

State of Ohio



Department of Transportation
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Innovative Contracting Manual

5/1/2010

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Introduction

This manual describes ways to select innovative contracting methods for use on Ohio Department of Transportation construction projects. Innovative contracting methods differ from conventional contracting methods by their means of motivating Contractors to provide quality transportation facilities while minimizing travel delays and maintaining a competitive bidding process. This manual will assist designers and districts in selecting innovative methods to achieve the goals of reduced traffic congestion and time to project completion.

The primary means of influencing Contractor performance is by the use of incentives and disincentives, and liquidated damages. It is important to use liquidated damages, and incentives / disincentives correctly. They are NOT interchangeable.

Incentives compensate the Contractor for the time that identified critical work is completed ahead of schedule and disincentives assess a deduction for the time the Contractor overruns the time allowed. Their use is primarily intended for those critical projects where traffic inconvenience and delays are to be held to a minimum. The incentive and disincentive amounts are based upon engineering analysis of items such as traffic safety, traffic maintenance, and road user delay costs. They can be calculated and presented in various time periods.

Liquidated damages are the daily amount set forth in the contract to be deducted from the contract price to cover additional costs incurred by the Department because of the Contractor's failure to complete the contract work as stipulated. The liquidated damages shown in the C&MS 108.07 are based on project administration costs and are set biannually by the Office of Accounting as a daily value. For mega projects, and other special situations liquidated damages may be calculated based on actual costs the Department anticipates to directly incur.

Methods of influencing contractor performance not covered by this manual are: plan notes that describe Maintenance of Traffic and authorize Disincentives, and contract issues such as project joining (in the design phase) and alternate bids.

The following innovative methods allow for Incentive/ Disincentive payments:

PN 121 - Incentive/Disincentive Contract: Establishes an incentive payment to the Contractor for each time period that critical work is completed ahead of the completion date and a disincentive for each time period that critical work is completed after the completion requirements. The incentive and disincentive amounts do not have to be the same amount. The maximum amount of the incentive payment is shown in a proposal note and shall NOT be over 5% of the contract value unless authorized by the Director. *All incentives are to be thoroughly evaluated and submitted for approval by the Division of Construction Management and the Division of Production prior to inclusion on a project.*

PN 123 - Lump Sum Minus Contract: Establishes a lump sum incentive for the Contractor that is paid if a specific completion date is met. If the completion date is not made, the incentive is reduced by a fixed amount for each time period until the Lump Sum incentive reaches zero. This method, similar to Incentive/ Disincentive, would typically be used on projects where the emphasis is on the Contractor to provide innovative solutions to minimize construction time to meet a challenging completion date. *All incentives are to be thoroughly evaluated and submitted for*

approval by the Division of Construction Management and the Division of Production prior to inclusion on a project.

PN 124 - A+B and PN 125 - A+B Multiple Section Contracts: Establishes an “A” portion of the contract to be bid as normal bid items, and a “B” portion to be bid as the number of days the Contractor proposes to complete the project. The “B” number is multiplied by the daily user cost given in the contract and added to the “A” portion to determine the low bid. A+B Contracts allow ODOT to have a bidding procedure that allows the Contractor to control the completion date. The Contractor receives an incentive for completing the stated work before the Bid time period, and is assessed a disincentive for completing the stated work after the Bid time.

The following innovative methods set a number of days without using an incentive:

PN 120 - Work Day Contract: Establishes a set number of construction days to complete a project or portion of a project after the notice to proceed is issued, but allows the Contractor scheduling flexibility based on the definition of Work Day.

PN 127 - Lane Value Contract: Establishes a Disincentive amount for each hour/ or smaller interval that a high priority lane is restricted. The Disincentive amounts do not have to be the same amount for each lane or ramp configuration. The Contractor is held accountable for the delays caused by any planned traffic restrictions on specific critical lanes.

PN 129 - Window Contract: Establishes a set number of construction days to complete a project or portion of a project that may be used between the notice to proceed date and the completion date listed in the proposal. The window allows the Contractor maximum flexibility in setting the construction period, and reduces occasions where the road is closed and no work is underway.

The following innovative method can shorten the overall time for design and construction without using incentives.

PN 126 - Design-Build Contract: Establishes a single contract to design and construct a project based on an ODOT provided scope of services. This method allows the Contractor to begin construction before the final design has been completed, and saves time in project administration. Payments are usually made in lump sum items that correspond to the logical work units (buildable units) of the project.

PN 136 - Value Based Design-Build Contract: Similar to a Design Build Contract except that the initial scope allows Department to select a limited number of Design Build Teams each of which then provide a detailed Design solution. The Department selects the best from the short listed designs based on a given set of criteria. This method allows the Department and Design Build Team to begin construction in a more collaborative approach, and saves time in project administration. This method is permitted in highly complex situations. Payments are usually made in lump sum items that correspond to the logical work units (buildable units) of the project.

The last techniques can be selectively used in combination with other techniques.

Warranties: Establishes a time period and performance requirements for specific construction items. These specifications can be used on selected projects in accordance with the warranty guidelines, and in conjunction with other contracting methods. All warranty provision are thoroughly evaluated and approved by the Division of Construction Management and the Division of Production prior to inclusion on a project.

PN 104 and C&MS 105.19 - Value Engineering in Construction: Allows the Contractor to propose alternative designs at a cost savings (and/or a time savings on select projects). This incentive method can be used on any project, but not in conjunction with some of the other innovative contracting methods. The approved savings are shared equally between the Contractor and ODOT.

PN 115 - Price Adjustment Exclusions: Establishes items for which the Contractor shall NOT receive Asphalt Binder Price Adjustments (C&MS 401.20), Steel Price Adjustments (PN 525), or Fuel Price Adjustments (PN 520). The items listed are subject to revision according to C&MS 109.04 and C&MS 109.05. This note will be used according to the FHWA guidance memo of 11/13/2008 detailing procedures for contracts utilizing alternate bids, this provision will be used to exclude the alternate bid items from commodity price adjustments.

PN 116 - 104.02 Adjustment Exclusions: Waives the requirements to adjust unit prices according to the provisions of 104.02. May be used on projects that have the majority of items as contingency items. This would include projects such as District wide guardrail, District wide lighting, and District wide signal maintenance. Contact the Central Office Division of Construction Management to receive approval to use this proposal note prior to inclusion on any project.

PN 128 - Unauthorized Lane Use: Establishes a Disincentive amount for each hour/ or smaller interval that a high priority roadway segment is restricted by the Contractor due to any circumstance not planned for in the contract. This note may be used in combination with other innovative contracting methods.

PN 130 - Extension to the Completion Date for Weather: Establishes a set number of weather days for each month which replaces the appropriate section in C&MS 108.06.C. To be used with approval of the Division of Construction Management for multiple year projects (two or more construction seasons), and projects with CPM schedules and more than \$10 million.

Plan notes that can be selectively used in combination with other techniques.

Traffic Engineering Manual, **Standard Plan note 642-4 Item 614, Maintaining Traffic**
(Time Limitation on a Detour)

Traffic Engineering Manual, **Standard Plan note 642-5 Item 614, Maintaining Traffic**
(Winter Time Limitations)

Traffic Engineering Manual, **Standard Plan note 642-6 Item 614, Maintaining Traffic**
(Lanes Open During Holidays or Special Events)

Acceleration agreements

Acceleration agreements are only used on projects that are under construction. They can be tailored and written to focus contractor activities in certain areas, provide tight deadlines, or be broad in

scope. They are used in complex and high value emergency situations. Examples of past agreements are available in the Division of Construction Office. They are executed by issuing a Change Order to the Contractor.

