CONSTRUCTION TIPS:
DISPUTE ANALYSIS AND RESOLUTION

Purpose

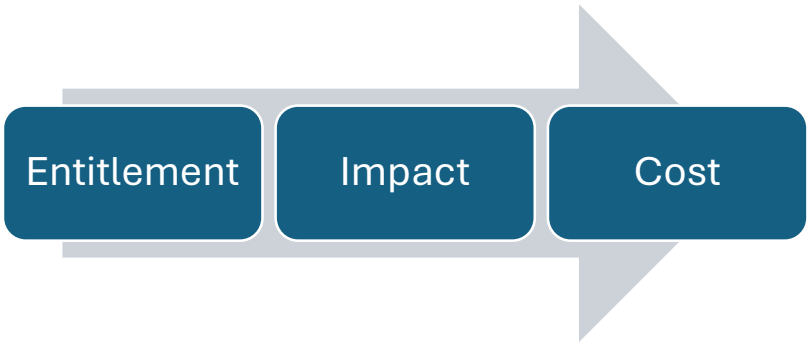
This document is intended to provide guidance to the Districts and Divisions in analyzing and resolving construction contract disputes.

The Analysis Process

Dispute analysis consists of a 3-step process. Begin this process after all the pertinent information and documentation has been collected and reviewed.

The 3-step process involves:

1. Determination of **Entitlement**
2. Establishing the **Impact(s)**
3. Calculating the **Cost**



CAUTION: It is vitally important to follow these steps, in order, without bias. Skipping steps in the process can lead to unsubstantiated settlements, overpayments or underpayments to Contractors, and wasted time and effort.

Step 1: Determination of Entitlement

In the context of construction contract administration, the term "entitlement" is defined as the right to a contract adjustment. In this step of the analysis process, the contract adjustment is not considered but only whether the Contractor is entitled to one.

Step 1A: Determining Whether a Change Occurred

In determining whether there is entitlement, one must first determine whether a change to the contract requirements occurred. A "Change" is defined as the difference between the contract requirements in effect prior to construction and the contract requirements applied during or after construction. This is not limited to new requirements - it can also include the application/misapplication of the existing requirements. If new requirements were applied, or if the existing requirements were misapplied, or not fulfilled, then a Change is said to have occurred.

If a Change occurred, then the party responsible for the Change (TxDOT or Contractor) must be determined.

Step 1B: Determining Responsibility

When deciding which party is responsible for a Change, it is critical to review the pertinent contract provisions as well as implied contractual responsibilities.

Important Contractual Responsibilities

Article 2.5 – EXAMINING DOCUMENTS AND WORK LOCATIONS

- Submitting a bid is considered evidence that the Contractor has performed an examination of the proposal form, plans, governing specifications, and the work locations before bidding.
- Only requirements included in the proposal form, associated specifications, plans, and Department-issued addenda are binding.

TxDOT Responsibilities	Contractor Responsibilities
Issue addenda when appropriate	Examine the proposal form, plans, governing specifications, and the work locations before bidding
	Request explanation of documents in adequate time to allow TxDOT to reply before bid opening
	Immediately notify TxDOT of any error, omission, or ambiguity discovered

Article 4.4 – CHANGES IN THE WORK

- The Engineer reserves the right to make changes.
- If the change in character of the work is not significant, work is paid at Contract unit prices.
- If change is significant, amend Contract by Change Order.
- A significant change in the character of the work occurs when:
    - The character of the work for any item as altered differs materially in kind or nature from that in the Contract, or
    - A major item of work varies by more than 25% from the original Contract quantity, except for non-site-specific contracts.

TxDOT Responsibilities	Contractor Responsibilities
Agree on scope of work and basis of payment	Agree on scope of work and basis of payment
Amend Contract by change order	Provide cost justification

Article 4.5 – DIFFERING SITE CONDITIONS (DSC)

- Differing subsurface or latent physical conditions
- The two types of differing site conditions are defined as:
  - Those that differ materially from those indicated in the Contract, and
  - Unknown physical conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the Contract.

TxDOT Responsibilities	Contractor Responsibilities
Notify the Contractor	Notify the Engineer
Investigate / Make Determination	Suspend Work / Leave Undisturbed
If DSC exist, make time and compensation adjustments as warranted	

Article 5.6 – COOPERATING WITH UTILITIES

- Working around utilities is inherent to construction work.
- Some conflicts are known before construction, and some are discovered during construction.

