



SCAN 2008

Incentives

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SCAN 2008

VITNECINES

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Incentives



Objectives of Presentation

- *To describe incentives*
 - To make the case for incentives
- 



Incentives



Who do I represent?

- Me

and

- Every person who likes a reward
- 



Incentives



Objectives of Presentation


- *To describe incentives*
 - To jump start focus on incentives
- 



Incentives



What is an incentive?


- A way to reward good work
 - A bonus
 - A way to distinguish good product
 - An official bribe
- 



Incentives



Incentives are a form of performance specification that aims at improving the performance of highway facilities through better translation of design intent and performance requirements into construction specifications and measurement systems.





Incentives




Classes of Incentives

- Material or Product Attributes
 - Innovative Contracting (next time)
- 



Incentives

Material Attributes

- Percent within Limits
 - Equations
 - Single or Multiple Attributes
- 

Incentives*

Material Attributes

- Strength (cylinders and beams)
- Air Content
- Thickness
- Smoothness - Ride

* NCHRP 346 (2005)
45 State Survey Response

Incentives*

Material Attributes - DOTs

- 17 Accept or Reject
- 28 Pay Adjustment

21 Stepped

7 Equation

4 Combination

* NCHRP 346 (2005)
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Material Attributes

- Pay Adjustment Range

105 – 70 Typical


107 – 50 Maximum Range

* NCHRP 346 (2005)
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Incentives

Product Attributes

- Key: link to pavement performance
 - Performance-related Specifications
 - FHWA PRS System
 - ME Guide (future)
 - Design / LCCC / PWL
 - Pay base on changes to LCCC
- 

SR 9A, Jacksonville, FL





SR 9A, Jacksonville, FL

FL DOT & FHWA selected:

- Concrete strength
- Concrete Thickness
- Initial Surface Smoothness

As Acceptance Quality Characteristics



SR 9A, Jacksonville, FL

- Contractor achieved pay factor of 114.8%.
- Contractor earned an incentive in all three criteria of strength, thickness, and smoothness.
- Based on performance models, DOT paid extra 10% for a 15% increase in total performance.



I-65, Nashville, TN

- Contractor achieved pay factor of 106%.
- Independent analysis using MEPDG concluded a 14% increase in total performance for the 6% additional cost.



Incentives*

- Important Case Studies
- *Lesson Learned: Focus brings results*

Incentives*

Smoothness Factoids

- Consummate improvement factor
- Mix, machine, man all come together
- Set the right limits; get the best results
- *Once instituted, once met, contractors will bid the bonus. Fact. Not fiction.*



Incentives



Objectives of Presentation (2)


- To describe incentives
 - *To make the case for incentives*
- 



Incentives



Material and Product Attributes - Status


- No major activity
 - No major push
 - Why?
 - Unrelated to true product performance
 - But also
- 



Incentives



The naysayers say


- Just meet the SPECIFICATIONS!!
 - Just do what the contract says.
 - “Yellow Liner” Consultant
- 



Incentives




Just meet the SPECIFICATIONS!!

- ◆ Has anybody been on a job where every specification has been met?
 - “That is really important”?
 - “Well, that’s close enough.”
- 



Incentive

“Clean your room or


- a) You will be punished
 - b) You will be killed
 - c) I will tell your father
 - d) You can have a cookie
- 



Incentive




“Clean your room and

- a) You can have a cookie.
 - b) You can go out and play.
 - c) You can find clean underwear.
- 



Incentive

“Give me a great pavement or


- a) You will be scorned
 - b) You will be penalized
 - c) You will not get more work!!
- 



Incentive



“Give me a great pavement and


- a) You can have a little bonus
 - b) You can have some braggin’ rights
 - c) You will have some future work
- 



Incentives



Incentives in low-bid system ...

- ◆ Identify important project factors
 - ◆ Draw attention to performance
 - ◆ Reward the good performers
 - ◆ Penalize the bad performers
- 



Incentives



Incentives

&

Realignment of Roles and Responsibilities






Incentives

The Roles and Responsibilities Issue

“To attain our goals of improved quality, improved product performance, and a better environment for contractor innovation, we cannot simply identify and test those construction and materials factors that best determine product performance.”






Incentives



*“We also must address roles, responsibilities, and specification language as well to determine how best to deliver that product. **Freedom to innovate with accountability to deliver is the driving force behind the incentive.**”*



SR 9A, Jacksonville, FL

Nick Wolfe, McCarthy:

“It can be good for the contractor, because it allows the contractor to do whatever they want as long as they meet the specs provided. There’s no prescribed way on how to do things, so that can make getting started a little harder.

“They provide you with a bonus for doing better work.”

SR 9A, Jacksonville, FL

Mr. Tony DiMaggio, Tarmac:

“Instead of giving a spec saying ‘you’re going to put in this much cement and get this strength’ (FDOT) said ‘What we really want is a smooth pavement and durability.’”

“Our ready mix people put together a concrete mix that would meet the specs for minimum strength, but looked for something that was very workable for the smoothness they needed and the early strength they wanted on the job.”



SR 9A, Jacksonville, FL

Mr. Tony DiMaggio, Tarmac:

“A real performance based specification would be when the owner says, ‘This is what I want and you figure out how to do it.’ That gives the ready mix people and the contractors an opportunity to come up with a concrete that will work and save them some money.”



I-65, Nashville, TN

Contractor Quote:

- PRS “rewards contractor for exceeding product requested.” “Incentive promotes quality control.”
- More accurate quality measurements can be achieved because PRS “relates actual product back to anticipated (design) product.”
- PRS “promotes quality end product. Promotes payment for actual product received.”


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The Specification Checklist

- What do we want?
- How do we order it?
- How do we measure what we ordered?
- How do we know we got what we ordered?
- What do we do if we don't get what we ordered?
- ***What do we do if get a little more than we ordered?***



Incentives

- Improved Understanding of Performance
 - Improved Quality Focus
 - Clearer roles and responsibilities
 - Environment for Innovation
- 



Incentives

I challenge you to ...

- Set up an incentive study team
- Select model specifications
- Experiment with them
- Adopt them



Incentives



Thank you!



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Additional Information

Incentives*

Alternative Contracting – 3 Categories

- ◆ 1. Project Acceleration – Direct
- ◆ 2. Project Acceleration – Indirect
- ◆ 3. Project Acceleration - Optional


* NCHRP 38-12 (2007)
29 State Survey Response



Incentives



Category 1. Project Acceleration – Direct


- ◆ **Cost plus Time (A+B)**
 - ◆ **Design – Build**
 - ◆ **Incentives / Disincentives**
 - ◆ **Interim Completion Dates**
 - ◆ **Lane Rental**
 - ◆ **Multi-parameter Bidding**
 - ◆ **No Excuse Incentive**
- 



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Category 2. Project Acceleration – Indirect

- ◆ Active Management Payment
 - ◆ Construction Management at Risk
 - ◆ Design – Build - Warrant
 - ◆ Flexible Notice to Proceed
 - ◆ Quality Factors
- 



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Category 3. Project Acceleration – Optional

- ◆ Design – Build - Maintain
 - ◆ Early Contractor Involvement
 - ◆ Public Private Partnerships
- 



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What's the Point?

The game is changing for contracting.

The game is partnerships, trust, and transfer of conventional roles and responsibilities.

If for this, why not for low-bid?

Go incentives!!