Emergency Contracts

The Director of the Ohio Department of Transportation is authorized by ORC 5517.02 to declare an emergency and issue non-bid or limited bidder contracts. Emergency contracts are denoted as Type – A, Type – B, or Type – C contracts. Their use is limited to situations that require constructive action in a timeframe less than that required in the normal bidding process. The Director may proceed by furnishing equipment, purchasing materials, and employing labor in the erection of temporary bridges or the making of temporary repairs to a highway or bridge rendered necessary by flood, landslide, or other extraordinary emergency. If the Director determines inability to complete such emergency work by force account, the Director may contract for any part of the work, with or without advertising for bids, as the Director considers for the best interest of the department of transportation. The Department is in the process of creating Policy 27-021(P) and Standard Procedure 510-021(SP) to guide the Districts in developing emergency contracts.

Innovative Contracting Method Guidance

The following table indicates what innovative methods could be appropriate for various typical project types. Although a method may be permitted on a project type, the district must perform some critical analysis to determine if a potential innovative contracting method is truly appropriate for the specific project. Warranty and Value Engineering techniques can be used in combination with most of the listed innovative contracting proposal notes to promote Contractor innovation.

For the purposes of project selection, project monitoring and quality assurance reviews, *only* the methods listed in the following Innovative Contracting Proposal Note Selection Matrix are considered “Innovative Contracting Methods”. Other methods, such as optional bids, project joining, Maintenance of Traffic plan notes, VECP, and Warranty specifications, while useful, are not considered “Innovative Contracting Proposal Notes” for the purposes of this manual.

Innovative Contracting Proposal Note Selection Matrix

	D/B Contracts	A+B Contracts	I/D - LS Minus Contracts	Work Day Contracts	Lane Value Contracts	Window Contracts
New Construction - Relocation	Yes	Yes	No	No	No	No
Major Reconstruction	Yes	Yes	No	No	Yes	No
Major Widening	Yes	Yes	No	No	Yes	Yes
Minor Widening	Yes	No	Yes	Yes	Yes	Yes
New Bridge / Bridge Replacement	Yes	Yes	Yes	No	Yes	No
Two-Lane Resurfacing & Overlays	No	No	No	Yes	Yes	Yes
Four-Lane Resurfacing & Overlays	Yes	Yes	Yes	No	Yes	No
Bridge Rehab., Repair & Widening	Yes	Yes	Yes	No	Yes	Yes
Bridge Painting	No	No	No	Yes	Yes	Yes
Crack Sealing	No	No	No	No	No	Yes
Culvert Construction, Reconstruction or Repair	No	Yes	No	Yes	Yes	Yes
New Interchange	Yes	Yes	Yes	No	Yes	No
Intersection Upgrade	No	Yes	Yes	Yes	Yes	Yes
Guardrail, RPM & Striping	No	No	No	Yes	Yes	Yes
Signals & Signage	Yes	No	No	No	Yes	Yes

Incentive/Disincentive or Lump Sum Incentive provisions may only be used on a project after thorough review and approval by the Division of Construction Management and the Division of Production.

Warranty specifications may be used after thorough review and approval by the Division of Construction Management and the Division of Production. Warranty specifications can be used in combination with any of the innovative contracting methods, and the value engineering proposal notes.

Project Selection Procedure

The District should follow the Project Selection Procedure to determine which projects qualify to use innovative contracting methods. The purpose of Innovative Contracting methods is to minimize construction time and traveling public delay.

- I. Project Criteria. Projects that meet any of the following criteria may use an innovative contracting method:
 - A. Projects on the Interstate or Freeway that have any of the following Ellis work types:
 1. Major Reconstruction
 2. Major Widening
 3. Minor Widening
 4. New Bridge/Bridge Replacement
 5. Bridge Rehabilitation, Repair & Widening
 6. Interchange Upgrade
 - B. Projects in urban areas with high volumes and Level of Service D-F.
 - C. Projects that complete a gap in a significant highway system.
 - D. Major reconstruction or rehabilitation on congested locations as defined by the Office of Planning Congestion Model.
 - E. Projects on any system that require the complete closure of a road. Typically, a critical bridge out of service and/or a project with a detour.
 - F. Any project that applies for an exception through the Maintenance of Traffic Exception Committee.
 - G. Projects on any system that will significantly impact commercial businesses, school transportation or emergency medical response/access.
- II. Organization and Responsibilities
 - A. The District Production Administrator
 1. The District Production Administrator shall coordinate with the District Planning/Program Administrator and Highway Management Administrator in the review of projects under development to determine if Innovative Contracting Methods should be used. Candidate projects will be identified by requirements listed in “I. Project Criteria” above.
 2. After a candidate project is identified, the District Production Administrator shall coordinate with District Planning/Program Administrator, Highway Management Administrator and Central Office Program Manager (when applicable) to determine what contracting

method(s) may be used on the project. The Program Manager will be notified of possible Incentives offered so they can be properly budgeted for.

3. When the method selection is complete, the District Production Administrator shall submit an "Innovative Contracting Notification Form (ICNF)" (see appendix) along with the plan package submittal. (CO Estimating will forward the ICNF to Construction). Alternatively the District Production Administrator may submit the ICNF directly to CO Construction. The District Production Administrator shall coordinate the development of the Innovative method selected with District Planning/Program Administrator, and Central Office Program Manager (when applicable).
4. The District Production Administrator shall keep the ELLIS system up-to-date with the innovative method selection as appropriate. The District Construction Engineer will keep the CMS system up-to-date with Incentive and Disincentive payments as appropriate.

B. The Division of Construction Management

1. The Division of Construction Managements Innovative Contracting Coordinator will be responsible for creating and maintaining a data base containing information about every project that uses innovative contracting. The Coordinator will be responsible for monitoring and evaluating the projects, and updating this manual and specifications as required.
2. The Division of Construction Management will use the completed project information to continually improve the "Innovative Contracting Manual".

Innovative Contracting Designer Notes

PN 120 - Work Day Contract

Purpose and Benefits

Work Day Contract sets the number of construction days to complete a project. After the notice to proceed is received for the contract, the clock starts. Actual Work Days are determined weekly to eliminate disputes. (CPM scheduling should be called out for Work Day Contracts over 60 days.)

Contract Administration: A Work Day Contract allows the Department to more efficiently administer and staff the project by determining when the project begins and the number of days until completion. This method demands a great deal of knowledge about the construction of a project.

Time Savings: Work Day Contracts set the number of days to complete the project. This method can reduce or eliminate the project down time by specifying the number of days to complete the job. It will not save construction time; however, it will better define the construction time.

Project Knowledge: The Department will have more knowledge regarding the project's construction sequence. This knowledge will allow the Department to schedule the project around local events as well as to inform the traveling public of traffic changes.

Criteria for Selection

- The project construction time must be known in order to determine the project Work Days.
- The project should be free from time delay issues such as utility conflicts, right-of-way acquisition or other unresolved issues.
- The project should have tight time constraints.
- Not recommended for projects spanning a winter shutdown period.

Project Types

Small to Mid-Size Projects - Projects for which a definite number of Work Days can be determined. (Supply and delivery issues must be considered in determining the number of Work Days.)

Requirements / Conditions for use

May include CPM schedule, PN 107.

Note Variables that must be filled in:

1. Work Day Contract Table with number of Work Days to complete the project (Must be included in the Plans General Notes)
 - A. Work start date
 - B. Work Days allowed

PN 121 - Incentive/Disincentive Contract

Purpose and Benefits

Incentive/Disincentive provisions are intended to motivate the Contractor to complete the work or a critical portion of the work on or ahead of schedule. It allows the owner/agency to compensate a Contractor a fixed amount of money for each time period the identified critical work is completed ahead of schedule and assess a deduction for time period the Contractor overruns the completion date. The owner determines the time required for the project or portion of the project. The I/D amounts are based upon assessing traffic safety, traffic maintenance and road user delay costs.