TxDOT Responsibilities	Contractor Responsibilities
Decide on required adjustments to utilities or work	Consult Utility before beginning work
Coordinate utility adjustment with Owner	Notify the Engineer
	Protect in-place utilities
	Allow Utility access to the site

Articles 5.3, 5.5, and 5.10 – CONFORMITY…, COOPERATION…, and INSPECTION

- Unless otherwise shown in the plans, the "means and methods" of constructing the project is the responsibility of the Contractor.
- TxDOT cannot direct the use of the Contractor's resources (labor, equipment, materials, and subcontractors) without assuming responsibility.

TxDOT Responsibilities	Contractor Responsibilities
Inform the Contractor of failure to meet requirements	Furnish suitable machinery, equipment, and construction forces
Accept or reject the work	Provide experienced Superintendent who can understand Contract
Do not act as foreman or interfere with management of the work	Respond promptly to instructions
	Obtain approval before deviating from plans
	Do not work outside of lines and grades in plans

Important Implied Responsibilities

Consideration should also be given to implied contract responsibilities. Several basic tenets of construction contract law are frequently applied by courts. You should consider these implied responsibilities as you administer construction contracts.

TxDOT's implied responsibilities include:

- Provide complete, clear, and concise plans, specifications, and estimates (PS&E) for bidding and construction.
  - Complete: The PS&E package must show all the work anticipated by the Department.
  - Clear: The Department and all bidders must have a common understanding of the PS&E contents
  - Concise: Avoid repeating or restating contract provisions
- Provide reasonable access to the site.
  - It is the Department's responsibility to let projects free from known utility or right-of-way (ROW) conflicts. If ROW or utility conflicts are anticipated at the PS&E stage, it is imperative to show a reasonable date in the contract for resolution of these conflicts. The dates in the contract effectively distribute the risk of the conflicts between the Department and the Contractor. Any conflicts before the dates shown in the plans are the Contractor's responsibility; after those dates, the risk and responsibility belong to the Department.

- Provide accurate and timely test results and contract administration decisions.
    - During the daily administration of a contract, the Department must make decisions regarding the acceptability of work and materials, the charging of working days, and the interpretation of the plans and governing specifications. These complex decisions must be accurate to avoid disputes. However, although a decision may be accurate, it may be involved in a dispute if it is not delivered timely.
- Provide accurate and timely payment for work performed.
    - The essence of any contract is the exchange of goods or service in return for consideration. In Department contracts, the Contractor performs the work in return for payment. Failing to pay for work that meets contract requirements can lead to supplemental estimates or claims for unpaid work.
    - Payment must be made timely, or the Contractor's cash flow may be impacted. Since cash flow is important in any business, delaying payment for work can harm the financial health of a Contractor, possibly jeopardizing the successful delivery of the project.

<u>Contractor's implied responsibilities include</u>:

- Provide Means and Methods of Construction
    - When developing a bid for a project, the Contractor estimates the amount of labor, equipment, materials, subcontracts, and supervision will be needed to complete the work.
    - Once under contract, the Contractor decides if the project will require the same number of resources as assumed in the bid, or whether more or less resources are required. It is beneficial to the Contractor when the actual cost of completing the work on the contract is less than the estimated cost. However, the Contractor's underestimation of the necessary resources does not obligate the Department to render additional compensation.
- Proved Adequate Work Plan
    - Along with means and methods of construction, the Contractor is responsible for planning and scheduling the work.
    - The Contractor develops the work plans and schedule with the resources that are allocated to the project. It is beneficial to the Contractor to complete the work ahead of schedule.
    - Completing the project ahead of schedule is both acceptable and desirable to the Department. However, the Contractor's overestimation of productivity or mistakes in planning do not obligate the Department to provide additional contract time.

Mutual implied responsibilities include:

- Safety of the workforce
- Open and honest communication
- Cooperation
- Problem-Solving
- Maintaining an effective working relationship

By understanding both the contractual and implied contract responsibilities, a determination can be made on which party was responsible for the Change. When a Change occurs, for which the Department *is* responsible, the Contractor *is* entitled to a contract adjustment. Conversely, if a Change occurs, for which the Department is *not* responsible, the Contractor is *not* entitled to a contract adjustment.

Step 2: Establishing the Impact

An impact can be defined as the effect of the Change on the project.

