

# **Incentives / Disincentives for Pavement Preservation Treatments**

by  
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# Background

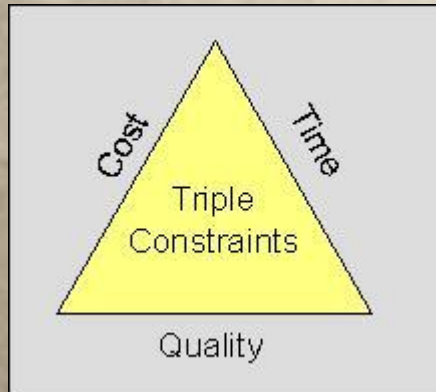
## Several ways to look at incentives:

- Financial rewards can induce changes in behavior,
- Guarantee of future work can motivate suppliers.

**There is nothing to indicate that two people will respond in the same way for a given financial incentive.**

# Background

- The fundamental question in contracting is how to get people to improve their performance?
- If the motivation is right, will people/companies do their work better, quicker or cheaper?



It's the common mantra of time, cost and quality.

# Background

## Do Construction Incentives Work?

- Financial incentives (whether positive or negative) have a direct impact on performance.
- Non-monetary incentives such as automatic extension of contract term, more frequent payments, letters of appreciation, etc. don't usually impact performance.



# Incentives / Disincentives

## Example of Success

### Construction Completion Dates

The time (calendar days or completion date) established for the contractor to complete critical work on identified road. This time begins when traffic is impacted by the project and normally ends when unrestricted traffic is permitted.

Bonuses paid for early completion or penalties deducted for late completion.

# Incentives / Disincentives

## Example of Success

### Ride Quality

Smoothness specifications are used by almost all state transportation agencies that provides a pay adjustment (incentive or disincentive) depending on the smoothness of the final paved surface.

# Incentives / Disincentives

## Example of Success

### Quality Management Programs

- Incentive for Density Percent Within Limits (PWL) on HMA pavement.
- Incentive Air Voids on HMA pavement.
- Incentive for Density at longitudinal joints on HMA pavement.
- Compressive Strength incentive for concrete structures.

# Incentives / Disincentives

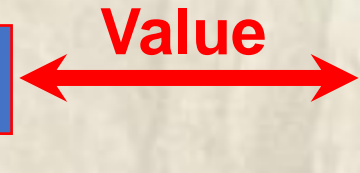
## Establishing Incentives



There must be a statistically reliable distinction between projects that achieved incentives and projects with no incentive.

Life Extension with Incentive

Life Extension with No Incentive





# Incentives / Disincentives

## Questions to be Answered:

- What elements improve performance
- Scalability of improved performance
- Frequency of their use
- Percolation of incentives through supply chains
- Value to the road user
- Methods of incentive management

# Possible Incentives for Better Treatment Quality

## Chip Seals

- Incentive of 3% of aggregate price for 0.5% to 0% passing the #200 sieve.
- Incentive of \$0.05/yd<sup>2</sup> for each additional roller beyond the 3-roller requirement up to 6-rollers.
- Incentive of 2% of emulsion price for each whole percentage of residue from 69% to 71%. Documentation from the bill of lading at the appropriate frequency required.

# Possible Disincentives

## Chip Seals

- Disincentive of \$500 for failure to include the emulsion residual asphalt content on the bill of lading.
- Disincentive of \$1000 for failure to sweep the same day.
- Disincentive of \$500 for failure to sample aggregate from the hopper of the aggregate spreader.

# Possible Incentives for Better Treatment Quality

## Micro Surfacing

- Incentive of 5% of emulsion price for each whole percentage above minimum residue of 8%, OR
- Incentive of 5% of tack coat price for tack coat application.
- Incentive of 5% of emulsion price for climate-based emulsified asphalt binder.



# Possible Disincentives

## Micro Surfacing

- Disincentive of \$15/Ton when total water content in mixture exceeds approved mix design.
- Disincentive of \$500 for failure to stop production when P- #200 exceeds approved mix design parameter.
- Disincentive of \$500 for failure to stop production when sand equivalency is outside approved mix design parameter.

# Possible Disincentives

## Micro Surfacing

- Disincentive of \$500 for failure to include the emulsion residual asphalt content on the bill of lading.
- Disincentive of \$50 per each 100 feet when edge line varies 4 inches or more.

# Group Discussion