Time Savings: Incentive/Disincentive if used properly can shorten the impact or delay to the road users during construction.

Congestion: Incentive/Disincentive contracts allow the Department to shorten the lane closure duration in order to lessen the congestion time. Short duration I/D can be used when time periods less than a day are desired, such as by the hour, 15 minute, or 5 minute increments.

Criteria for Selection

- The project or a portion of the project results in a significant delay or impact to the road users. The road user delay cost can help determine the Incentive/Disincentive amounts. (Interstate Lane Closures are typical projects for Incentive/Disincentive.)
- The Department must have a good understanding of the construction time needed to complete the Incentive/Disincentive portion of the project.

Project Types

All time sensitive projects

Small Projects - bridge projects or bituminous resurfacing

Mid-Level Projects- Interstate resurfacing, or minor rehabilitation.

Mega Projects- Corridor reconstruction or interstate rehabilitation.

Requirements / Conditions for use

- May include PN 107 (CPM schedule).
- Do not include PN 104 (Value Engineering Change Proposal)
- Do not include PN 130
- A Prebid Meeting may be held at the Districts discretion.
- The incentive payments shall not exceed more than five percent of the total contract amount unless the Director or his designee determines that the work is so critical that a higher percentage is warranted.
- The incentive and disincentive amounts are based upon assessing traffic safety, traffic maintenance and road user delay costs.
- The incentive amount does not have to equal the disincentive amount.
- There shall not be a cap on the accruing daily disincentive amount unless the Director or designee expressly authorizes such a cap.

Note Variables that must be filled in:

1. Incentive/Disincentive Contract Table with detailed information must be included in Plan General Notes.
 - A. Description of Critical Work
 - B. Completion Date

- C. Time Period
- D. Disincentive \$ per time period
- E. Incentive \$ per time period
- F. Maximum Incentive [Maximum of 5% of contract amount]

PN 123 - Lump Sum Minus Incentive

Purpose and Benefits

Lump Sum Minus Incentives are similar to Incentive/Disincentive provisions discussed earlier. However, it establishes a large lump sum incentive for the Contractor if a specific project or critical item of work is completed on time or ahead of schedule. Lump Sum Minus allows for time extensions due to weather days. The Lump Sum Incentive is decreased by the Disincentive daily deduction amount for each time period the Contractor over runs the completion date. After the Lump Sum Incentive is reduced to zero, the Contractor is assessed Liquidated Damages as per C&MS 108.07.

Time Savings: A large incentive allows the Contractor to spend dollars to be innovative in all aspects of the contract to meet an aggressive completion date. The Contractor's innovative methods and aggressive schedule allows the project to be completed on or ahead of schedule.

Criteria for Selection

- The project is a high profile project having significant user delays, or other local impact.
- The project will be difficult to complete within the incentive time. (e.g.: a two year project complete in one season.)
- The project is large in dollar amount. (The incentive is typically 5% of the contract. The dollar amount must be enough to entice the Contractor to complete the project ahead of schedule.)
- The project is free from complicating issues such as utility conflicts, right-of-way acquisition or other unresolved issues. These issues may cause delays that may cause the Department to pay the Contractor the incentive payment even if they don't complete the critical work ahead of schedule.

Project Types

Time sensitive projects

Mid-Level Projects- Interstate resurfacing, or minor rehabilitation

Mega Projects- Corridor reconstruction or interstate rehabilitation

Requirements / Conditions for use

- May include PN 107 (CPM schedule).
- Do not include PN 104 (Value Engineering Change Proposal)
- Do not include PN 130
- A Prebid Meeting may be held at the Districts discretion.
- The lump sum incentive payment shall not exceed more than five per cent of the total contract amount unless the Director or his designee determines that the work is so critical that a higher percentage is warranted.
- The Disincentive amounts are based upon assessing traffic safety, traffic maintenance and road user delay costs.

Note Variables that must be filled in:

1. Lump Sum Minus Contract Table (Must be included in the Plans General Notes)
 - A. Description of Critical Work
 - B. Completion Date
 - C. Lump Sum Incentive allowed (Maximum of 5% of contract amount)
 - D. Disincentive

PN 124 - Calendar Days of Contract Time for Opening to Unrestricted Traffic: A + B Bidding

Purpose and Benefits

Cost-plus-time bidding, more commonly referred to as the A+B method, involves time, with an associated cost, to determine the low bidder. Under the A+B method, each bid submitted consists of two components:

- The “A” component is the traditional bid for the contract items and is the dollar amount for all work to be performed under the contract.
- The “B” component is a “bid” of the total number of calendar days required to complete the project, as estimated by the bidder, multiplied by a factor set by the owner prior to the bid. (Calendar days are used to avoid any potential for controversy with work days.)

The bid for award consideration is based on a combination of the bid for the contract items and the associated cost of time, according to the formula:

$(A) + (B \times \text{Disincentive/Day})$

This formula is used to determine the lowest bid for award and is not used to determine payment to the Contractor. The Contractor’s estimate for the completion of critical work bidding method can be an effective technique to significantly reduce these impacts. (CPM scheduling is a requirement for A+B Contracts over 60 days in length.)

Time Savings: A+B Bidding is used to motivate the Contractor by minimizing construction time on high priority and high usage projects. This encourages Contractors to finish early by (1) offering bonuses for early completion and (2) assessing disincentives for late completion.

Project Scheduling: A + B Bidding allows the Department to have the project schedule bid.

Criteria for Selection

- The project has traffic restrictions, lane closures, or detours that result in high road user delay costs.
- The project has safety concerns or significant negative impacts to the local community or economy during construction that warrant expediting the project.
- The project is relatively free of utility conflicts, design uncertainties, or right-of-way issues that may impact the award date or critical project scheduling.
- The project has generated sufficient public interest that demands completion of the project as quickly as possible.
- The Department seeks Contractor expertise to schedule and facilitate an early completion.

Project Types

All projects

Requirements / Conditions for use

- Must include PN 107 (CPM schedule).
- Do not include PN 104 (Value Engineering Change Proposal)
- Do not include PN 130
- A Prebid Meeting may be held at the Districts discretion.

PN 125 - A + B Bidding with Multiple Sections

Purpose and Benefits

A + B Bidding with Multiple Sections provisions are intended to motivate the Contractor to complete the work or a critical portion of the work on or ahead of schedule. It allows the Department to compensate a Contractor a fixed amount of money for each time period the identified critical work is completed ahead of schedule and assess a deduction for time period the Contractor overruns the completion date. The Contractor bids the time required for the project or portion of the project. The I/D amounts are based upon assessing traffic safety, traffic maintenance and road user delay costs. Incentives and Disincentives are based on the number of days that the Contractor actually takes to complete the sections as compared to the number that the Contractor bid. (e.g.: The plan note maximum is 30, the Contractor bid 20, the Contractor actually took 17, so the Contractor would get a 3 day incentive payment for the segment)

Time Savings: A + B Bidding with Multiple Sections if used properly can shorten the impact or delay to the road users during construction.

Congestion: A + B Bidding with Multiple Sections contracts allow the Department to shorten the lane closure duration in order to lessen the congestion time.

Criteria for Selection

- The project or a portion of the project results in a significant delay or impact to the road users. The road user delay cost can help determine the Incentive/Disincentive amounts.

Project Types

All time sensitive projects

Small Projects - bridge projects or bituminous resurfacing

Mid-Level Projects- Interstate resurfacing, or minor rehabilitation.

Mega Projects- Corridor reconstruction or interstate rehabilitation.

