Roadway Module

Roadway RM-201-1

Assigning and Tracking Work (Projects, Estimates, Work Orders, Day Cards)

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1 Introduction

1.1 Objective

This document outlines the assigning of work and the means of tracking progress in the Roadway module of the Enterprise Information Management System (EIMS).

The intended users of this manual are designated users of the Roadway offices who have involvement in planning and assigning work activities.

1.2 Key Concepts

❖ In the Roadway module, the **Project** is the highest level in the work-tracking hierarchy (Figure 1-1). For each Project, one or more Asset Types are defined, and specific Activities from the *EIMS Master Activity Codes* list are selected.

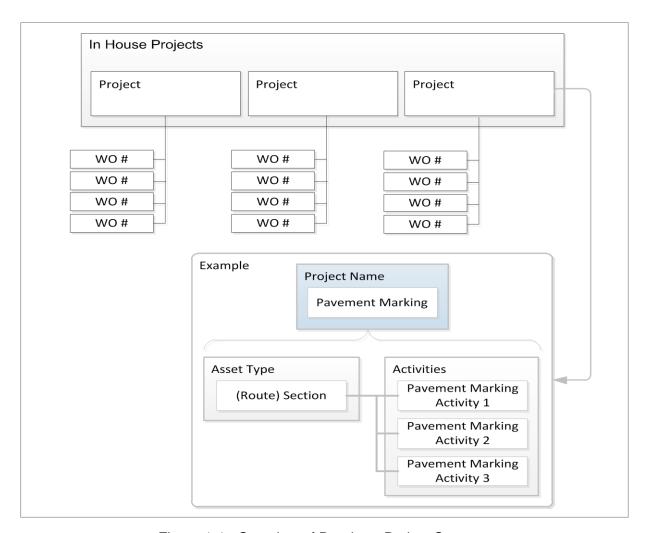


Figure 1-1. Overview of Roadway Project Structure

❖ A set of standard Projects, introduced in the EIMS Business Rules document, will be pre-configured and made available for use by each Division/Cost Center at "Go Live." Roadway RM-201-1 Roadway RM-201-1

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❖ Additional **Projects** may be issued as needed such as for special events (Major: statewide, Minor: by District/County).

The next level of detail for recording work in the Roadway Module is the **Work Order**. The **Work Order** specifies an **Activity** type (from the ODOT Master Activity Code List) to be performed and its planned duration. **Work Orders** have a many to one relationship with a **Project**, as shown in Figure 1-1. It is also important to note that in EIMS a **Work Order** is one **Activity** type.

The last level is the **Day Card**. **Day Cards**, as the name suggests, are date/day specific. **Day Cards** are created from Work Orders and record the **Labor**, **Equipment**, **Materials (LEM)** plus Other Costs and any work Location and/or Asset Inventory performed for a specific date.

The upcoming sections describe in detail how to create **Projects, Work Orders** and **Day Cards** as well as several related tasks (Short Lists, Work Requests and others) system users need to be familiar with when working with these system functions.

2 Projects

2.1 Creating a Project

This section explains the EIMS Project structure and the process of creating Projects in the Roadway module, should the need arise, such as with an Emergency or special event Project.

- 1. Navigate to Road Maintenance > Issue > In House Project window (Figure 2-1).
- 2. Perform an Insert (Figure 2-1).

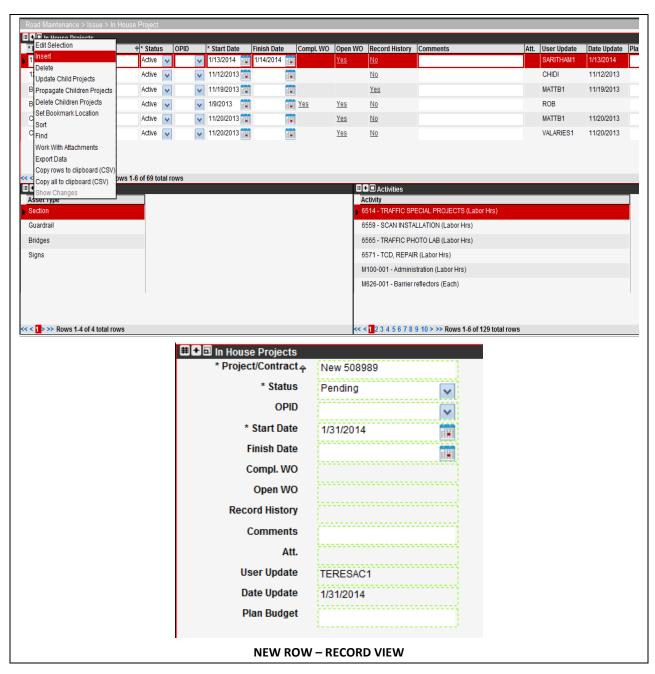


Figure 2-1. In House Project Window

- 3. Edit the new In House Projects record (Figure 2-1), as follows:
 - a. Point to the **Project/Contract** (name) field, and overwrite the default name with an appropriate name. (Refer to the *EIMS Business Rules* document for Project naming conventions.)
 - b. Edit fields as applicable to the planned Project, required fields are identified with an asterisk (*).

Table 2-1. Setup Project Fields

Label	Overview
Project/Contract*	Free-text entry field for the description of the effort. Field accepts text up to 100 characters.
Status*	Defaults to Pending
OPID	(Optional) Allows selection from OPID number list, to associate an OPID to the new Project. May be left blank.
Start Date*	Date when project began. Defaults to the current date when the record is initiated.
Finish Date	Field for recording the date when project will finish, if known, or when completed
Compl. WO	Read-only: system generated tracking to Completed WO# numbers
Open WO	Read-only: system generated tracking to Open WO# numbers
Record History	Read-only: system generated tracking to updates performed on the Project
Comments	Free-text entry field for the Comments about the planned work
Att.	Accepts an attachment by way of the Work With Attachments feature
Plan Budget	(Optional) Allows you to input a total dollar (\$) estimate for the project.

4. Perform an **Edit Selection** function on the newly created Project record (Figure 2-2).

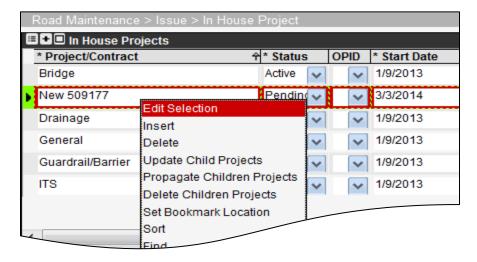


Figure 2-2. In House Project – Edit Selection

- 5. When prompted for Asset Type (Figure 2-3), apply a checkmark beside the Asset Types that apply to the Project. For example "Section" and/or "Bridge Structures." Although you will see Asset Types that may not apply to Roadway, only the Asset Types relevant to Roadway operations will be available for selection.
 - TIP! A dialog box shows a list of Asset Groups (Figure 2-3), individual Asset Types may be expanded, by using the sign.
- 6. When appropriate asset types have been selected, click **Next** to proceed.
 - TIP! If the need arises to go back and change Project profile selections, select Cancel and re-initiate the **Edit Selection process**.

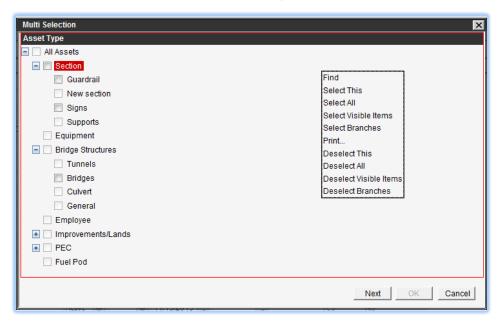


Figure 2-3. Dialog Box – Asset Type (Section and Bridge Structures Expanded)

- 7. Next is the Activity selection screen. (Figure 2-4), Expand the "Roadway" list to select Activities as applicable. Select all Activities that should be available to the Project,). Activities may be selected all at once, by way of the **Select Branches** command, or selected individually by a check box or the **Select This** command.
- 8. Click the OK button.
- 9. This completes the selection process. The user may now view the list of selected Asset Types and Activities appearing in the lower panes (Figure 2-5).

