AASHTOWare Project Estimation Guide

*Note: Please use the navigation pane to quickly find the section needed.*

Project Estimation is web-based estimation software that can be accessed from any computer on our intranet system.

**Internet Settings**
Verify that the internet settings on your browser have been set correctly before proceeding.

1. **Set Internet Explorer Setting**
   a. Open the Internet Explorer browser.
   b. From the Tools menu (looks like a ‘Gear’), select Internet Options. The browser displays the Internet Options dialog box.
   c. Under Browsing History, click the Settings button. The browser displays the Temporary Internet Files and history Settings dialog box.
   d. For the Check for newer versions of stored pages setting, click the ‘*Every time I visit the webpage option*’.
   e. Click OK.
   f. In the Internet Options dialog box, select the Advanced tab.
   g. In the Settings box, scroll down to the Security section, and ensure the option ‘*Enable DOM Storage*’ is selected.
   h. Click OK.

**System Log-In**
The following web address will take you to the log in screen for the system.

[https://mdtwebtransport.mdthq.mt.ads](https://mdtwebtransport.mdthq.mt.ads)

This link will take you to a screen that will look like the following.
The username and password are the same as your windows log-in credentials. Enter your U-number and password to access the system.
Find Bid Data will replace the current practice of looking up bid history on Oracle. It functions much in the same was as Oracle where you look up individual bid items and view bid prices from individual projects. The dialog screen for Find Bid Data will look like the following.

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</table>

Type the bid item number or the bid item description into the Bid Item dialog box, the system will search for all bid items related to your entry. You do not need to have the entire number entered or the entire name to get the results. If you are looking for “Unclassified Excavation” you can simply search for “excavation” and the system will find all bid items with excavation in the description.
Clicking the item will expand the item to show the details for that contract.
**Item Bid History**

Item Bid History has the same functionality as Estimator to quickly calculate a bid-based price for a single bid item.

Click Item Bid History and the following dialog will display.

Enter the bid item number or description and select the desired bid item.

Enter the desired quantity.

Select the desired bid history profile. These profiles determine the range of data to query and what variables to include in the analysis. We recommend using the default bid profiles for the particular items you are pricing.
The results tab displays the price and descriptors, “Regression” and “Comment”. The regression tab tells you if there was enough data to develop a regression curve. In this case it did have enough data to develop a curve. The comment tab tells you what was used to develop the price.

To view the price curves open the Actions menu next to the Calculate Price button and select Price vs Quantity Analysis.

**Price vs Quantity Analysis Graph**

The Price vs Quantity tool is available in the Item Bid History tool and the cost estimates. To access the tool in Item Bid History please see the help section for the Item Bid History tool.

The tool can also be used inside of the estimate to refine bid based prices. Please see the bid based task help for navigation to the Price vs Quantity tool.

The Price vs Quantity Analysis Tool will look similar to the figure below.

Identify Project Data- Use this tool to select data points on the screen and view point attributes such as contractor, project description, district, total contract price, etc.

Include/Exclude Project Data- Allows user to include or exclude data points by selecting the points to customize the graph.
Re-price Button - Once the user has modified the chart with the Include/Exclude button, use the re-price button to recalculate the price.

**Highlight Data Points**

Data points can be highlighted on the chart for specific attributes that the user chooses. The image below shows highlighted points for the overlay work type.
Create a Concept

Click “Concepts” to open the dialog. This will take you to the following screen.

Click on the Actions drop down menu and select Add. This will take you to the following screen.
Concept ID- The concept ID will be the seven digit UPN number for the project you are working on, for example, 6138000.

Concept Description- This is the project name and description on the plans.

Spec Book- The system will default to the current spec book edition.

Unit System- English or metric project units.

Fill out the remaining project information for Primary County ID, Primary District ID, Improvement Type and Work Type. These project traits will help refine the prices the system will calculate. For consistency, use the project traits that are programmed into PPMS.