Requirements / Conditions for use

- May include PN 107 (CPM schedule).
- Do not include PN 104 (Value Engineering Change Proposal with time)
- Do not include PN 130
- A Prebid Meeting may be held at the District's discretion.
- The incentive payments shall not exceed five per cent of the total contract amount unless the Director or his designee determines that the work is so critical that a higher percentage is warranted.
- The incentive and disincentive amounts are based upon assessing traffic safety, traffic maintenance and road user delay costs.
- The incentive amount equals the disincentive amount.
- There shall not be a cap on the accruing daily disincentive amount unless the Director or designee expressly authorizes such a cap.

Note Variables that must be filled in:

A+B with Multiple Sections Contract Table. with detailed information must be included in Plan General Notes.

- A. Description of Critical Work for each Contract Segment
- B. Maximum Number of days the contractor can bid for the contract segment
- C. The Incentive/ Disincentive per day
- D. Maximum Incentive [Maximum of 5% of contract amount]

PN 127 - Lane Value Contract

Purpose and Benefits

A Lane Value Contract establishes a Disincentive that is assessed to the Contractor for each time interval that a critical lane or ramp is restricted. The Disincentive amounts do not have to be the same amount for each lane or ramp configuration. It allows the Department to allocate road user costs based on dense traffic or other high value areas. The Disincentives are assessed for each time period the specific lane / ramp is restricted. The Contractor will pass on the minimum assessments they feel are required to get the high priority lane or ramp open. This encourages the Contractor to focus work on highest priority lanes.

Time Savings: If used properly the construction time for specific areas will be decreased.

Congestion: Lane Value Contracts allow the Department to minimize the lane closure duration in order to lessen the congestion time. Also lane closures can be held to a minimum, this is the most restrictive note the Department currently uses and allocates road user costs based on delays to a very large number of traveling public as the Disincentives.

Criteria for Selection

- This project is of a complex nature and has high traffic volume

Project Types

Complex and high traffic volume projects- A construction project with areas that are critically important to remain unrestricted.

PN 128 - Unauthorized Lane Use

Purpose and Benefits

The Unauthorized Lane Usage provision is similar to plan notes for traffic control that assess high dollar damages to very high volume critical areas. The provision establishes a Disincentive that is assessed if for any reason the Contractor closes, extends a lane closure into a non-allowed time or section, hourly or 15 minute intervals. The Disincentive is based on engineering analysis of delay and road user costs directly associated with the reduced capacity caused by lane reductions. The Disincentive amounts do not have to be the same amount for each roadway segment or ramp configuration. This note may be used in combination with other innovative contracting notes. Unplanned interruptions to traffic will be minimized, and the Contractor assessed proportionally if the method is set up properly. Unauthorized Lane Use provisions will allow the Department to minimize unforeseen lane closures in order to lessen the congestion time.

Criteria for Selection

- The project is a high profile project having significant user delays.
- The critical work areas are able to be completed in the times given, but road user costs escalate dramatically if the critical areas are closed during other times.

Project Types

Complex and high traffic volume projects – A construction project with areas that are critically important to remain unrestricted.

Encourages the Contractor to focus work on the highest priority lanes, and to not interrupt critical road segments.

Requirements / Conditions for use

A Prebid Meeting may be held at the Districts discretion.

Note Variables that must be filled in:

1. Unauthorized Lane Usage Table (Must be included in the Plans General Notes)
 - A. Description of Critical Lane/Ramp
 - B. Unit of Time
 - C. Disincentive

PN 129 - Window Contract

Purpose and Benefits

A Window Contract establishes a set number of construction days to complete a project or portion of a project between the award and project completion date. The Contractor determines when to begin construction and has the flexibility of scheduling project work time minimizing overall construction time. If used properly the overall time of construction will be decreased. Window Contracts allow the Contractor flexibility in project scheduling in order to minimize the construction time and costs. This contract should NOT be used when significant MOT requirements are described in the plan.

Criteria for Selection

- The project is lower profile having some user delays.
- The project is of short duration construction.
- The project completion date does not have to be tightly controlled.
- There is no incentive, nor disincentive (except L/D for time overruns)
- Early fall completion dates are recommended, (stay away from end of season work)

Project Types

Simpler and shorter duration projects – A construction project without complex issues such as utility, right of way, or other complicating scenarios. This note allows for time extensions due to weather per 108.06.

Requirements / Conditions for use

A Prebid Meeting may be held at the Districts discretion.

Note Variables that must be filled in:

1. Window Contract Table (Must be included in the Plans General Notes)
2. Description of Critical Work
3. Calendar days to complete the critical work

PN 126, PN 136 - Design-Build Contracts

Purpose and Benefits

Design-Build is the process by which a single contracted entity provides both the design and construction under a single contract. (CPM scheduling is a requirement for Design-Build Contracts)

Time Savings: Compared to traditional contract procurement, time is saved when the project construction begins during the design level services. Design-Build assigns the design and construction to a single party, allowing some construction work to begin before the final design is completed.

Responsibility: Design-Build provides a single point of contact for quality, cost, and schedule from inception through construction.

Errors & Omissions: Design-Build reduces or eliminates change orders and claims due to "errors and omissions."

Innovative: Design-Build allows the Contractor maximum flexibility in the selection of innovative designs, materials, and construction techniques. Innovation by the Contractor, in project scheduling, and design will allow for the early completion of the project.

Expertise: Design-Build provides expertise not available in-house (Example- Intelligent Transportation Systems).

Criteria for Selection

- The project has a clearly defined scope, design basis, and performance requirements. [Rehabilitation projects are only suitable if the scope clearly defines the amount of the existing conditions to be untouched.]
- The project is free from complicating issues such as utility conflicts, right-of-way acquisition, hazardous materials, wetland and environmental concerns, or other unresolved issues.
- The project is an emergency project or a project with tight time constraints.
- The project involves a significant design effort with the potential to save time and money in the design phase.
- The project requires expertise not available in-house.
- The project has room for innovation in the design and construction efforts.
- A Prebid Meeting may be held at the Districts discretion, but is recommended for complex projects.

Project Types

Small Design-Build Projects - Resurfacing, culvert replacement, noise wall.

Mid-Level Design-Build Projects- Interstate reconstruction, or rehabilitation, widening, replacement or construction of simple bridges.

Mega Design-Build Projects- Corridor reconstruction, unique or complex structures.

Warranties

Purpose and Benefits

A warranty is a guarantee of the integrity of an individual's work that carries with it the responsibility to repair or replace deficiencies. Highway construction warranties, however, are for a specific work item. They are generally provided for a period of time and are only for items which the Contractor has full control over. Long-term maintenance is not normally included.

Quality: Warranties are to guarantee the quality and durability of selected work items for a specific period of time after construction, resulting in lower life-cycle costs.

Warranty: The Warranty Coordinator will assure the new Warranty Guidelines are consistent. Warranties lower the owner risk by providing assurance that the Contractor will correct early failures due to poor materials or workmanship that may have gone unnoticed during construction. This reduces or eliminates unnecessary costs of early maintenance due to poor performance. Warranties also induce a higher concern for quality by Contractors, designers, and suppliers of transportation facilities and systems. Warranties encourage the development of better testing equipment and techniques for construction projects and reduce inspection and contract administration responsibilities for the owner.

Criteria for Selection

- The warranted work element is entirely within the Contractor's control and is measurable.
- Work items have material and workmanship performance attributes or failure thresholds which can be explicitly defined in the specification and measured in the field.
- Aspects of the design, or other factors not under the Contractor's control, will have minimal impacts on the warranted work during the warranty period or can be distinguished from the warranted work.
- The project may have opportunities to develop and incorporate innovative technologies in materials, equipment, and construction processes.
- Existing project conditions must be well defined.
- Performance requirements must be clearly defined. Monitoring methods and acceptable thresholds for these requirements must also be defined.
- Construction quality parameters and acceptance criteria must be clearly defined.