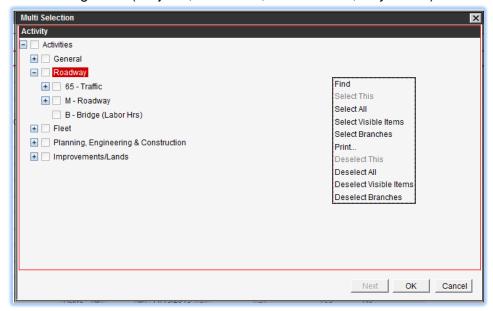


Figure 2-4. Dialog Box – Activity

TIP! The user may now view the list of selected Asset Types and Activities appearing in the lower panes (Figure 2-5).

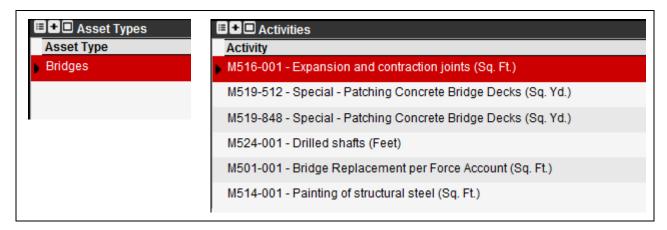


Figure 2-5. Project Detail Pane Examples

- 10. Click in the left gutter to save the new data.
 - **TIPI** The Project may still be deleted. To delete, right-click and select the **Delete** command. The deletion is not permanent until a **Save** is performed.
- 11. (OPIONAL) To make the Project available to lower-level Division/Cost Centers, proceed as follows. Otherwise, skip to step 12 to activate the Project.
 - a. Point to the record, and select **Propagate Children Projects** (Figure 2-6).

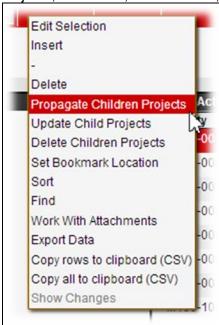


Figure 2-6. Project Add Propagation Function

TIP! If the logged-in Division/Cost Center has no other Division/Cost Centers subordinated to it in the organization, an error appears (Figure 2-7).

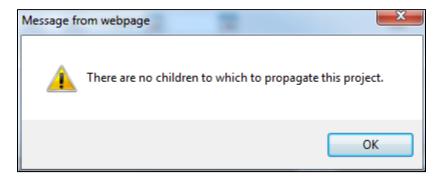


Figure 2-7. Project Add Propagation Error (No Child Present)

b. If one or more Division/Cost Centers are available for selection, the list of available Divisions/Cost Centers appears in a dialog box (Figure 2-8).

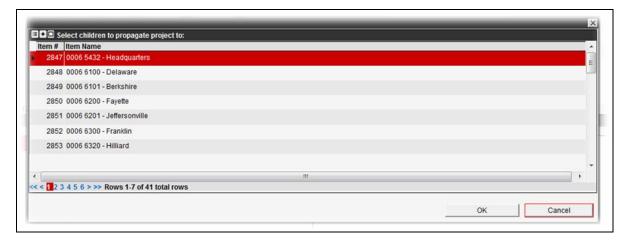


Figure 2-8. Project Add Propagation Selection

- c. Select any Division/Cost Centers as needed (Figure 2-8), by holding the CTRL or SHIFT key while making cursor selections if selecting multiple items. Selections appear highlighted.
- d. Select **OK** to apply the selection(s) and exit the dialog box.
 - **TIPI** If the need arises to revisit the selections made in Figure 2-8, the **Delete Children Projects** function may be used, to modify existing selections.
- e. Click in the left gutter to save the new data.
 - **TIP!** The Project will now be available within the In House Projects menu for each specified Division/Cost Center.
- 12. To commence the Project and make it available for creating Work Orders:
 - a. Point to its **Status** field (Figure 2-9), and change the value of **Pending** (default) to **Active**.



Figure 2-9. Project Status Selection

- b. Update the **Start Date** field to the current date, for reference, as needed.
 - **TIP!** Unsaved records are highlighted according to the color scheme in use, and when the record is saved, the highlighting disappears.
- c. Click in the left gutter to save the new data.

2.2 Editing a Project

While a project is Active, the user is limited to performing the following edits:

- 1. Return to the Road Maintenance > Issue > In House Projects window (Figure 2-1).
- To change Project attributes, perform the Edit Selection function, and follow the same procedure as for setting up a Project Profile. At this stage, the user may only add Asset Types or Activities and Divisions/Cost Centers. The user may not remove.
- 3. To remove lower level Division/Cost Centers from the Project, to the extent the system permits, proceed as follows:
 - a. Point to the Project, and perform a **Delete Children Projects** function (Figure 2-10).

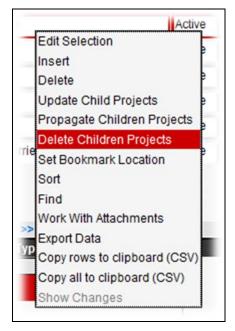


Figure 2-10. Project Delete Propagation Function

TIP! If the logged-in Division/Cost Centers has no Division/Cost Centers subordinated to it, an error appears (Figure 2-11).

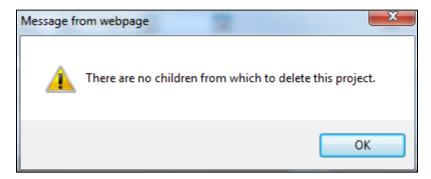


Figure 2-11. Project Delete Propagation Error (No Child Present)

b. If one or more Division/Cost Centers are available for selection, the list of candidates appears in a dialog box (Figure 2-12).

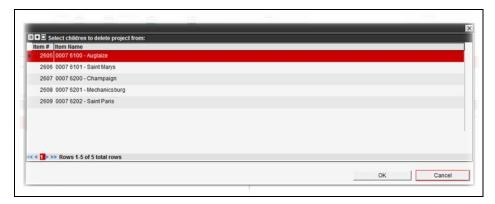


Figure 2-12. Project Delete Propagation Selection

- c. Select any Division/Cost Center(s) as needed for deletion (Figure 2-12), by holding the CTRL or SHIFT key while making cursor selections if selecting multiple items. Selections appear highlighted.
- d. Select **OK** to apply the selection(s) and exit the dialog box.

TIP! If a subordinate Division/Cost Center of the Project is unable to be deleted, as indicated with an error, the user is informed that a Work Order has been issued from that Project. If a Work Order exists, that Division/Cost Center cannot be removed/deleted.

e. Click in the left gutter to save the new data.

2.3 Completing a Project

In the event a Project needs to be closed and completed, and all of its Work Orders are completed, proceed as follows:

- 1. Navigate to the Road Maintenance > Issue > In House Projects window (Figure 2-1).
- 2. Locate the appropriate Project record, and confirm its **Open WO** field shows a status of "No," to signify all Work Orders associated with it are closed.
- 3. Use the **Status** drop list (Figure 2-9) to select **Completed** status on the Project record.
- 4. Enter the current date in the **Finish Date** field, for future reference.
- 5. Enter any **Comments** for future reference.
- 6. Click in the left gutter to save.

TIP! This project will no longer be available in the Labor Summary sheet, as of the next date.

TIP! After six months, the completed Project will be hidden from view.

2.4 Reopening a Project

In certain circumstances a closed Project may need to be re-opened. If a Project has been in closed status for less than 6 months the County Manager/Transportation Manager or Business SME Security Roles are able to revert the Project back to Open status. If closed for more than 6 months, the System Administrator will need to be contacted.

- 1. Return to the Road Maintenance > Issue > In House Projects window (Figure 2-1).
- 2. Identify the Project record being **Completed** status that needs to be re-opened.
 - a. If not displayed, due to being in Completed status for at least six months and becoming hidden, consult an ODOT System Administrator.
- 3. Use the **Status** drop list (Figure 2-9) to select **Active** status on the Project record.
- 4. Enter a future date, or make the field blank, in the **Finish Date** field, for reference.
- 5. Enter any **Comments** for reference.
- 6. Click in the left gutter to save.