Once the data has been entered, use the save button in the top right corner to save the information and create the concept.

Create Cost Estimate

Once the Concept has been saved it will look like the screen shown below. Select the Cost Estimates tab on the left side to add an estimate.
Create Estimate from Profile

Click on the Select Cost Estimates button to create an estimate from a profile.

Cost Estimate Name- The cost estimate name will follow the same naming convention used for DMS, for example 6138000RDEST001. Currently each area will still create their own estimate similar to the method currently in use for the Excel sheet.

Once you have selected the profile you would like to create your estimate from click the Add to Concept button. This will copy everything in the selected profile into your new estimate.

This will take you to the general cost estimate information tab.
Cost Estimate Description- The cost estimate description is a general description of the scope of the project, this can be especially useful when developing cost estimates for project cost comparisons such as steel vs concrete bridge designs.

Estimate Phase- Select the current estimate phase from the pull down menu.

Lanemiles- Enter the total lane miles for the project.

Estimated By- Start typing your name and the system will search for your name.

Once all of these fields have been entered, save your entry. Saving will create the estimate and return you to the cost estimates tab of the concept. Select the hyperlink with the name of your newly created estimate.

Create Estimate from Existing Estimate
An alternative to using a profile to create an estimate is to use an existing estimate to create an estimate. This is especially useful for safety or pavement preservation projects with many projects with like items.
Add Bid Items

Bid items can be added in two locations, in the Cost Estimate Items tab or in the Cost Estimate Item Pricing Worksheet. The preferred method is using the item pricing worksheet, it is easier to navigate and looks like an excel sheet.
Select the Cost Estimate Item Pricing Worksheet to open.

Use Select Items to enter single or multiple bid items as shown above.
Once the bid items have been selected and added to the cost estimate, place quantities on the bid items. This can be quickly done in the Item Pricing Worksheet.

**Calculate Bid Based Prices**

Bid items that are set up to calculate bid based prices by default can all be calculated in one operation once quantities have been entered. This can be done directly from the Item Pricing Worksheet.

Select the drop-down arrow next to Save and select Calculate Bid Based Prices. This will start the pricing operation, which depending on the size of the estimate could take 5-10 minutes. This will be performed in the background and you can continue working in the system as normal. The system will not inform
you when it has completed the task. To verify that the task is completed, click on the Actions drop down menu at the top of the screen next to the Help and Log Off buttons. Select Open Process History.

The figure above shows several processes that have been run. Calculate Bid Based Prices is shown at the bottom of the figure, you can see the start and finish times for the process and the “Yes” indicates that the process was completed successfully. Note: This window is static, you will need to refresh the screen to see if the process has completed.

Return to the cost estimate pricing spreadsheet and review the bid items to see if any have not generated a price. You will likely have blanks in your estimate, if there is not enough data to generate a bid price, the system will leave the item blank. The system also will not price lump sum items, you need to generate prices for lump sum items. The Price Tasks help below will assist in how to assign prices to these bid items.

Price vs Quantity Analysis Tool
Once the Bid-Based price has been calculated as shown above, the user can view and modify the curves used to develop the price. Click the blue pricing box inside of the Unit Price column of the Item Pricing Worksheet. Please see the Price vs Quantity Analysis Graph chapter for further help using this tool.
Pricing Overrides
Any of the prices in Estimation can be overwritten by the user or filled in for bid items that don’t have any bid history. Click on the price in the Item Pricing Worksheet twice to activate the edit window to modify the price. This will disable the bid based pricing functionality so the prices will no longer update as bid history changes.

Activate Bid Based Pricing
If you did a pricing override on a bid based bid item and would like to see how the bid based pricing has changed for that bid item, you will have to reactivate the bid based pricing. While on the Item Pricing Worksheet, click the blue box next to the price, then click the active box to check the bid-based pricing as active. Now select save on the Item Pricing Worksheet. Click the blue pricing box next to the bid price and select the Calculate Price link to update the bid-based price.