Project Types

Asphalt -New and Major Rehabilitation (SS 880) - 7 years.

Asphalt - Preventive maintenance and minor rehabilitation (S 1059) - 3 years.

New Bridge Deck (SS 892, SS 893 or SS 894) - 2 years.

Painting Bridge Steel (SS 885) – 5 years.

Field Metalizing of Structural Steel (SS 883) – 3 Years.

Concrete - New and Major Rehabilitation (SS 884, SS 896) - 7 years.

Chip Seal, Micro Surfacing, (SS 882) - 2 years.

Hot in Place Recycling (SS 886) – 3 years.

Microsurfacing (SS 881) – 2 years.

Concerns

- The use of warranties without adequate technology or processes to handle the contracts may lead to an increase in disputes and costly litigation. This could harm the long-term adoption and potential benefits of using warranties.
- The length of the warranty period required to catch deficiencies caused by poor material or construction is of particular concern.

Bridge Deck Warranty Application Guidelines

Supplemental Specification 892

Supplemental Specification 893

Supplemental Specification 894

The warranty covers three different types of possible defects. These defects are alligator or map cracking, scaling, and spalling. These three defects are the result of actions under the control of the Contractor and are independent of the design of the deck.

The following items apply to all bridge deck warranty specifications:

1. Must be used on all priority system routes.
2. Must be used for projects with average daily traffic (ADT) greater than 30,000.

The maximum warranty period is only 2 years while bridges are designed to last much longer than this period.

Structural Steel Paint Warranty Application Guidelines

Supplemental Specification 885

Supplemental Specification 883

The warranty covers any of the following conditions that are discovered within the specified warranty period.

- The occurrence of visible rust or rust breakthrough, paint blistering, peeling, scaling or un-removed slivers.
- Paint applied over dirt, debris, blasting debris, or rust products not removed during blast cleaning.
- Material deficiencies, application deficiencies, incomplete coatings, or coating thicknesses outside the thickness limits specified in the paint system specifications.
- Damage to the coating system caused by the Contractor while removing scaffolding, forms, or performing other work.

The following items apply to all structural steel paint warranty specifications:

- Must be used on all projects that call for painting of structural steel.

The maximum warranty period is only 5 years.

Pavement Warranty Application Guidelines

Supplemental Specification 880

Supplemental Specification 881

Supplemental Specification 882

Supplemental Specification 884

Supplemental Specification 886

Supplemental Specification 896

Supplement 1059

Requiring the Contractor to provide a warranty does not relieve ODOT of its responsibility to apply the proper pavement rehabilitation strategy. Pavements which require full depth repairs in a non-warranty situation require those same repairs under a warranty. The warranty does not hold the Contractor responsible for the condition of the existing pavement. Failures during the warranty period which were the result of the existing conditions are still ODOT's responsibility and not the Contractor's. To prevent these sorts of failures, ODOT must specify the proper treatment(s) of the existing pavement and base so the Contractor has the opportunity to provide a pavement which will last through the warranty period. Failure to follow these guidelines may lead to disagreements in the future and could void the warranty.

The following documents are to be followed for all pavement warranty projects, where applicable:

1. Pavement Design and Selection Process (Pavement Policy)
2. Pavement Design & Rehabilitation Manual (Pavement Manual)
3. Pavement Preventive Maintenance Program Guidelines.

These documents can be found on the Office of Pavement Engineering website here:
www.dot.state.oh.us/Divisions/HighwayOps/Pavement/Pages/Publications.aspx

The recommended minimum project length for pavement warranties is one lane-mile.

The following pages detail guidelines for application of each of the pavement warranty specifications and supplements.

Value Engineering in Construction

Proposal Note 104 and C&MS 105.19

Purpose and Benefits

Value Engineering in construction allows the Contractor to submit Value Engineering Change Proposals which lower the project cost or offer a time savings in construction without altering the essential functions and characteristics of the project. If the proposal is accepted by the Department, the Contractor and Department share equally in the cost savings.

Cost Savings: The Contractor's innovative methods are rewarded by providing an incentive of half of the value engineering savings value to the Contractor.

Cost and Time Savings: In addition to the Cost Savings listed above, the Contractor's innovative methods and aggressive schedule allows the project to be completed ahead of schedule.

Criteria for Selection

Criteria for selecting: Value Engineering in Construction

- All projects will include a Value Engineering Cost Savings in Construction note, EXCEPT those that contain the Value Engineering Cost Savings and Time note, or those that contain the any of the following Innovative Contracting provisions:
 - Incentive/Disincentive,
 - Design Build,
 - Lump Sum Minus Incentive
 - A+B Bidding.

Criteria for selecting: Value Engineering Cost Savings and Time Savings:

- This note may be included on major bridge, major new, and four or more lane divided projects.
- Close consideration of the project completion date must be made when selecting this note.
- Do Not include this note on Projects that contain any of the following Innovative Contracting provisions:
 - Incentive/Disincentive,
 - Lump Sum Minus Incentive
 - Design Build,
 - A+B Bidding.

Project Types

All projects except those already having the listed innovative contracting notes can benefit.

Appendixes

<i>Innovative Contracting Notification and Tracking Form</i>			
Part I			
Project PID -			
Project County, Route, Section -			
Project Type -			
Project Description - (Bridge Size, Work length, Work involved)			
Proposed Innovative Method(s) -			
Project Estimate -			
Approval -	DHMA:	DCE:	DPA:
Part II			
Project Number -			
Innovative Method -			
Daily Bonus -			
Daily Deterrence -			
Maximum Bonus -			
Completion time -			
Contract Amount -			
Part III			
Project Number -			
Innovative Method(s) -			
Total Bonus or Deterrence Amount Paid -			
Days of Early or Late Completion -			
Final Contract Amount -			
Return completed form to: ODOT Central Office, Division of Construction			

Calculating Road User Costs

ROAD USER COSTS WITH NO LANES CLOSED

- Required information - Number of vehicles exiting a work zone in given period of time. Maintenance of Traffic (MOT) design that maintains the pre-construction number of lanes (i.e., no lanes are dropped), but traffic is shifted.
- Concepts - This MOT strategy maximizes traffic flow through a work zone. Of all of the MOT concepts, this strategy produces a situation that is most similar to a free flow condition.
- A Road User Cost calculator Excel spreadsheet is available for download here: www.dot.state.oh.us/Divisions/ConstructionMgt/Admin/Pages/default.aspx

Calculation Procedure:

1. Define the per hour passenger car and truck user cost:

Year	Car Cost / hr	Truck Cost / hr
2008	\$19.22	\$51.88
2009	-0.4%	-0.4%
Future	CPI / year ¹	CPI / year ¹

¹ See Contact Reynaldo Stargell in the Office of Traffic Engineering for the latest adjustment factor based on the CPI : <ftp://ftp.bls.gov/pub/special.requests/cpi/cpiiai.txt>

2. Calculate the length of the work zone.
3. Using the Traffic Survey Report on ODOT's Intranet, or certified traffic, determine the Average Daily Traffic for the section closest to the work zone in question.
4. The Traffic Survey Report provides passenger car and truck (B&C) breakdowns.
5. Define the free flow speed and the work zone speed.
6. Determine the amount of time (in seconds) it will require for one vehicle to travel the length of the work zone in a free flow condition.
7. Determine the amount of time (in seconds) it will require for one vehicle to travel the length of the work zone during construction (i.e., reduced speed limit).
8. Subtract the step 7 results from the step 6 results. This number equals the delay incurred by one vehicle traveling through the work zone.
9. Divide the step 8 results by 3600 seconds (3600sec = 1hr). This number is the percentage of one hour that one vehicle is delayed.
10. Multiply the step 9 results by the user cost for passenger cars and trucks (B&C). This number is the actual user cost incurred by one passenger car and truck (typically this number is very small).
11. Multiply the step 10 results by the appropriate ADT (passenger cars or B&C trucks) of vehicle from step 4.
12. Add the two step 11 results. The sum is the user cost (passenger cars and trucks) per day.
13. Multiply the step 12 results by the number of days the work zone will be in place. The product is the total user cost for the construction period.

