)
- [Federal Process](#)

When it comes to business in Texas, PEPS is a leader in:

- 1) *Innovation*
- 2) *Fair and Equitable Practices*
- 3) *Transparency and Trust*



Faster negotiations to address Project Acceleration and “Rack and Stack”



Helps Consultant and TxDOT focus on clearly defined scopes in each Function Code



Trust between the Department and the Consultant Industry



Create continuous improvement with each negotiation reinforcing future ones.





Phase 1

Abilene

9 E&S

Phase 2

Abilene,
PEPS

Groups 1-5
100 PSE

Phase 3

Abilene,
PEPS, BARS,
ACEC

Groups 1-5
200 PSE

Phase 4

Beta Testing

Calendar 2024

Phase 5

Lessons
Learned

December
2024

Questions and Discussion



Michael Haithcock, P.E.

TxDOT Abilene TP&D Director



Michael.Haithcock@txdot.gov



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