Price Tasks

A price task is assigned to the bid item to determine what method will be used to determine a price for that bid item. There are two types of price tasks that can be selected, bid-based or reference.

Bid-Based Price Task
A bid based price task is assigned when the estimator wants the system to generate a price based on bid history. Within the price task a bid history profile is assigned to tell the system how to calculate the price. Our commonly used bid items have a default bid-based pricing task assigned to the bid item.

Add Bid-Based Price Task
Bid items that are not used frequently do not have bid-based tasks associated with them because sufficient bid data does not exist to generate a reliable price.

If the selected bid item does not have a bid task, it will look like the box below, with no links to calculate price or to view the Price Vs Quantity Analysis Graph. If you would like to add a bid-based task, click Bid Based in the blue pricing box on the Item Pricing Worksheet.

This will take you to the Bid Based task, fill out the Task and Task Description as seen below and select Save.
Once you have saved, select the drop down next to Save and click Select Task Bid History Profile.

Select the appropriate Bid History profile for the bid item you are calculating a price for.

Now you can see the Bid History Profile has been applied to your bid task.
Now you can return to the Item Pricing Worksheet and when you click the blue pricing box, you can see that now you can see the Calculate Price and Price Vs Quantity Analysis links. Select the Active check box to activate the Bid Based task and save the page. Now you can recalculate the price for that bid item with the Calculate Price link inside the same box.

**Reference-Based Price Task**

A reference based price task is used when a percentage of bid (used for mobilization) or a known price, such as a previous bid tab price will be used.

**Add Reference-Based Price Task**

Check the Active box for the Reference method, then select Reference.

This will take you to the Reference Price Task Summary window.
Click the New button to add a new reference price task.

Fill out the required information and enter the unit price or use a percent of estimate, click the Active button and save once completed. **Note:** For mobilization, use the percent on top calculation to match our current mobilization calculation method.

**Ad-Hoc Pricing**

Ad-Hoc pricing is used to add estimated costs as lump sum amounts developed outside of the software to the estimate during preliminary design stages. For example, the Ad-Hoc pricing would also be used to add the bridge cost to a road design estimate.
Non-Construction Costs

Construction Engineering and IDC costs are entered in the Non-Construction Costs tab of the Cost Estimate Summary. If the estimate has been created from a profile the non-construction costs should be set up, if they have not been created or additional costs are needed they can be added as shown below.
Select the New button and fill in the cost name, cost amount and select the Active check box.

**Project Contingency**
Select the Contingency Assignment link along the top of the screen to set up the project contingency.

Select the dropdown arrow next to Add and click on Select Contingency Assignment Profile.
Select the profile to use based on the complexity of the project and click Add to Cost Estimate. The system will copy the contingency profile to your cost estimate.

Select the hyperlink for the Contingency profile once the system has copied it into your cost estimate.

Click on the Phase Ranges tab on the left side of the screen.

Enter the Contingency percentage into each design phase field. Consider the recommended contingency range and use judgement based on the project to determine the appropriate contingency rates.
Snapshots

Snapshots are a static estimate saved in Estimation to provide a reference for all design phases and track the price changes as the project evolves through the design phases.

Snapshots will automatically be saved when the design phase is changed in the system. The downfall to the automatic snapshot is that it will save the snapshot with whatever design phase you change it to. For example, if you complete AGR and are moving to SOW and change the design phase to SOW, it will automatically save the snapshot and will show SOW.

Manual Snapshot

The user can save a snapshot manually if desired, for example a second AGR meeting is needed and a new estimate is distributed and used for the final AGR estimate, a new snapshot can be created to capture this.

From the Cost Estimate Summary page, select the Actions drop down menu next to Save, select the Create Snapshot link.

Cost Estimate Summary
Fill out the description for the Snapshot and select Save.