ROAD USER COSTS WITH LANE(S) CLOSED

- Closing of a lane(s) in a work zone. MOT design that requires a reduction in the number of lanes (i.e., lane(s) are dropped).
- Concepts - This MOT strategy constricts traffic flow through a work zone by reducing the number of lanes. It can potentially produce delays.
- **Calculation Procedure:**

1. Define the per hour passenger car and truck user cost:

Year	Car Cost / hr	Truck Cost / hr
2008	\$19.22	\$51.88
2009	-0.4%	-0.4%
Future	CPI / year ¹	CPI / year ¹

¹ See Contact Reynaldo Stargell in the Office of Traffic Engineering for the latest adjustment factor based on the CPI : <ftp://ftp.bls.gov/pub/special.requests/cpi/cpiiai.txt>

2. Define the work zone configuration (i.e., 3 lanes merged to 2 lanes, 2 lanes merge to 1 lane, etc.).
3. Using the Traffic Survey Report on ODOT's Intranet, or certified traffic, determine the Average Daily Traffic for the section closest to the work zone in question.
4. The Traffic Survey Report provides passenger car and truck (B&C) breakdowns.
5. If hourly counts for the area being analyzed are available, they should be utilized in the analysis.
6. Define the free flow speed and the work zone speed.
7. Run the QUEWZ-98 or acceptable alternate program (QUEWZ-98 is a work zone analysis program). The QUEWZ-98 program can be downloaded from the ODOT internet here:
www.dot.state.oh.us/divisions/constructionmgt/admin/pages/default.aspx
8. Program QUEWZ-98 or acceptable alternate to calculate the road user cost (this option is available on the first screen).
9. QUEWZ-98 or acceptable alternate requires a cost adjustment factor. The program is based on the 1990 dollar; therefore, an adjustment must be made. Set the cost adjustment factor equal to 1.6 (this factor will produce the above road user cost for FY 2010). Contact Reynaldo Stargell in the Office of Traffic Engineering for the latest adjustment factor.
10. If hourly counts are available, input the hourly volumes into QUEWZ-98 or acceptable alternate.
11. If hourly counts are not available, program QUEWZ-98 or acceptable alternate to analyze the defined ADT from step 4 (QUEWZ-98 or acceptable alternate will distribute the ADT automatically).
12. QUEWZ-98 or acceptable alternate produces an output file that defines hourly road user cost and a total road user cost per day.
13. Multiply the step 12 results by the number of days the work zone will be in place. The product is the total road user cost for the construction period.

DETOUR

- Complete closure of a roadway and rerouting of traffic around the construction area. MOT design that requires traffic to divert to another route.
- Concepts - This MOT strategy diverts traffic flow around a work zone by forcing traffic on to another roadway. The traveling public incurs long delays and potentially the largest road user cost.
- A Road User Cost calculator Excel spreadsheet is available for download here: www.dot.state.oh.us/Divisions/ConstructionMgt/Admin/Pages/default.aspx
- **Calculation Procedures on Non-Freeways:**

1. Define the per hour passenger car and truck road user cost :

Year	Car Cost / hr	Truck Cost / hr
2008	\$19.22	\$51.88
2009	-0.4%	-0.4%
Future	CPI / year ¹	CPI / year ¹

¹ See Contact Reynaldo Stargell in the Office of Traffic Engineering for the latest adjustment factor based on the CPI : <ftp://ftp.bls.gov/pub/special.requests/cpi/cpiiai.txt>

2. Calculate the length of the detour.
 3. Using the Traffic Survey Report on ODOT's Intranet, or certified traffic, determine the Average Daily Traffic for the section closest to the area of detour in question.
 4. The Traffic Survey Report provides passenger car and truck (B&C) breakdowns.
 5. Define the free flow speed and the area of detour speed.
 6. Determine the amount of time (in seconds) it will require for one vehicle to travel the length of the work zone in a free flow condition.
 7. Determine the amount of time (in seconds) it will require for one vehicle to travel the length of the detour.
 8. Subtract the step 7 results from the step 6 results. This number equals the delay incurred by one vehicle being detoured.
 9. Divide the step 8 results by 3600 seconds (3600sec = 1hr). This number is the percentage of one hour that one vehicle is delayed.
 10. Multiply the step 9 results by the road user cost for passenger cars and trucks (B&C). This number is the actual road user cost incurred by one passenger car and truck.
 11. Multiply the step 10 results by the appropriate ADT (passenger cars or B&C trucks) from step 4.
 12. Add the two step 11 results (road user cost for passenger cars and trucks). The sum is the total road user cost per day.
 13. Multiply the step 12 result by the number of days the detour will be in place. The product is the total road user cost for the construction period.
- **Calculation Procedures on Freeways:**
 1. Calculate Road user costs as for non-freeways, then add to this cost the cost calculated in step 2.
 2. Apply the QUEWZ program (see instructions for Road User Costs with Lane(s) Closed) to the detour route, at the point along the detour route where the capacity is lowest if not consistent along the entire length. Use 1800 vehicle/hour/lane as the capacity. Include in the volume the normal traffic using the route plus the detour traffic. Add this Road User Cost to the cost calculated in step 1 above to give the total road user cost on a freeway detour route.

Code of Federal Regulations, Title 23 § 635.413 Guaranty and warranty clauses

TITLE 23--HIGHWAYS

CHAPTER I--FEDERAL HIGHWAY ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

§ 635.413 Guaranty and warranty clauses.

The STD may include warranty provisions in National Highway System (NHS) construction contracts in accordance with the following:

(a) Warranty provisions shall be for a specific construction product or feature. Items of maintenance not eligible for Federal participation shall not be covered.

(b) All warranty requirements and subsequent revisions shall be submitted to the Division Administrator for advance approval.

(c) No warranty requirement shall be approved which, in the judgment of the Division Administrator, may place an undue obligation on the contractor for items over which the contractor has no control.

(d) A STD may follow its own procedures regarding the inclusion of warranty provisions in non-NHS Federal-aid contracts.

(e) In the case of a design-build project, the following requirements will apply instead of paragraphs (a) through (d) of this section.

(1) General project warranties may be used on NHS projects, provided:

(i) The term of the warranty is short (generally one to two years); however, projects developed under a public-private agreement may include warranties that are appropriate for the term of the contract or agreement.

(ii) The warranty is not the sole means of acceptance;

(iii) The warranty must not include items of routine maintenance which are not eligible for Federal participation; and,

(iv) The warranty may include the quality of workmanship, materials and other specific tasks identified in the contract.

(2) Performance warranties for specific products on NHS projects may be used at the STD's discretion. If performance warranties are used, detailed performance criteria must be provided in the Request for Proposal document.

(3) The STD may follow its own procedures regarding the inclusion of warranty provisions on non-NHS Federal-aid design-build contracts.

(4) For best value selections, the STD may allow proposers to submit alternate warranty proposals that improve upon the warranty terms in the RFP document. Such alternate warranty proposals must be in addition to the base proposal that responds to the RFP requirements.