TIP! This project will be available for selection immediately, in Resources > Labor Summary by Pay Period.

3 Sharing (LEM) and Work Orders, Creating Shortlists

Before moving on to creation of Work Orders and Day Cards it is important to understand the various inputs into Work Orders and Day Cards. These are Labor, Equipment, Materials (LEM) and Other Costs. There are also several features of EIMS designed to speed up Day Card creation that require pre-configuration to use. In EIMS it is possible to share LEM with another Divisions/Cost Center(s) as well as to share Work Orders. In this section we will cover Sharing and Short List Creation.

3.1 Sharing

3.1.1 Resource Sharing

You may only create work orders using the resources (labor, equipment, and material) that are assigned to your Division / Cost Center. Generally, this works fine. Yet, situations may arise where you need to use resources assigned to another Division / Cost Center. When these situations occur more than once in a while, it is best to share resources (one or multiple) between Division / Cost Centers. This allows you to include the other Division / Cost Center's resource in one of your Shortlists, which in turn allows you to use that resource in your work orders.

TIP! Resource sharing only occurs in one direction. That is, if Division / Cost Center A is allowed to share the resources of Division / Cost Center B — Division / Cost Center B is not automatically allowed to share the resources of Division / Cost Center A. To allow two-way sharing of resources, each unit must be configured to share resources with the other.

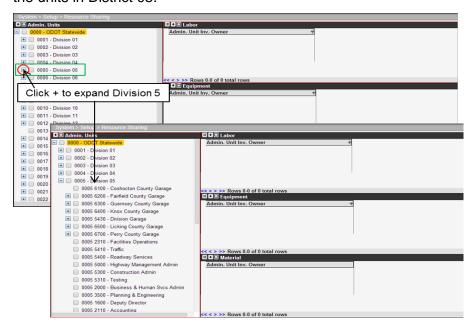
In the example, the Guernsey Division / Cost Center will be allowed to utilize the resources of the Coshocton and Fairfield Division / Cost Centers. Four tasks need to be accomplished to permit the sharing of all resources.

3.1.1.1 Step 1: Select the Division / Cost Center

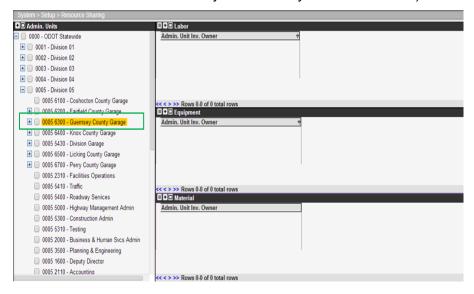
In this task, you select the Division / Cost Center that will be allowed to use the resources of other Division / Cost Centers. For this example, this will be the Guernsey Division / Cost Center. To select this unit, perform the following steps:

Navigate to the Resource Sharing window (Resources > Setup > Resource Sharing). An
example of this window is shown below. (Note that no resources are yet shared because
the three panes on the right are empty).

2. In the left pane, expand the hierarchy for District 05 (which is the district in which the Guernsey Division / Cost Center is located) by clicking the + sign. The system displays the units in District 05.



3. Click 0005 6300 – Guernsey to select it.(you must click to select/highlight. This is different to most other hierarchy lists where you check the box)



This completes Task 1. The Division / Cost Center with which others will share their resources is now selected. Next you will select the Division / Cost Centers that will share their labor resources with the Division / Cost Center selected in Task 1.

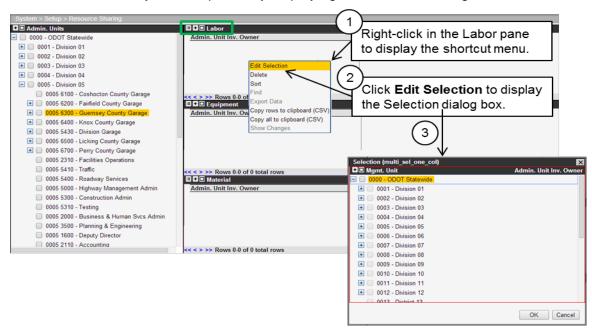
3.1.1.2 Step 2: Sharing of Labor Resources

In Step 2 we select the Division / Cost Centers that will share their labor resources with the Division / Cost Center selected in Task 1. For this example, the labor resources of the Fairfield

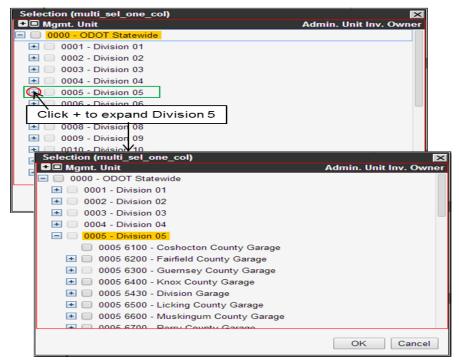
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Division / Cost Center will be shared with the Guernsey Division / Cost Center. To accomplish this sharing of resources, perform the following steps:

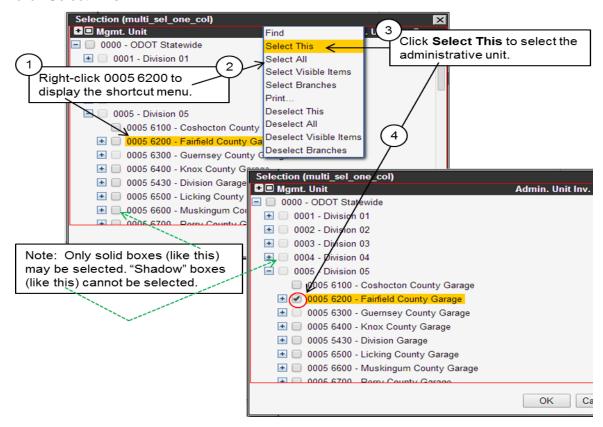
1. In the Labor pane on the right side, right-click to display the shortcut menu and then click Edit Selection. The system responds by displaying the Selection dialog box.



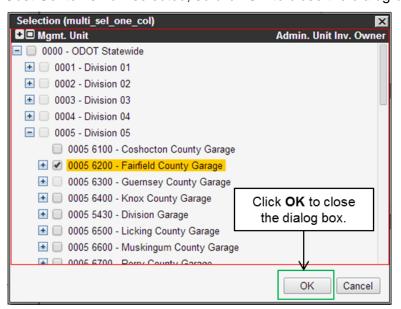
2. In the Selection dialog box, locate the Fairfield Division / Cost Center by expanding the hierarchy for Division 5 by clicking the + sign.



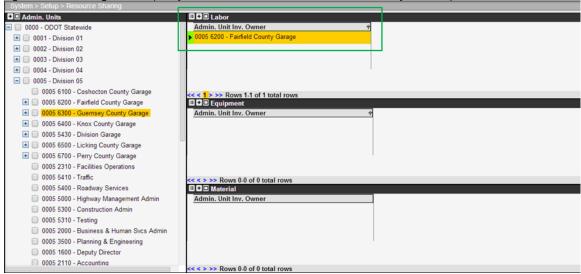
3. Right-click 0005 6200 Fairfield County Garage to display the shortcut menu and then click Select This.