Determining how the project was impacted is critical to determining whether a contract adjustment will include additional contract time, additional compensation, or both.

The following concepts are important to understand when evaluating impacts:

Excusable Impact

An excusable impact is one that justifies the extension of contract time, suspension of working-day charges, or excuses the Contractor from working day charges. These types of impacts are not within the Contractor's control, or the risks have not been contractually assigned to the Contractor.

For example, when working days are being charged using the Standard Workweek method, adverse weather impacts are generally excusable.

Non-excusable Impact

A non-excusable impact is one that does not justify an extension of contract time or excuses the Contractor from working-day charges. These types of impacts are generally within the Contractor's control or have been contractually assigned to the Contractor.

For example, when working days are being charged using the Calendar Day method, the risk of adverse weather conditions has been contractually assigned to the Contractor and adverse weather impacts are generally not excusable. Other non-excusable impacts include subcontractor delays, delays resulting from the lack of resources, or delays resulting from the correction of defective work.

Compensable Impact

A compensable impact entitles the Contractor to additional compensation, additional contract time, or both.

Generally, the impact must result from Department-responsible changes and commonly include impacts resulting from design errors, right-of-way or utility conflicts, or differing site conditions.

When the impacts include excusable time and the Department is responsible for the impact, the impact is also compensable.

Non-Compensable Impact

There are two forms of non-compensable impacts.

- A non-compensable impact may be an excusable impact that is beyond the control of both parties.

  For example, as described above, adverse weather conditions on working-day projects generally excuse the Contractor from working day charges, but because the conditions are beyond the control of the Department, the Contractor is not entitled to monetary compensation, or

- A non-compensable impact may be a non-excusable impact resulting from conditions that were under the control of the Contractor.

  For example, if the work was inefficient due to the Contractor's action or inaction, the Contractor is not entitled to additional compensation.

The following types of impacts are typical but are not exhaustive of all impacts that may occur on a construction project.

Disruptions

Disruptions are impacts which delay specific activities, but not the project completion date.

In the example below, excavation and embankment were not the controlling or critical path items of work. The Contractor planned to perform the excavation and embankment in one continuous operation as shown in blue. Work began, but due to a utility conflict, the work was paused pending the completion of the utility adjustment. Work then resumed and was completed. This individual activity was delayed, but the overall project completion date remained unchanged because it was not on the critical path.

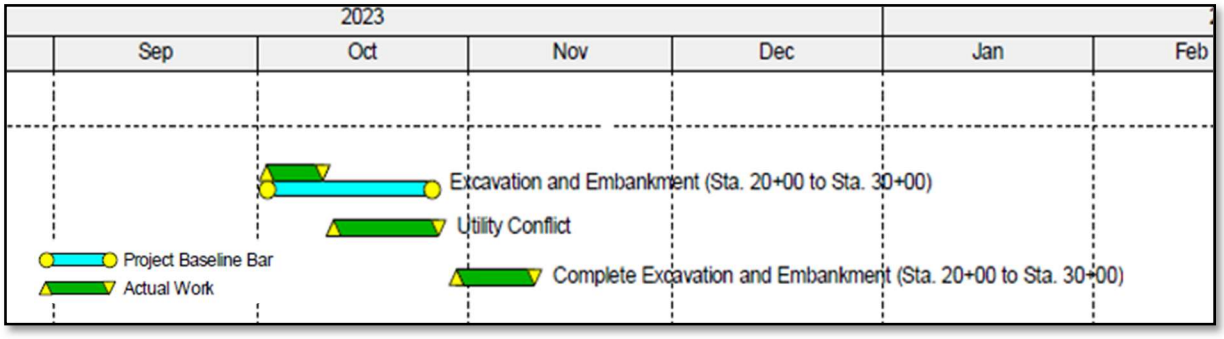


Figure 1

A disruption may lead to a delay in project completion when it is so significant that all available float is utilized, and it becomes part of the critical path.

A disruption alone does not result in additional time to the Contractor. A comprehensive schedule analysis is necessary to determine whether a disruption affected the critical path and led to a project delay.

Inefficiencies

Inefficiencies are impacts that cause losses in production rates. Inefficiencies can also be referred to as losses of productivity or underutilization of resources.

In the classical definition, productivity is defined as the ratio of input to output. In the construction industry, productivity is commonly defined as the amount of work performed (output), divided by the amount of time required to perform the work (input).