Typical Sections
Typical Sections are used to generate average quantities and bid prices for bid items that are not currently known. These are typically used during preliminary design or planning. Typical sections can be built for the entire road section or broken down into multiple typical sections for different bid item groups. Average bid item quantities for commonly known quantities such as Station or Square Yard are developed from historical averages or average plan quantities.

Add Typical Section Bid History Profile
Before the Typical Sections can be added to the estimate, the Bid History Profile need to be set for the Typical Sections, the system does not use the bid history profiles that are associated with the individual bid items for the typical sections.

Scroll to the bottom of the Cost Estimate Summary screen. Under the Additional Information panel you will see a search box labeled Typical Section Bid History Profile. Click in this box and begin typing “Default Bid History”, the system will search and return a search list of profiles, select the Default Bid History profile.
Add Typical Sections
While in the Cost Estimate Summary, select the Typical Sections link along the top of the screen as shown in the figure below.

The Cost Estimate Typical Section Profile Overview will show all the typical sections associated with the cost estimate. To add a Typical Section, select the drop down arrow next to save and select Copy Typical Section Profiles.
Select the typical sections that you would like to add to your estimate and select Copy to Cost Estimate.

Once the Typical sections are copied into the estimate, enter the quantities and select Save.

**Transition Typical Sections**

Once quantities can be reasonable determined for bid items that are included in a typical section, the typical section can be transitioned into normal bid items. This saves time from having to select all the bid items from the bid item list.

For example, if you have the typical section included for fencing. You have completed the fencing layout for your project and now have fence quantities, you can transition the typical section to fencing bid items.
From the Typical Section Overview, select the actions drop down menu next to the save button and select the Transition Typical Sections to Detail Items link.

Select the Typical Section you would like to transition and select Add to Cost Estimate.

**Estimate Report**

The estimate report is a PDF report that looks like the traditional Excel estimate sheet used by MDT.

**Naming Convention:** Be sure to name the estimate report the same as the name of the estimate on AASHTOWare. This name will be used by contract plans to pull the estimate from AASHTOWare.
Navigate to the General tab of the cost estimate, as shown in the screenshot below, place a checkmark in the Send Email box then select Save. This will generate the PDF and email it to the user identified in the Estimated By window.

Make sure to fill out the Estimated By window otherwise you will not receive your estimate.

Alternatively, estimate reports are available through the Jasper Reporting tool, from the home screen, click on the link for Jasper Reports.

This will open a new tab in Windows Explorer with the Jasper home screen, log in to the system using your Windows credentials. Once you have logged in you will be at the home screen. Once you have used the new estimate report it will show up in the Recently Viewed Items section.
If the report does not show up in the Recently Viewed Items, click on the Library link at the top of the page. Click in the Search bar at the top of the Library and search Preliminary Estimate.

Select the Preliminary Estimate. This will take you to the report, along the left side there is an Options tab called Cost Estimate, click in this drop down.

Once you click in the drop down, you can search for your project by the UPN number.
Select the estimate that you want to run a report for and click the Apply button at the bottom of the page. Now your estimate will be displayed on the screen, if it is blank, there are missing data fields in the estimate somewhere. Now you can export the report as a PDF.

Hover over the Export drop down and then select the PDF option, this will generate the pdf and open it in a new tab in Windows Explorer. Now you can save the pdf.
Consultant Design Specifics
These are specifics for Consultant Design staff.

Setting Vendor Access
Consultant Design staff will need to create the Concept for the overall project and an estimate for each consultant working on the project if there is more than one.

Create the Concept, set the concept attributes, and set the Vendor Access. Search the name of the consultant and select the appropriate consultant from the list.

Once the Vendor Access has been set, the estimate can be created. Consultant Design will create an estimate for the consultant to use. Once the Cost Estimate has been created, fill out the Cost Estimate information, then set the Vendor Access for the Cost Estimate like above.