4. The Division / Cost Center is now selected, so click OK to close the dialog box.



5. The dialog box closes and 0005 6200 Fairfield appears in the Labor pane.

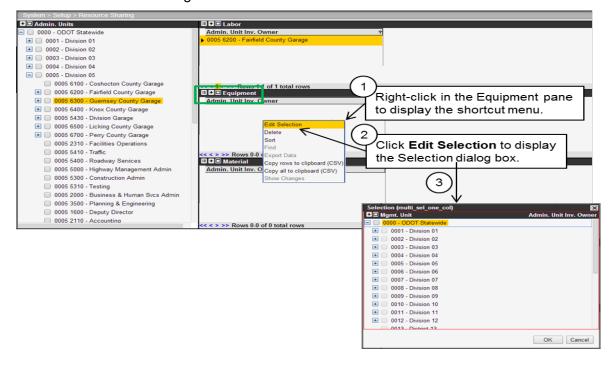


6. Click in the left gutter to save the new data

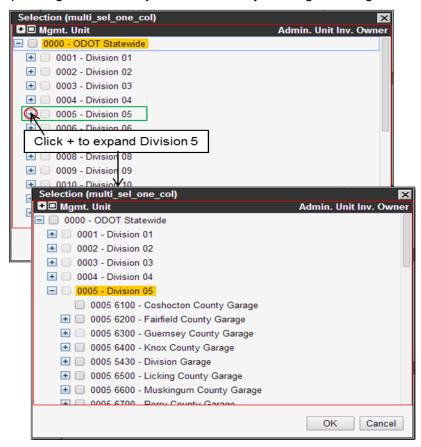
3.1.1.3 Step 3: Sharing of Equipment Resources

Step 3 is concerned with selecting the Division / Cost Centers that will share their equipment resources with the Division / Cost Center selected in Task 1. For this example, the equipment resources of the Coshocton Division / Cost Center will be shared with the Guernsey Division / Cost Center. To accomplish this sharing of resources, perform the following steps:

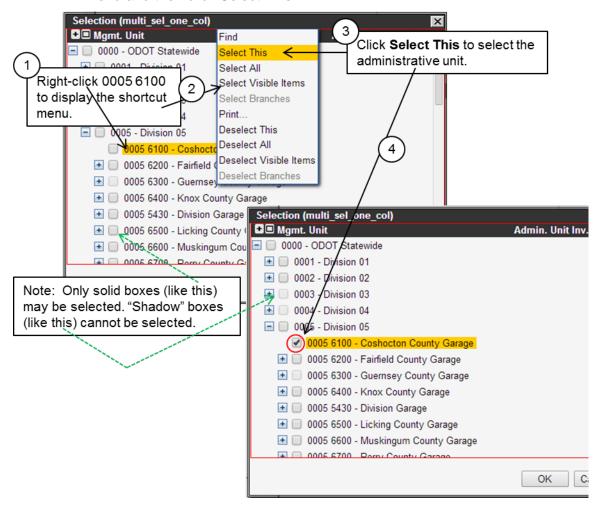
f. In the Equipment pane on the right side, right-click to display the shortcut menu and then click Edit Selection. The system responds by displaying the Selection dialog box.



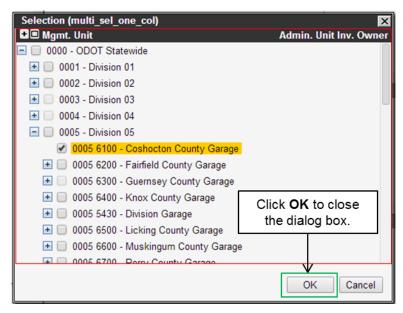
g. In the Selection dialog box, locate the Coshocton Division / Cost Center by expanding the hierarchy for Division 5 by clicking the + sign.



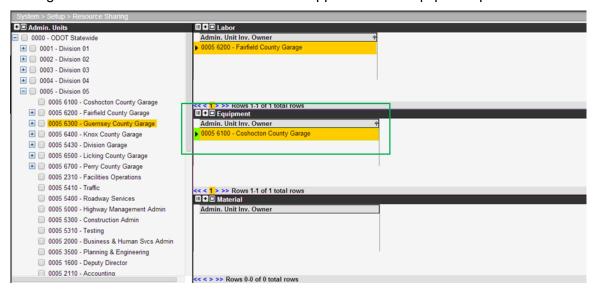
h. Right-click 0005 6100 Coshocton County Garage to display the shortcut menu and then click Select This.



 The Division / Cost Center is now selected, so click OK to close the dialog box.



The dialog box closes and 0005 6100 Coshocton appears in the Equipment pane.

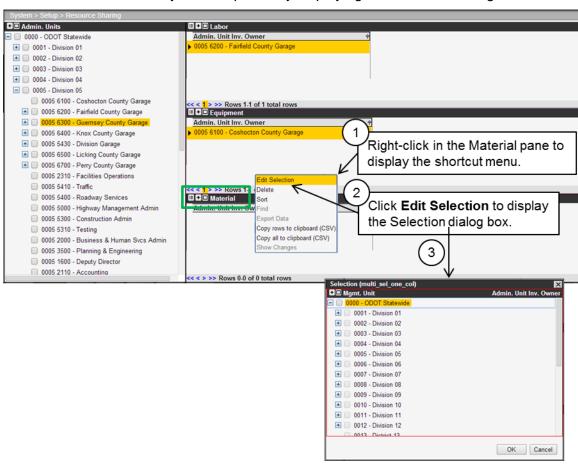


j. Click in the left gutter to save the new data.

3.1.1.4 Step 4: Sharing of Material Resources

Step 4 is concerned with selecting the Division / Cost Centers that will share their material resources with the Division / Cost Center selected in Task 1. For this example, the material resources of both the Fairfield and Coshocton Division / Cost Centers will be shared with the Guernsey Division / Cost Center. To accomplish this sharing of resources, perform the following steps:

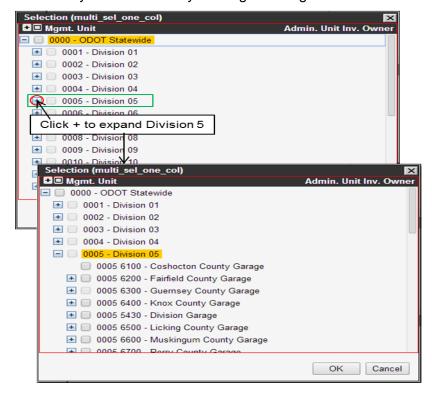
1. In the Material pane on the right side, right-click to display the shortcut menu and then click Edit Selection. The system responds by displaying the Selection dialog box.



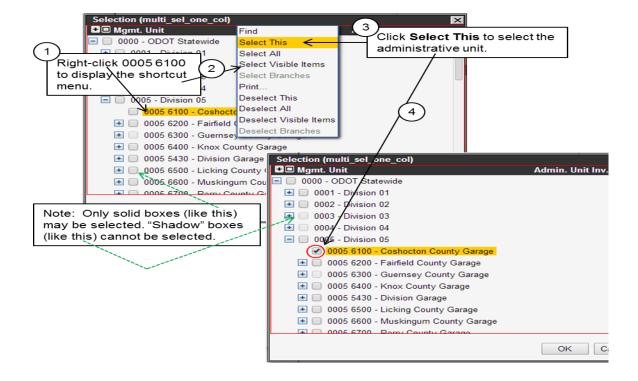
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Assigning and Tracking Work (Projects, Estimates, Work Orders, Day Cards)

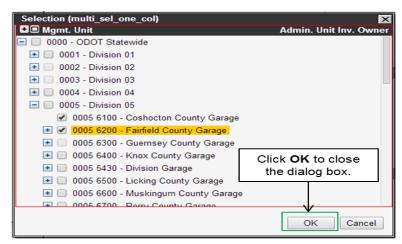
2. In the Selection dialog box, locate the Coshocton and Fairfield Division / Cost Centers by expanding the hierarchy for Division 5 by clicking the + sign.



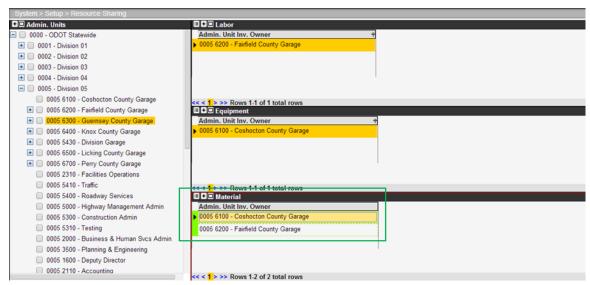
Right-click 0005 6100 Coshocton County Garage to display the shortcut menu and then click Select This.



- 3. Repeat the previous step to select 0005 6200 Fairfield County Garage. (If needed, see the illustration on page 15 for assistance.)
 - k. The Division / Cost Centers are now selected, so click OK to close the dialog box.



The dialog box closes and 0005 6100 Coshocton and 0005 6200 Fairfield appear in the Material pane.