Work output is commonly measured in units of work performed (i.e., CY of excavation, LF of storm sewer pipe, etc.). Work input is commonly measured in units of resource utilization (i.e., man-hours or equipment hours).

$$\textbf{Productivity} = \frac{\textbf{Output}}{\textbf{Input}} = \frac{\textbf{Work Performed } (CY, LF, Ton, etc.)}{\textbf{Resource Utilization } (\textbf{Labor or Equipment hours})}$$

In the example below, the Contractor planned to construct the storm sewer system in one continuous operation as shown in blue. However, due to design errors, storm drain work stopped and re-started several times leading to a delay in the completion of that work; (the necked down portion of the green activity bar indicates when no work was underway).

Each period that the Contractor was required to start and stop included start-up and take-down time. Therefore, more labor and equipment time was needed to complete the work than originally planned. The Contractor may be due additional compensation because the work cost more to complete than the Contractor could have reasonably anticipated.

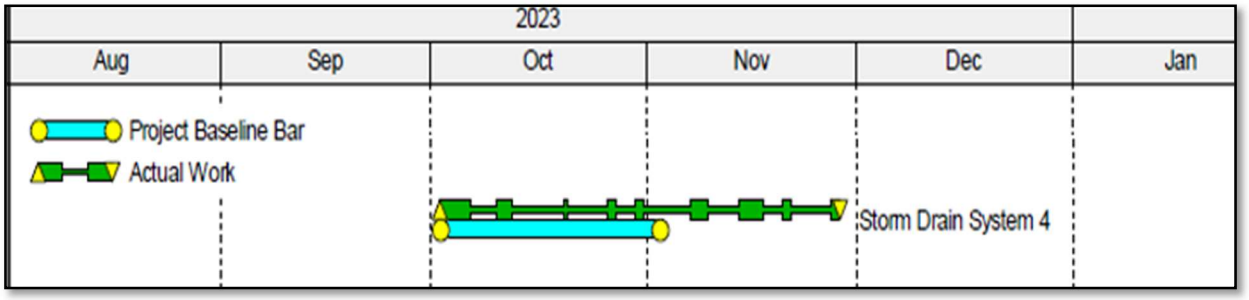


Figure 2

The preferred and most widely accepted method to calculate an inefficiency is the **Measure-Mile Analysis**. This method compares the actual productivity of impacted work to the actual productivity of non-impacted work. The method considers that the conditions on the impacted portion or timeframe of the project are identical to the non-impacted portion or timeframe, except for the Change.

The **Measured-Mile Analysis** consists of the following steps:

1. Identify the specific activity or activities that were affected by the Change and their respective resources (crews, equipment, etc.)

2. Acquire the data to be used in the analysis.

   a. The best units to calculate productivity are units of work (CY, LF, Tons, etc.) and the associated resource utilization such as man-hours or equipment-hours.

   b. If the above data is not available, units of work in Days, Weeks, or Months may be used as a rough estimate of efficiency.

   > Avoid measuring productivity by dividing the value of the work performed by the cost of the work.

3. Identify the Measured-Mile - the area or time period of the project that was not affected by the Change.

4. Calculate the Measure-Mile productivity using the equation above.

5. Calculate the productivity of the impacted work using the same units as the Measure-Mile productivity.

6. Calculate the loss in productivity, or inefficiency, using the following equation:

$$\boldsymbol{Inefficiency}\ (\%) = \frac{(\boldsymbol{Impacted\ Productivity - Measured\ Mile\ Productivity})}{\boldsymbol{Measured\ Mile\ Productivity}} \times \mathbf{100}$$

When a Measured-Mile portion of the project cannot be identified, other methods of calculating inefficiency can be considered.

- Compare impacted productivity to planned productivity.

  This assumes that the Contractor's original plan and productivity estimates were realistic and achievable, and that the Contractor utilized the amount of labor and equipment on which the bid was based. This requires the Contractor to share information demonstrating how the bid for the affected work was derived.

- Compare impacted productivity to actual productivity on a comparable project.

  This assumes the conditions on the project are identical to the conditions encountered on a comparable project, except for the Change. This requires the Contractor to demonstrate that the number of resources on both projects were equivalent and that the resources could operate at the same efficiency on both projects, but for the Change.

As with a disruption, an inefficiency alone does not result in additional time to the Contractor. A comprehensive schedule analysis is necessary to determine whether an inefficiency was so significant that it affected the critical path and led to a project delay.