[60 FR 44274, Aug. 25, 1995, as amended at 67 FR 75926, Dec. 10, 2002; 72 FR 45336, Aug. 14, 2007]

Code of Federal Regulations, Title 23, § 635.102 and § 635.127

TITLE 23--HIGHWAYS

CHAPTER I--FEDERAL HIGHWAY ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

PART 635_CONSTRUCTION AND MAINTENANCE

§ 635.102 Definitions.

... Excerpted ...

Incentive/disincentive for early completion as used in this subpart, describes a contract provision which compensates the Contractor a certain amount of money for each day identified critical work is completed ahead of schedule and assesses a deduction for each day the Contractor overruns the incentive/disincentive time. Its use is primarily intended for those critical projects where traffic inconvenience and delays are to be held to a minimum. The amounts are based upon estimates of such items as traffic safety, traffic maintenance, and road user delay costs.

Liquidated damages means the daily amount set forth in the contract to be deducted from the contract price to cover additional costs incurred by a State transportation Department because of the Contractor's failure to complete the contract work within the number of calendar days or workdays specified. The term may also mean the total of all daily amounts deducted under the terms of a particular contract.

§ 635.127 Agreement provisions regarding overruns in contract time.

(a) Each State transportation department (STD) shall establish specific liquidated damages rates applicable to projects in that State. The rates may be project-specific or may be in the form of a table or schedule developed for a range of project costs and/or project types. These rates shall, as a minimum, be established to cover the estimated average daily construction engineering (CE) costs associated with the type of work encountered on the project. The amounts shall be assessed by means of deductions, for each calendar day or workday overrun in contract time, from payments otherwise due to the contractor for performance in accordance with the contract terms.

(b) The rates established shall be subject to FHWA approval either on a project-by-project basis, in the case of project-specific rates, or on a periodic basis after initial approval where a rate table or schedule is used. In the latter case, the STD shall periodically review its cost data to ascertain if the rate table/schedule closely approximates, at a minimum, the actual average daily CE costs associated with the type and size of the projects in the State. Where rate schedules or other means are already included in the STD specifications or standard special provisions, verification by the STD that the amounts are adequate shall be submitted to the FHWA for review and approval.

After initial approval by the FHWA of the rates, the STD shall review the rates at least every 2 years and provide updated rates, when necessary, for FHWA approval. If updated rates are not warranted, justification of this fact is to be sent to the FHWA for review and acceptance.

(c) The STD may, with FHWA concurrence, include additional amounts as liquidated damages in each contract to cover other anticipated costs of project related delays or inconveniences to the STD or the public. Costs resulting from winter shutdowns, retaining detours for an extended time, additional demurrage, or similar costs as well as road user delay costs may be included.

(d) In addition to the liquidated damages provisions, the STD may also include incentive/disincentive for early completion provisions in the contract. The incentive/disincentive amounts shall be shown separately from the liquidated damages amounts.

(e) Where there has been an overrun in contract time, the following principles shall apply in determining the cost of a project that is eligible for Federal-aid reimbursement:

(1) A proportional share, as used in this section, is the ratio of the final contract construction costs eligible for Federal participation to the final total contract construction costs of the project.

(2) Where CE costs are claimed as a participating item based upon actual expenses incurred or where CE costs are not claimed as a participating item, and where the liquidated damages rates cover only CE expenses, the total CE costs for the project shall be reduced by the assessed liquidated damages amounts prior to figuring any Federal pro rata share payable. If the amount of liquidated damages assessed is more than the actual CE totals for the project, a proportional share of the excess shall be deducted from the federally participating contract construction cost before determining the final Federal share.

(3) Where the STD is being reimbursed for CE costs on the basis of an approved percentage of the participating construction cost, the total contract construction amount that would be eligible for Federal participation shall be reduced by a proportional share of the total liquidated damages amounts assessed on the project.

(4) Where liquidated damages include extra anticipated non-CE costs due to contractor caused delays, the amount assessed shall be used to pay for the actual non-CE expenses incurred by the STD, and, if a Federal participating item(s) is involved, to reduce the Federal share payable for that item(s). If the amount assessed is more than the actual expenses incurred by the STD, a proportional share of the excess shall be deducted from the federally participating contract construction cost of the project before the Federal share is figured.

(f) When provisions for incentive/disincentive for early completion are used in the contract, a proportion of the increased project costs due to any incentive payments to the contractor shall be added to the federally participating contract construction cost before calculating the Federal share. When the disincentive provision is applicable, a proportion of the amount assessed the contractor shall be deducted from the federally participating contract construction cost before the Federal share calculation. Proportions are to be calculated in the same manner as set forth in paragraph (e)(1) of this section.

[52 FR 31390, Aug. 20, 1987. Redesignated at 62 FR 6872, Feb. 14, 1997]

Ohio Revised Code References

§ 5517.11 Program for combining design and construction elements of project into single contract.

Notwithstanding section 5517.01 of the Revised Code, the director of transportation may establish a program to expedite the sale and construction of special projects by combining the design and construction elements of a highway or bridge project into a single contract. The director shall prepare and distribute a scope of work document upon which the bidders shall base their bids. Except in regard to those requirements relating to providing plans, the director shall award contracts under this section in accordance with Chapter 5525. of the Revised Code.

On the effective date of this amendment and until July 1, 2011, the total dollar value of contracts made under this section shall not exceed one billion dollars. On and after July 1, 2011, for each biennium, the total dollar value of contracts made under this section shall not exceed two hundred fifty million dollars unless otherwise authorized by the general assembly.

Amended by 128th General Assembly ch. 1, HB 2, § 101.01, eff. 7/1/2009.

§ 5525.11 Contract upon a unit price basis.

The director of transportation may enter into any contract authorized by law upon a unit price basis. Where a contract is entered into upon a unit price basis, the Contractor shall state in his bid the sum for which he offers to perform each unit of each different kind or class of work, and upon completion the quantities of each kind of work shall be measured and the Contractor paid only for the quantities of work actually performed by him. Where the director elects to enter into a contract upon a unit price basis he may include in the estimate such reasonable sums as he deems necessary to cover variations in the actual quantities of work as compared with the estimated quantities. In the event the actual compensation earned by the Contractor exceeds the estimate, any such excess shall be paid from any funds of the Department of transportation which may be expended upon the improvement in question. In the event the actual compensation earned by the Contractor is less than the estimate, the saving shall inure to the benefit of the state.

§ 5525.20 Incentive and disincentive provisions for critical construction projects.

(A) Subject to division (B) of this section, the director of transportation may include incentive and disincentive provisions in contracts he executes for projects or portions or phases of projects that involve any of the following:

- (1) A major bridge out of service;
- (2) A lengthy detour;
- (3) Excessive disruption to traffic;
- (4) A significant impact on public safety;
- (5) A link that completes a segment of a highway.

(B) No such provisions shall be included in any particular contract without the prior consent of the municipal corporation, or, if outside a municipal corporation and off the state highway

system, the prior consent of the board of county commissioners of the county, in which the bridge, detour, disruption, impact, or link will be located or occur.

(C) If the director decides to include incentive and disincentive provisions in such contracts, he shall make those provisions part of the bid proposal issued by him pursuant to this chapter and shall also adopt rules, in accordance with Chapter 119 of the Revised Code, governing the formulation and use of those provisions. The rules shall be equivalent in scope, content, and coverage to the regulations the federal highway administrator issues concerning the use of such provisions in state contracts.

As used in this section, "incentive and disincentive provisions" means provisions under which the Contractor would be compensated a certain amount of money for each day specified critical work is completed ahead of schedule or under which he would be assessed a deduction for each day the specified critical work is completed behind schedule.

§ 5525.25. Pavement and other warranties.

(A) For each fiscal year, not more than one-fifth of the department of transportation's capital construction projects shall be bid requiring a warranty as specified in the bidding documents and in division (B) of this section.