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Assigning and Tracking Work (Projects, Estimates, Work Orders, Day Cards)

I. Click in the left gutter to save the new data. These resources will now be available to add to Shortlists. (See the Shortlists section for instructions on that process)

This completes the steps needed to share the labor, equipment, and materials resources of the Coshocton and Fairfield Division / Cost Centers with the Guernsey Division / Cost Center.

TIPI These tasks do not result in the resources of the Guernsey Division / Cost Center being shared with either the Coshocton or Fairfield Division / Cost Centers. If you wish to establish such sharing, you would need to perform the tasks again with the selection of either Coshocton or Fairfield (as desired) in Step 1 and then selecting Guernsey in the remaining tasks.

3.1.2 Inventory Sharing

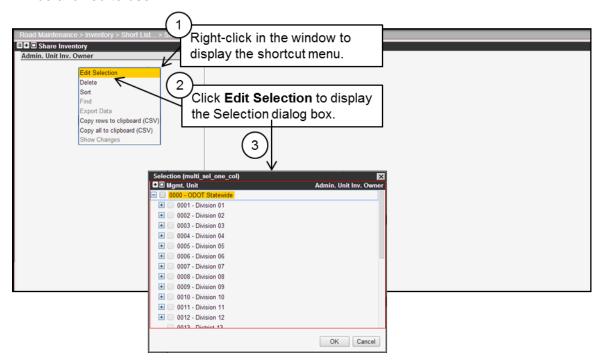
"Inventory" refers to highway control sections, bridges, signs, buildings, land, or any other asset type that has a detailed inventory and location. Each Division / Cost Center is assigned particular assets that they are charged with maintaining.

When a work order is created, it may only specify an activity to be performed on an asset belonging to the Division / Cost Center in which it is being created. In other words, a Division / Cost Center may only work on assets in its own inventory.

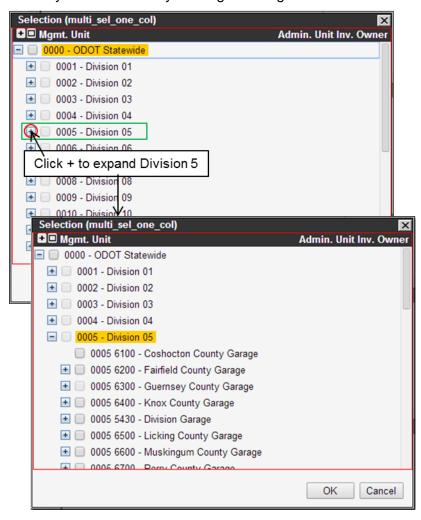
However, in some cases, a Division / Cost Center needs to work on a highway control section or building that is not part of its own inventory (for example, a highway section or building belonging to a neighboring Division / Cost Center).

In this example, the Coshocton Division / Cost Center will share (that is, be able to access) the inventory of all other Division / Cost Centers in its Division (Division 5). To accomplish this sharing of inventory, perform the following steps:

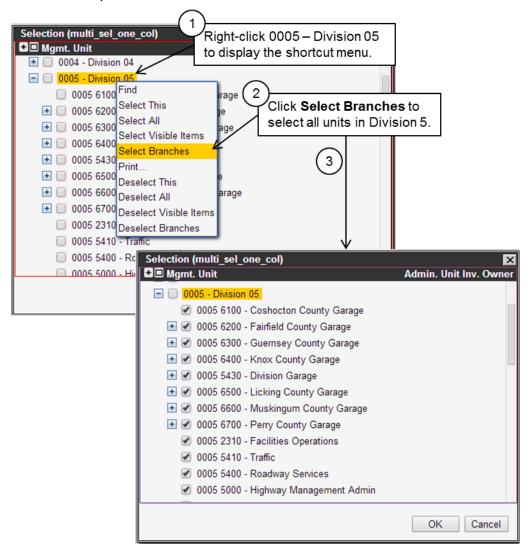
- Navigate to the Share Inventory window in the Roadway module (Roadway > Inventory>
 Shortlist > Share Inventory). The Share Inventory window shows those Division / Cost
 Centers whose assets are shared with the Coshocton Division / Cost Center. Since no
 assets are yet shared (for the purposes of this example), the window will be empty as
 shown below.
- 2. Right-click the window to display the shortcut menu and then click Edit Selection. The system displays a dialog box to select the Division / Cost Center(s) whose assets you will be allowed to use.



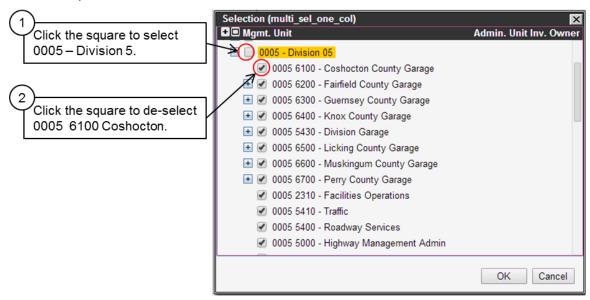
3. Expand the hierarchy for District 05 by clicking the + sign.



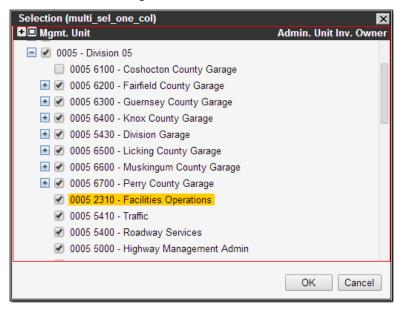
4. Right-click 0005 – Division 5 to display the shortcut menu and then click Select Branches. The system selects all Division / Cost Centers in Division 5, placing a check mark in the square beside each unit's name to denote that it is selected.



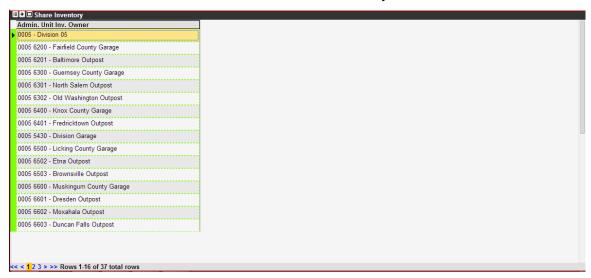
5. When you used the Select Branches command, the system only selected the branches but not the top-level 0005 – Division 5 node. You should also include this unit, so click the square beside the name to select it. Also, since by default your Division / Cost Center (Coshocton) can use its own inventory, you do not need to select this unit. So click the square beside the name to de-select it.



6. Review your selections in the dialog box.



7. When the selections are correct, click OK. The system closes the dialog box and shows the selected Division / Cost Centers in the Share Inventory window.



8. Click the B icon in the left gutter to save the new data.

This completes the steps needed to share the inventory assets of all Division / Cost Centers in Division 5 with the Coshocton Division / Cost Center.

3.1.3 Work Order Sharing

The system assumes that the Division / Cost Center that creates a work order will be the unit that performs the work order. This works well in the majority of cases. However, there are situations where one or more Division / Cost Centers will work with the originating Division / Cost Center to accomplish the work order. For this purpose, the system allows the originating Division / Cost Center to share the work order with other Division / Cost Centers.

Work orders specify where, when, and with what resources a work activity may be accomplished. By using the techniques in the previous sections, you could create work orders using the resources of Division / Cost Centers other than your own by sharing those resources. Similarly, you could perform a work activity on an asset that belongs to another Division / Cost Center by having that unit share its inventory with your Division / Cost Center.

However, even with sharing resources and inventories, you may still only create work orders for your particular Division / Cost Center. In other words, the system assumes that each Division / Cost Center creates and performs its own work orders.

In some situations, this is not the optimal way to accomplish work activities. For example, say a large section of pavement was damaged by erosion due to a heavy rainstorm. The restoration of this section is vital and so it needs to be accomplished quickly. Obviously, then, assigning multiple Division / Cost Centers to this work activity will allow the section to be restored much more quickly than if a single Division / Cost Center performed the work.

The system requires two major tasks to share work orders:

1. In the Day Cards window, the originating Division / Cost Center shares a work order with one or more Division / Cost Centers via a right-click command.

