

Indiana Project Bundling Lessons Learned

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Highlights

- Independent Bundling Studies Conducted
 - Purdue and KPMG
- Bundling Criteria
 - Opportunities for success
- Lessons Learned
 - Exploring what worked and more importantly...what didn't work

Key Bundling Criteria

- What worked?
 - Best bundling opportunities were found by looking at 3 key criteria
 - Corridors
 - Geographic Location
 - Work Types



Corridor Bundles

- What to Consider...
 - Multiple work types on
 - Interstate or high volume multi-lane routes
 - OR
 - City or single highway
 - Similar Maintenance of Traffic (MOT)
 - Construction time
 - Do Not mix interstate with non-interstate



Geographic Bundles

- What to consider....
 - 15-20 mile radius appears to be most efficient
 - Look beyond district boundaries
 - Union vs. non-union areas
 - Plant locations
 - Concurrent versus consecutive work
 - Contractors' capacity per season



Work Type Bundles

- What to Consider...
 - Bridge Bundles
 - Historic Bridge projects should stand alone
 - Specialty Equipment
 - Flexible/Thin (Polymeric) Overlays with like project types
 - Paint Projects should be bundled with like project types
 - Exception: when complex MOT (e.g. narrow truss bridge with single lane signalized MOT.)
 - Exception: when painting will be required as part of a larger project
 - Large culvert/small structures/ 3 sided structures
 - typically different that traditional bridge contracts
 - Exception: Bundling small structure, bridges and road projects into a corridor contract has benefits to coordination, mobilization and MOT.

Work Type Bundles Continued...

- Road Bundles

- Unless within a corridor, road bundles have not been more cost effective or beneficial
- Look for MOT conflicts
- Timing and construction completion dates
- Make sure you have a lead contractor

Examples of Successful Bundles

- I-74 mixed bridge rehab work types along a Corridor
 - 11 Des #s
 - Engineers Estimate - \$ 2,540,301
 - Award - \$ 2,081,968
 - **18 % savings**
- I-74 mixed bridge work types along a Corridor
 - 10 Des #s
 - Engineers Estimate - \$ 17,443,874
 - Award - \$14,659,979
 - **16 % savings**
- SR 63 Small Structure Pipe Linings
 - 6 Des #s
 - Engineers Estimate - \$1,251,800
 - Award - \$1,097,163
 - **8% savings**
- US 50 Bridge Rehabilitation Corridor
 - 23 Des #s, primarily thin deck overlays with 2 joint repairs
 - Engineers Estimate - \$2,286,205
 - Award \$1,667,760
 - **27% savings**
- US 31 Road Resurfacing and Deck Overlays
 - 3 Des #s
 - Engineers Estimate - \$ 4,396,942
 - Award - \$ 3,657,475
 - **17 % savings**

Successful Bundles Continued..

Accelerate 465			
Contract	INDOT Contract No.	Low Bid for A+B+C	Low Bid for D
A	IR-29767	\$54,534,628.00	
B	IR-29411	\$29,217,404.00	
C	IR-30411	\$53,127,426.00	
D	IR-31230		\$128,398,508.00
Total		\$136,879,458.00	\$128,398,508.00

Successful Bundles Continued..

• A: IR-29767 ; \$54,534,628.41

• B: IR- 30411; \$53, 127, 425.58

• C: IR-29411; \$29, 217, 404.00

D: IR-31230; \$128, 398, 507.78

• Total A + B + C = \$136,879,457.99

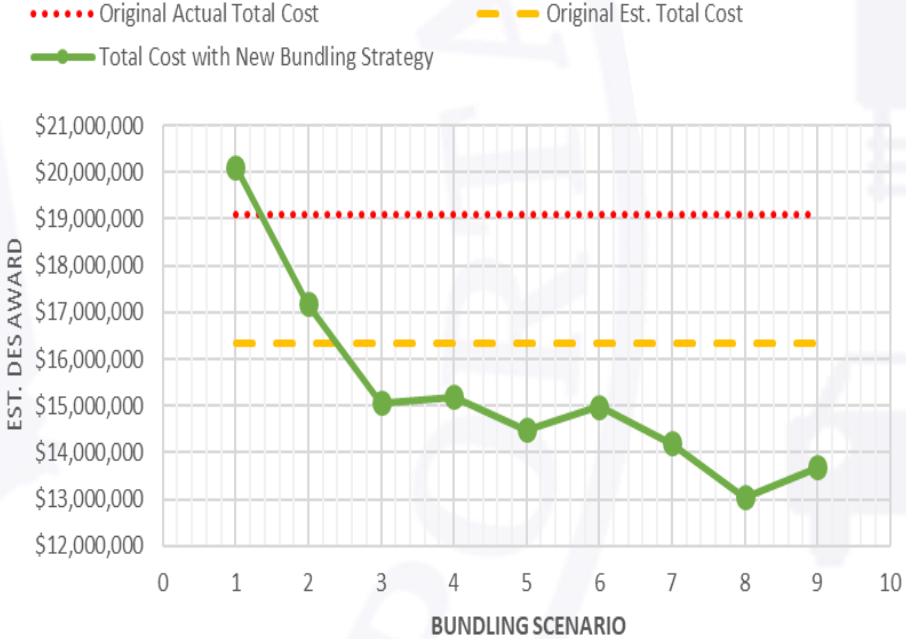
Successful Contract

Comparing Costs for Various Bundling Strategies

Scenario Analysis for Past Bundled Contracts

- 3 past bundled contracts (with 19 projects)
- Original overall cost = \$19,082,148 (observed)
- Estimated using the cost model = \$16,327,768

Scenario	Nr of Projects	Est. Nr. of Bids	Estimate of Project Award
1. All Projects Unbundled as Separate Contracts	19	13 each	\$20,117,716
2. Four Contracts, Bundled Randomly	3+3+6+6	9+9+7+7	\$17,177,400
3. Four Contracts, Bundled by Project Similarity	3+3+7+6	9+9+6+7	\$15,061,743
4. Three Contracts, Bundled Randomly	6+7+6	7+6+7	\$15,193,676
5. Three Contracts, Bundled by Project Similarity	6+7+6	7+6+7	\$14,481,562
6. Two Contracts, Bundled Randomly (unbalanced)	6+13	7+4	\$14,985,185
7. Two Contracts, Bundled Randomly (balanced)	10+9	5+5	\$14,195,652
8. Two Contracts, Bundled by Project Similarity	6+13	7+4	\$13,041,827
9. Bundle All Projects into One Contract	19	2	\$13,677,940



Factors Affecting Project Cost

Three Main Factors

- Economies of Scale
 - # of projects bundled
 - # of Bidders
-
- Other Factors
 - Project similarity/compatibility
 - Road Class and AADT
 - Time and season when let
 - Project location and Geographic Proximity

Key Lessons Learned

- Don't mix interstate and non-interstate
- Have a lead contractor
 - DO NOT have a specialty contractor lead
- Watch MOT work types
 - Cost us on a road/bridge interstate project
- Watch plant locations and number of plants
- Distance and travel times for material/staff



Questions