Accelerations

Acceleration impacts are those caused by performing the work at a quicker pace than planned to complete the project or milestone earlier than planned. Acceleration impacts can be categorized as constructive acceleration, voluntary acceleration, and directed acceleration and often require additional resources to complete. Normally, the work costs more to construct than originally planned.

Constructive acceleration occurs when the Contractor experiences an excusable impact, but that impact is not recognized by the Department. The Contractor, to avoid liquidated damages or disincentives then accelerates the work to complete the project or milestone in the originally scheduled time.

Voluntary acceleration occurs when the Contractor decides to accelerate the project voluntarily. Voluntary acceleration impacts are not compensable.

Directed acceleration is characterized by the Department directing the Contractor to complete the project or milestone earlier than planned. Note that the Contractor is entitled to earn a profit from directed acceleration impacts.

Delays to Project Completion

Delays are impacts that extend the project duration beyond the expected completion date.

The specified, and preferred, method for calculating the magnitude of a project delay is the **Time Impact Analysis**.

The **Time Impact Analysis** is a contemporaneous schedule analysis and is the fairest method, for both parties, for analyzing a delay.

The **Time Impact Analysis** consists of the following steps:

1. Establish the status of the project immediately before the potential impact.

   It is desirable to progress the schedule to as close as possible to the start of the Change. Using the previous month's progress schedule may not be sufficient for this step unless the Change began reasonably close to the schedule's data date.

2. Predict the effect of the potential impact on the schedule update used in Step 1.

   Like in Figure 1, the progress of the affected activity should be interrupted by the potential impact. The activity should be broken into two activities with the first ending on the starting date of the potential impact, and the subsequent activity beginning on the predicted ending date of the potential impact. The original duration of the subsequent activity will be that of the remaining duration of the original activity. Relationships of the subsequent activity will match those of the original activity so that the integrity of the project schedule logic is maintained.

3. Track the effects of the potential impact on the schedule during its occurrence.

   Monitor and update the actual duration of the potential impact on the schedule as well as the durations of the interrupted activity in real time.

4. Establish the status of the project after the potential impact's effect has ended.

   When the potential impact has ended, update the project schedule with the final durations of applicable activities. Calculate the actual effect to the project schedule by comparing the status of the project prior to the potential impact (Step 1) to the status of the project after the potential impact has ended.

When a Time Impact Analysis cannot be performed for lack of contemporaneous schedule data, the Contractor may request the consideration of other analysis methods.

- As-Planned, But-For Analysis

  This analysis method uses the Contractor's baseline schedule and inserts Department-responsible impacts into the network. The resulting project completion date is then compared to the completion date from the baseline schedule. The delay is calculated as the difference between the completion dates. This method assumes the Contractor followed the original schedule and met the anticipated production rates, except for the Department-responsible impacts.

  > This method fails to consider changes in sequences, mitigation efforts, and Contractor-responsible impacts.

- As-Built, But-For Analysis

  This analysis method uses the as-built schedule and removes the Department-responsible impacts from the network. The resulting project completion date is considered the earliest date the project could have been completed and is compared to the completion date of the as-built schedule. The delay is calculated as the difference between the completion dates.

  > This method is easy to manipulate, and the accuracy of the as-built start/finish dates is crucial.

Increased Costs

Oftentimes, the impact strictly consists of additional expenses and does not affect labor or equipment resources. Suppose a correction of a plan error requires that the Contractor place Class C concrete instead of Class B concrete and the Class C concrete has a higher unit cost. The impact could be calculated by taking the difference between the unit costs based on the supplier invoices.

However, in cases where a project delay has occurred, the Contractor may be impacted by performing work in higher cost periods than those anticipated at the time of bidding. If the delay was the responsibility of the Department, the Contractor may be entitled to reimbursement of these costs. The planned and actual costs must be established with well-documented information like material purchase agreements, subcontractor agreements, equipment rental agreements, etc.

> The Highway Cost Index should not be used to substantiate increased cost impacts due to a delay.

Often, the project may be affected by several impacts. The more impacts there are, the more difficult it may be to distinguish between their respective causes. Some of the impacts may be compensable and others not. Some time-impacts may be excusable while others are non-excusable. Therefore, it is important to segregate each impact and identify its specific cause and effect on the project. This segregation allows for a clear determination of which impacts are eligible for compensation or time and which are not. This analysis forms the basis for ensuring fair and equitable resolution for all parties.