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Assigning and Tracking Work (Projects, Estimates, Work Orders, Day Cards)

2. Each of the Division / Cost Centers with which the work order is shared enters the work order in their respective Daily Log windows via a right-click command.

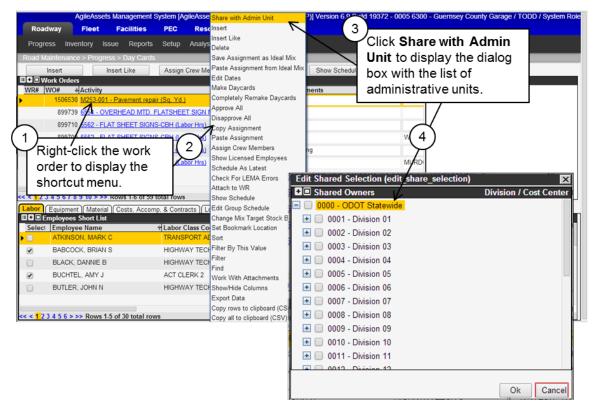
TIP! The work order is shared from the Day Cards window, but the shared work order is accessed from the Daily Log window. The shared work order does not appear in the Day Cards window of the Division/Cost Centers with which it is shared.

3.1.3.1 How to Share a Work Order

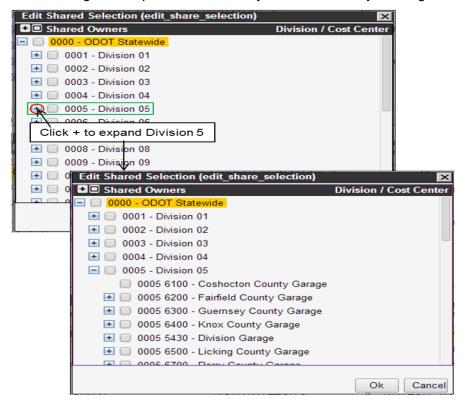
The first step in sharing a work order is for the originator of the work order to share it with other Division / Cost Centers. In the example provided here, the Guernsey Division / Cost Center will share an existing work order (#1506530) with the Fairfield Division / Cost Centers.

Perform the following steps to accomplish this task:

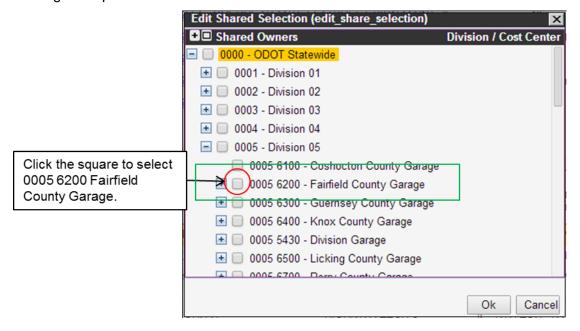
- 1. Select the Guernsey Division / Cost Center when logging on.
- 2. Display the Day Cards window (Roadway > Progress > Day Cards).
- 3. Locate work order #1506530, right-click it to display the shortcut menu, and then click Share with Admin Unit. The system responds by display a dialog box to select the Division / Cost Centers with which the work order will be shared.



4. In the dialog box, expand the hierarchy for District 05 by clicking the + sign.



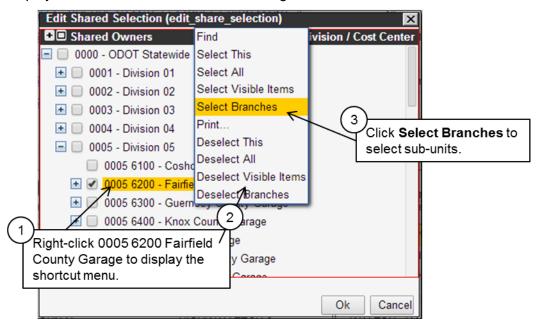
5. Select the Division / Cost Center with which the work order will be shared (Fairfield) by clicking the square beside the name.



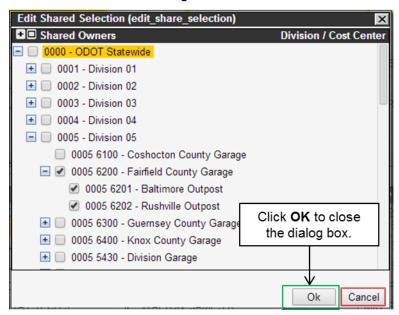
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Assigning and Tracking Work (Projects, Estimates, Work Orders, Day Cards)

6. Select the sub-units of Fairfield by right-clicking the name of the Division / Cost Center to display the shortcut menu and then clicking Select Branches.



7. Click OK to close the dialog box.



The work order is now shared with the Fairfield Division / Cost Center and its sub-units. The units may now place the work order in their respective Daily Log windows so labor activities against the work order may be recorded. This is described in more detail in the following section

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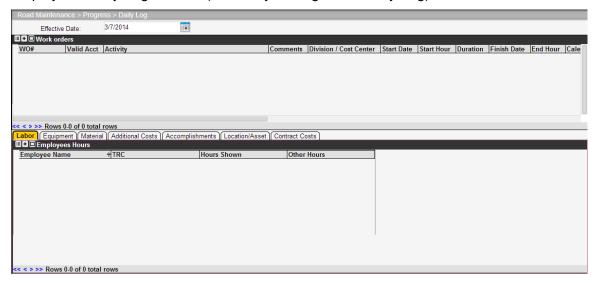
Assigning and Tracking Work (Projects, Estimates, Work Orders, Day Cards)

3.1.3.2 How to Access a Shared Work Order

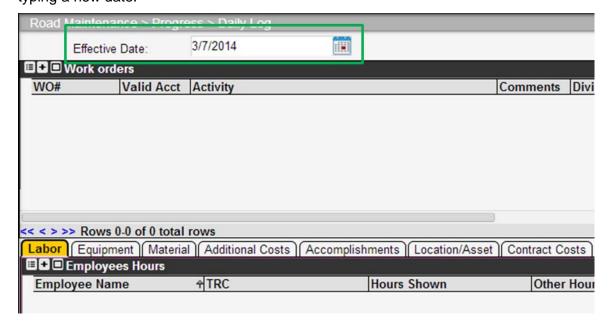
Once the originating Division / Cost Center has shared a work order, the units with which the work order is shared may add the shared work order to their Daily Log windows. This allows personnel in the units to record time spent on the work order.

The following example continues the example given in the previous section. Work order #1506530 is shared with the Fairfield unit and its sub-units. Perform the following steps to add the work order to the Fairfield unit's Daily Log window:

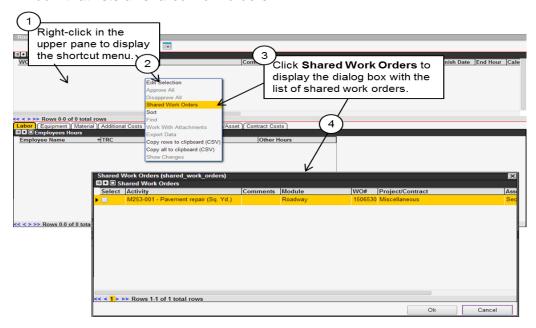
- 1. Select the Fairfield Division / Cost Center when logging on.
- 2. Display the Daily Log window (Roadway > Progress > Daily Log).



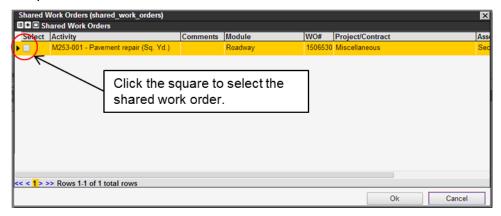
3. If necessary, change the default current date to the date when time was spent on the shared work order. You may change the date by clicking the calendar icon and then clicking the desired date in the calendar that displays — or highlighting the date and typing a new date.