(B) A warranty period under this section shall be:

- (1) Not more than seven years, for pavement in the case of new construction;
- (2) Not more than five years, in the case of bridge painting and pavement resurfacing and rehabilitation;
- (3) Not more than two years, in the case of pavement preventative maintenance, pavement markings, raised pavement markers, guardrail, and other project items as determined by the director.

This section does not apply to contracts the director makes on behalf of a political subdivision.

Effective Date: 06-29-2001; 03-29-2005

Ohio Administrative Code References

§ 5501:2-7-01 Definitions.

(A) “INCENTIVE/DISINCENTIVE CLAUSE” – is a contract provision which compensates the contractor a fixed amount of money for each day identified critical work is completed ahead of schedule and assesses a deduction for each day the contractor overruns the time allotted for the completion of identified critical work.

(B) “CONTRACT TIME” – is the total time established for the completion of all contract work.

(C) “INCENTIVE/DISINCENTIVE TIME” – is the time established for the completion of all identified critical work. The incentive/disincentive time and contract time may be the same when traffic impact exists for the full duration of the project. The incentive/disincentive time may be for a shorter period of time than the contract time when traffic is impacted only during a certain phase or phases of contract work.

(D) “INCENTIVE/DISINCENTIVE DAILY AMOUNT” – is the fixed amount of money paid to the contractor for each day identified critical work is completed ahead of schedule and the amount of money deducted from the contract price for each day the contractor overruns the time allotted for the completion of identified critical work.

(E) “LIQUIDATED DAMAGES” – is the daily amount of money established in the contract to be deducted from the contract price for additional costs, other than the disincentive daily amount, incurred by the department due to the contractor’s failure to complete all contract work on time.

R.C. 119.032 review dates: 07/12/2006 and 07/12/2011

§ 5501:2-7-02 Determination of incentive/disincentive time.

Prior to including incentive/disincentive provisions in a contract, the director shall conduct an engineering analysis in order to determine realistic critical and non-critical time frames. The time frames, including critically identified work phase or phases, shall be clearly set out in the construction contract. The analysis should involve a review of industry past performance and a critical path method schedule.

R.C. 119.032 review dates: 05/23/2006 and 07/12/2011

§ 5501:2-7-03 Determination of incentive/disincentive daily amount.

Prior to including incentive/disincentive provisions in a contract the director shall calculate on a per project basis a daily incentive/disincentive amount considering: construction engineering inspection costs, departmental traffic control costs and maintenance, detour and road user costs. The incentive daily rate may equal the disincentive rate.

R.C. 119.032 review dates: 07/12/2006 and 07/12/2011

§ 5501:2-7-04 Maximum incentive/disincentive amount.

The director shall not pay more than five per cent of the total contract amount in incentive payments unless he determines that the work is so critical that a higher percentage is warranted. There shall be no cap placed upon the accruing daily disincentive amount unless expressly authorized by the director.

R.C. 119.032 review dates: 07/12/2006 and 07/12/2011

§ 5501:2-7-05 Prebid conference.

When the director elects to include incentive/disincentive provisions in a contract, he may hold a prebid conference for prospective bidders and suppliers in order to advise the participants of the incentive/disincentive provisions.

R.C. 119.032 review dates: 05/23/2006 and 07/12/2011

§ 5501:2-7-06 Contract administration.

In addition to the standard contract administration practices performed by the department, the director shall ensure the following:

(A) That the contractor provides an acceptable conventional critical path method schedule prior to the commencement of work. The critical path method schedule shall break down the project into the separate operations or processes necessary for its completion. These separate operations will determine, through a network analysis, a completion time for both the critical phase or phases and the project. The schedule will be used for coordination and monitoring of all work under the contract, including all activity of subcontractors, vendors and suppliers, and will be the basic document to gauge and analyze the contractor's progress, determine time adjustments and evaluate claims.

(B) That departmental review times for matters pertaining to the incentive/disincentive phases be included in each incentive/disincentive contract. Further, by specific delegation, he shall provide the contractor with expeditious decisions on all other incentive/disincentive matters.

(C) That no extensions of time be granted, for delays in material deliveries unless such delays are industry wide, for labor strikes unless such strikes are area wide and for inclement weather except in cases of area wide flooding, blizzard conditions or significant wind or tornado damages. Extensions of time for incentive/disincentive phases of work may be granted for increases in bid item quantities which exceed the limits set out in section 5525.14 of the Revised Code and for work not originally contemplated by the contract, provided controlling items of work on the approved schedule are affected and every effort has been made by the department and the contractor to absorb the additional work into the original incentive/disincentive contract schedules.

R.C. 119.032 review dates: 05/23/2006 and 07/12/2011

Standard Plan notes from the Traffic Engineering Manual (TEM)

Standard Plan note 642-4 Item 614, Maintaining Traffic (Time Limitation on a Detour)

A minimum of one lane of traffic in each direction shall be maintained at all times, except for a period not to exceed _____ consecutive calendar days, when through traffic may be detoured as shown on sheet _____. A disincentive shall be assessed in the amount of \$ _____ per day for each calendar day the roadway remains closed to traffic beyond the specified limit.

Designer Note: This note shall be used if there is a time limitation placed on the detour. The dollar amount of the disincentive shall be calculated as directed by the Innovative Contracting Manual. The Innovative Contracting Manual is available for download at: <http://www.dot.state.oh.us/Divisions/ConstructionMgt/Admin/Pages/>

Standard Plan note 642-5 Item 614, Maintaining Traffic (Winter Time Limitations)

All existing lanes shall be open to traffic between November _____ and April _____. Liquidated damages shall be assessed in accordance with CMS 108.07 for each calendar day the roadway remains closed to traffic beyond the specified limit.

Designer Note: This note shall be used when winter traffic limitations are required.

Standard Plan note 642-6 Item 614, Maintaining Traffic (Lanes Open During Holidays or Special Events)

No work shall be performed and all existing lanes shall be open to traffic during the following designated holidays or events:

New Years
Memorial Day
Labor Day
Fourth of July
Thanksgiving
Christmas
(Other Holiday or Event)

The period of time that the lanes are to be open depends on the day of the week on which the holiday or event falls. The following schedule shall be used to determine this period:

Day of holiday or event	Time all lanes must be open to traffic
Sunday	12:00N Friday through (6:00 AM or 12:00N) Monday
Monday	12:00N Friday through (6:00 AM or 12:00N) Tuesday
Tuesday	12:00N Monday through (6:00 AM or 12:00N) Wednesday
Wednesday	12:00N Tuesday through (6:00 AM or 12:00N) Thursday
Thursday	12:00N Wednesday through (6:00 AM or 12:00N) Friday
Thursday (Thanksgiving only)	12:00N Wednesday through (6:00 AM or 12:00N) Monday
Friday	12:00N Thursday through (6:00 AM or 12:00N) Monday
Saturday	12:00N Friday through (6:00 AM or 12:00N) Monday

No extensions of time shall be granted for delays in material deliveries, unless such delays are industry-wide, or for labor strikes, unless such strikes are area-wide.

Should the Contractor fail to meet any of these requirements, the Contractor shall be assessed a disincentive in the amount of \$_____ for each minute the above described lane

closure restrictions are violated.

Designer Note: *This note shall be used when lanes must be open to traffic during holidays or special events. The dollar amount of the disincentive should be based on the hourly rates specified in the below table:*

ADT in most heavily traveled segment of project			
0-50,000	50,000-75,000	75,000-100,000	>100,000
\$50/min	\$75/min	\$100/min	\$125/min

*If a larger disincentive is desired, written documentation of the reason and justification for the disincentive shall be submitted to **OTE's Work Zones and Safety Analysis Section.***