Step 3: Calculating the Cost

Once the impacts have been identified, categorized, and evaluated, the cost of the impact must be determined. However, pricing an impact is a complex process with many factors to consider.

The following concepts are important to understand when pricing an impact:

The Basics of Damages

The intent behind paying damages is to reimburse the Contractor for the actual costs incurred due to a compensable impact. The reimbursement serves to restore the Contractor to the position they would have been in had the impact not occurred, or in other words, making the Contractor whole. By reimbursing the Contractor for additional expenses directly attributable to the impact, such as increased labor, materials, or equipment costs, the Contractor is financially compensated for the extra burden placed on them as a result of the impact.

Direct Costs

Direct costs are costs directly related to the performance of the contract. Examples of direct costs are labor, equipment, and materials. Subcontract costs are also included. These costs are directly related to the amount of work to be performed under the contract.

Indirect Costs

Indirect Costs are costs that cannot be directly attributed to specific items of work. These costs might include project superintendent salary, temporary office space, utilities, sanitary provisions, and safety supplies used for the duration of the project. Most contractors charge these costs to project overhead. These costs are incurred regardless of how much work is underway on the project and are therefore time related. These costs are often considered when calculating delay damages.

It should be noted that payment of damages for home office overhead is not allowed by the Specifications and should not be considered when calculating delay damages.

Non-Compensable Costs

Several categories of costs are generally considered as non-compensable. These include but are not limited to the following:

- Interest
- Fines and penalties
- Losses on other projects
- Home office overhead
- Attorney fees

Profit

One of the basic tenets of operating a successful business in earning a profit. The business of construction contracting is no different. The Contractor is entitled to earn a profit on the work.

However, the payment for damages does not include payment for profit. A Contractor is only entitled to earn a profit for constructing the project through producing quantities of work.

For example, if extra embankment or pavement is constructed, the Contractor should profit from this work. However, if the Contractor experiences additional costs to perform the originally planned work due to a compensable impact, the Contractor should be reimbursed for those additional costs, but not for additional profit.

Markups

The markup provisions set forth in Article 9.7 allow the Contractor to apply markups to labor, equipment, materials, and subcontracting. These markups apply only to the Force Account Method of payment and are not applicable to compensation for damages. Markup for damages is restricted to labor burden only, as specified in Article 4.6.

Force account markups are frequently misapplied in calculating damages. Since, force account markups include payment for overhead and profit, applying the markups could lead to "double dipping," or making payment for the same cost twice.

Equipment Considerations

Equipment costs frequently represent the largest single cost category in most impacts. Due to the cost involved, it is imperative that equipment costs are handled appropriately.

Frequently, the Contractor will itemize all equipment on the project for the duration of the project, determine the average daily cost of equipment, then include the daily cost as a delay damage. Across-the-board application of average daily cost is an improper means of calculation.

Some equipment may be classified as project overhead (office trailers, superintendents' vehicles, project-wide man-lift used on all items, surveying equipment, etc.) because they are assigned to the project for the duration of the project.

Overhead equipment may be considered in delay damages. It is important to note that Blue Book rental rates include the cost of operation like fuel, lubricants, and service vehicles. Therefore, it may be inappropriate to pay the full Blue Book rate (both ownership and operating costs) in addition to separate payment for fuel, lubricants, and service vehicle costs.

Production equipment, or equipment utilized in the production of the work, should be considered only when calculating increased direct costs. Production equipment is typically affected in one of three ways and in only one way at a time.

- The equipment can be idle so that only 50% of the Blue Book FHWA rental rate is incurred.
- Equipment can be demobilized and remobilized. When the delay is long in duration, it may be more cost effective to demobilize the equipment where it can earn money elsewhere and not be included in the cost of the impact. The compensable costs in this situation are the cost to demobilize the equipment and remobilize the equipment when it is, again, needed on the project.
- The equipment can work inefficiently. The compensable cost in this situation is the equipment rental rate multiplied by the calculated inefficiency for the impact period.

Relating Types of Impacts to Damages

The relationship between several types of impacts and damages are presented below.