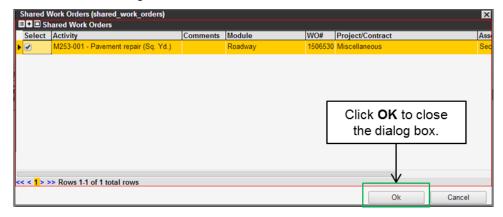
4. Right-click the upper pane and then click Shared Work Orders. The system displays a new window that lists all shared work orders.



5. Click the square in the Select column to select the shared work order.



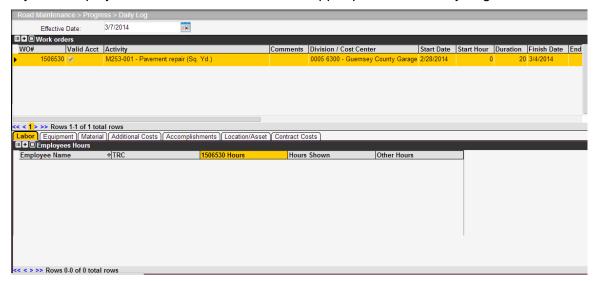
6. Click OK to close the dialog box.



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Assigning and Tracking Work (Projects, Estimates, Work Orders, Day Cards)

The system displays the shared work order in the upper pane of the Daily Log window.



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Assigning and Tracking Work (Projects, Estimates, Work Orders, Day Cards)

3.2 Shortlists

Short Lists are provided for making quick selections in the Day Cards and Daily Log windows. The menu options are listed in Figure 3-1.

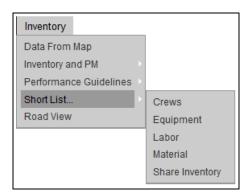


Figure 3-1. Inventory > Short List Menu Options

3.2.1 Short List - Crews

Crews may be identified when a particular combination of Labor and Equipment is commonly used together to perform an Activity.

The Crews window (Figure 3-2) enables an authorized user within a specific Division/Cost Center to configure a Crew, such as the Utility Crew, and assign employees and equipment to the Crew. Crews may also be edited later as needed by changing the checkbox selections

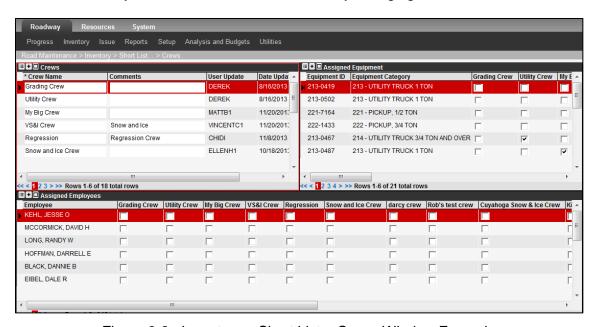


Figure 3-2. Inventory > Short List > Crews Window Example

The Crews window (Figure 3-2) contains three panes, as listed in Table 3-1.

Assigning and Tracking Work (Projects, Estimates, Work Orders, Day Cards)
Table 3-1. Overview of Crews Window

Pane Label	Description
Crews	This pane lists all work Crews as configured by the logged-in Division/Cost Center.
Assigned Equipment	The left side of this pane lists all equipment in the Equipment Short List. The names of the work Crews appear as column headings. A checkmark indicates that the piece of equipment is assigned to the Crew.
Assigned Employees	This pane lists all employees in the Labor Short List. The names of the work Crews appear as column headings. A checkmark indicates that the employee is assigned to the Crew.

TIP! If an employee is cleared from the Labor Short List, or a piece of equipment is removed from the Equipment Short List, the resource will also be cleared from any **Crews** to which they had been assigned.

Once a Crew is selected in the Work Order process, the **Assign Crew Members** function populates the Labor and Equipment assignments in the Day Cards area.

3.2.2 Short List - Equipment

The Equipment Short List window (Figure 3-3) lists all equipment available to a Division/Cost Center. It assists the user with configuring the quick selection list for the Day Cards window. This short list may be edited later as needed.

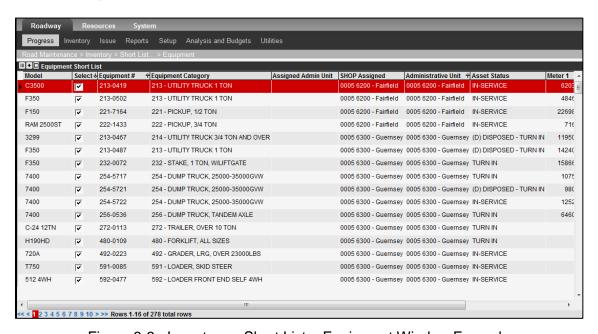


Figure 3-3. Inventory > Short List > Equipment Window Example

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Assigning and Tracking Work (Projects, Estimates, Work Orders, Day Cards)

3.2.3 Short List - Labor

The Labor Short List window (Figure 3-4) lists all employees available to the Division/Cost Center. It assists the user with configuring the quick selection list for the Day Cards window. This short list may be edited later as needed.

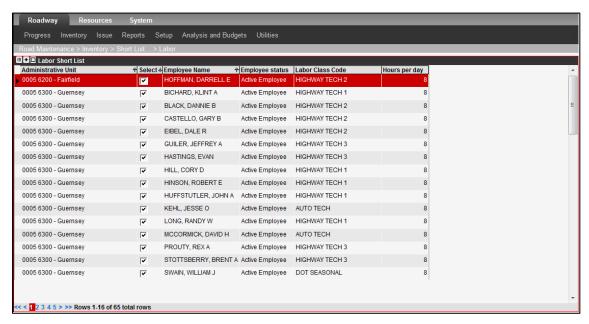


Figure 3-4. Inventory > Short List > Labor Window Example

3.2.4 Short List - Material

The Material Short List window (Figure 3-5) lists all materials available to the Division/Cost Center, in the central warehouse and any stockpiles. It assists the user with configuring the quick selection list for the Day Cards window. This short list may be edited later as needed.

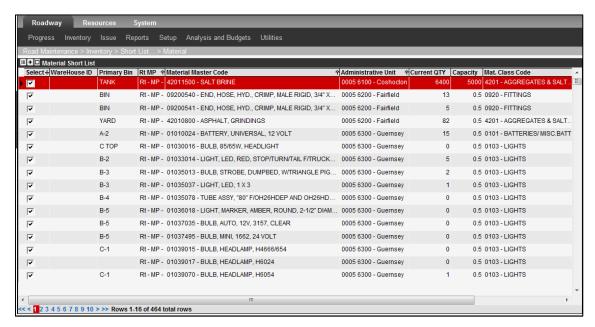


Figure 3-5. Inventory > Short List > Material Window Example

4 Work Orders and Day Cards

A Work Order specifies an assignment to be performed and its planned duration.

1. Navigate to the Road Maintenance > Progress > Day Cards window.

4.1 Work Order Record Overview

Available fields of a WO# record are shown in Figure 4-1 and explained in Table 4-1.

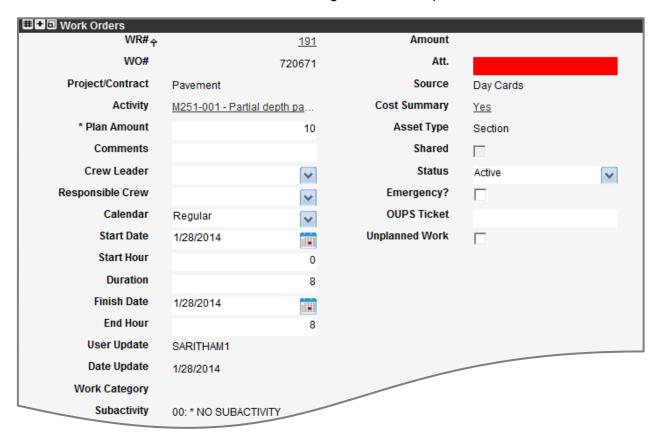


Figure 4-1. Work Order Fields (Record View)

Table 4-1. Overview of Work Order Fields

Label	Overview
WR#	Read-only: WR# is listed and hyperlinked (if present); refer to paragraph 5.1.1 to edit
WO#	Read-only: system generated Work Order number (WO#)
Project/Contract	Read-only: specified by the user during Work Order Creation
Activity	Read-only: specified by the user during Work Order Creation
Plan Amount	Numeric amount of work accomplishment that the WO# should produce (format is based on the Unit of Measure applicable to the specified activity)
Comments	Free-text entry field for adding Comments to the Work Order