Impact	Result	Damages Considerations
Disruption	• Idle equipment and crews, or • Demobilization and remobilization of equipment and crews, or • Rework costs	Compensation for direct costs (labor, equipment, materials, & subcontractors only)
Inefficiency	Labor, equipment, material, and subcontractor costs may increase	• If the impact affects the Contractor's planned utilization of resources, the Contractor may be entitled to compensation for direct costs. • If the inefficiency delayed the project completion date, then calculate the inefficiency damage and delay damage separately
Constructive or Directed Acceleration	Contractor may bring in additional resources to complete the project by the originally planned completion date	• If the acceleration is successful, compensation for the direct costs • If acceleration is unsuccessful, compensation for direct costs and delay damages, calculate the direct costs and delay damage separately.
Delay	Extended time-dependent costs	Compensation for additional project overhead. Home office overhead is not compensable

Calculating Disruption Damages

Disruptions cause increases in direct costs only. Crews and equipment may be idle while the problems are resolved. Crews and equipment may be demobilized and moved to another site or part of the project while the problem is being resolved, then remobilized afterwards. Disruptions may also cause rework.

Step	Action
1	Identify the specific activity or series of activities affected. Determine what resources were affected (labor, equipment, and subcontractors).
2	If resources were idled, determine the duration. Determine a daily cost of the idled resources, remembering to only pay 50% of the Blue Book FHWA rental rates for idle equipment.
3	If resources were moved, calculate the cost for demobilizing/remobilizing resources.
4	Calculate the cost of rework, if applicable.
5	Calculate labor burden as only labor burden is compensable as a damage in accordance with Article 4.6. Eliminate profit and other markups.
6	Total Damages = Step 2 + Step 3 + Step 4 + Step 5

Calculating Inefficiency Damages

Inefficiencies primarily cause increases in the direct costs of labor, equipment, and subcontractors.

Step	Action
1	Identify the specific activity or series of activities affected. Determine what resources were affected (labor, equipment, and subcontractors).
2	Determine what data is available for analysis. • The best units to calculate efficiency losses are units of work (LF, CY, TON, etc.), divided by the effort to produce the work (man-hour or equipment-hour). • If this data is not available, units of work divided by time period (days, weeks, months) will provide a rough estimate of efficiency loss. • Avoid measuring efficiency by dividing the value of the work performed by the cost of the work.
3	Locate an area of the project or time period that was not affected. Calculate the unimpacted productivity to be used as the Measured Mile.
4	Calculate the productivity of the impacted area or time period using the same units as in the Measured Mile.
5	Calculate the percentage loss of productivity using the following formula: $$\textit{Inefficiency}\ (\%) = \frac{(\textit{Impacted Productivity} - \textit{Measured Mile Productivity})}{\textit{Measured Mile Productivity}} \times 100$$
6	Calculate the total cost of resources affected
7	Multiply the total resource cost by the inefficiency.
8	Calculate labor burden as only labor burden is compensable as a damage in accordance with Article 4.6. Eliminate profit and other markups.
9	Total Damages = Step 7 + Step 8

Calculating Acceleration Damages

Like inefficiency damages, accelerations primarily cause increases in the direct costs of labor, equipment, and subcontractors.

Step	Action
1	Verify the Contractor accelerated the project schedule by adding resources and not by simply revising the project schedule.
2	Identify the period when the acceleration occurred.
3	Identify the accelerated activity or activities.
4	Determine the level of resources used during the normal pace of work along with the number of overtime hours the Contractor worked during the normal workweek.
5	Determine the level of resources used during the acceleration.
6	Calculate the acceleration effort as the difference between the cost of the resources during the normal pace of work and the accelerated pace of work.
7	Calculate labor burden as only labor burden is compensable as a damage in accordance with Article 4.6. Eliminate profit and other markups.
8	Total Damages = Step 6 + Step 7

Calculating Delay Damages

Delays extend the project duration. As a result, the Contractor incurs additional indirect, time-dependent costs (project overhead). Use the following procedure to calculate delay damages.

Step	Action
1	Using acceptable schedule analysis methods, determine the duration of the excusable and compensable delay.
2	Using the "6% Method", calculate the daily cost of the delay, or
3	If the Contractor submits actual costs for consideration, analyze the indirect costs. Eliminate non-compensable cost items and items paid under other damages and direct costs. Determine an average daily cost. Eliminate profit and other markups.
4	Total Damages = Step 1 X (Step 2 or Step 3)

Support

Contact the Construction Division, Claims Section, for assistance with this procedure.