Label	Overview
Crew Leader	Enables selection from Labor Short List, defaults to blank
Responsible Crew	Enables selection from Crews Short List, defaults to blank
Calendar	Enables selection of a special calendar type, or defaults to Regular; see Figure 4-2. See paragraph 4.4 for how to use date editing feature.
Start Date	mm/dd/yyyy as selected with calendar button; see paragraph 4.4 for how to use date editing feature
Start Hour	Numeric entry for hour of the workday when the activity starts ("0" for starting hour)
Duration	Numeric entry for estimated duration of the Work Order in hours; see paragraph 4.4 for how to use date editing feature
Finish Date	mm/dd/yyyy as selected with calendar button, which may be dated for the future; see paragraph 4.4 for how to use date editing feature
End Hour	This is a calculated field; see paragraph 4.4 for how to use date editing feature
Subactivity	Read-only: specified by the user during Work Order Creation
Amount	Read-only: shows estimate from Estimate / Force Account, or blank
Att.	Accepts an attachment by way of the Work With Attachments feature
Source	Indicates where the Work Order originated from: Day Cards, Work Request, PM, etc.
Cost Summary	Provides a link to a breakdown of expected costs, based on Duration and any assignments booked in Day Cards area; see Figure 4-2.
Asset Type	Read-only: specified by the user during Work Order Creation
Shared	If checked, the Work Order has been shared with another Division/Cost Center
Status	This field shows Active, until the Work Order is marked Completed
Emergency?	Select to indicate that the Work Order is in response to an Emergency Event. This checkbox is intended to be used only in cases where an Event project has not yet been set up.
OUPS Ticket	If the Ohio Utilities Protection Services (OUPS) is contacted to mark the location of buried utilities lines, the ticket number may be entered in this field
Unplanned Work	Select to indicate unplanned work, indicates that the work was ad-hoc and not part of a work plan.

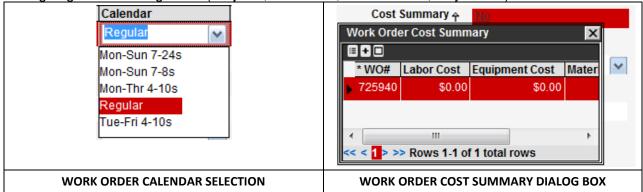


Figure 4-2. Work Order Dialog Box Examples

4.2 The Day Card

Each Work Order includes a sub-pane beneath the Work Order information. This lower pane is used to configure the Day Cards to be associated with a specific Work Order. Day Cards identify the various resources, materials, equipment and other costs to be associated with a Work Order per date.

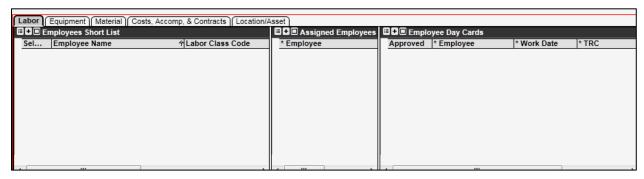


Figure 4-3. Work Order Sub Pane – For Configuring Day Cards

Table 4-2. Overview of Day Card Tabs

Label/Tab	Description	
Labor	This tab displays the Employee Short List. Select from the available Short List to add to a Day Card	
Equipment	This tab displays the Equipment Short List. Select from the available Short List to add to a Day Card.	
Material	This tab displays the Material Short List. Select from the available Short List to add to a Day Card.	
Costs, Accomp. & Contracts	This tab is to record any other Costs to be associated with the work order that cannot be captured elsewhere. As examples: Rental Equipment Costs, Contractor Costs, etc.	
Location/Asset	This tab enables work locations and/or asset inventory items to be associated with the work effort.	

4.3 Sharing Work Orders with Other Divisions/Cost Centers

Sharing of the Work Order allows one Division/Cost Center to lead the effort, and another Division/Cost Center to contribute to the work assignment and record LEM against that Work Order by using the Daily Log feature.

Once a Work Order has been activated, an authorized user may share it with another Division/Cost Center at any time as follows.

1. Point to the Work Order, and perform the **Share with Admin Unit** function (Figure 4-4).



Figure 4-4. Work Order Share Command

- 2. A dialog box presents ODOT Divisions/Cost Centers (Figure 4-5), where:
 - c. Any Division/Cost Center may be expanded by use of the sign.
 - d. Division/Cost Centers may be selected all at once, by way of the **Select Branches** command or selected individually by a checkbox or **Select This** command.
 - e. Apply a checkmark to the appropriate Division/Cost Center(s).

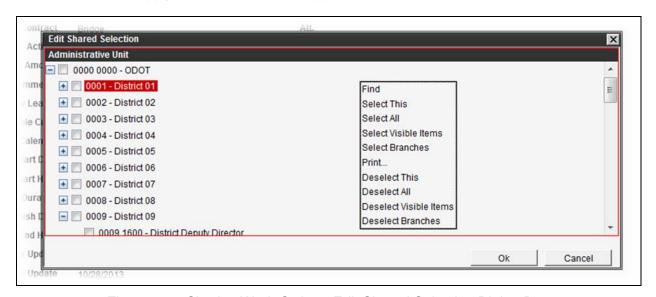


Figure 4-5. Sharing Work Order – Edit Shared Selection Dialog Box

- f. When appropriate Division/Cost Centers have been checked (Figure 4-5), select **OK** to apply the update, or select **Cancel** to exit.
- g. Click in the left gutter to save

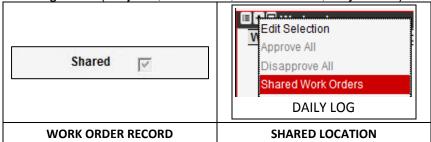


Figure 4-6. Work Order Shared Field Update

TIPS!

- If shared locations wish to record labor activities against the Work Order, those locations must use the **Daily Log** window (per Figure 4-6) rather than the **Day Cards** window, to select the Work Order and record LEM.
- A checkmark appears next the Shared field of the Work Order (Figure 4-6) to signify that another location has been authorized.
- To review or modify the selections, the user may repeat the process. Enabled selection(s) will show a checkmark.
- The Plan Amount field of the Work Order need not account for shared effort.
- A Work Order may be shared with any other Division/Cost Center statewide.

4.4 Edit Scheduled Effort of Work Orders

The dates and/or Duration for a Work Order may be edited from the Work Order Schedule window, selected with either the **Show Schedule** button or the **Edit Group Schedule** button.

1. Point to the Work Order, and perform any scheduling function (Figure 4-7) from the menu per Table 4-3.



Figure 4-7. Work Order Schedule Commands

Table 4-3. Overview of Work Order Schedule Commands

Command	Description	
Show Schedule Show Schedule	This command displays a Scheduling dialog box (Figure 4-10) with dates along the top and the list of Work Orders along the left side. The displayed information is read-only when this function is selected. This function is used to view all active Work Orders within the date range selected in the Graph Setup tab; whereas, Edit Group Schedule is used to show just those Work Orders belonging to a certain group of Work Orders, such as those with the same Responsible Crew.	
Edit Group Schedule Edit Group Schedule	The Scheduling dialog box (Figure 4-10) opens, allowing the user to arrange Work Orders in the order in which they will be performed. The purpose of the Gantt Diagram tab is to view Work Orders chronologically and to adjust their start and end dates.	
Schedule as Latest	For a Work Order that has a Responsible Crew assigned, this command: • Sequences all open Work Orders for that Crew, by Duration. • Places the right-clicked Work Order as the last one. (Perform a Save.)	

- 2. In the Scheduling dialog box that results from a Show/ Edit Group Schedule selection.
 - h. The default tab is Graph Setup (Figure 4-8)
 - i. The second tab is Gantt Diagram (upcoming Figure 4-10)
 - a. Configure the criteria for the Gantt diagram by using the Graph Setup tab (Figure 4-8), using the fields explained in Table 4-4.

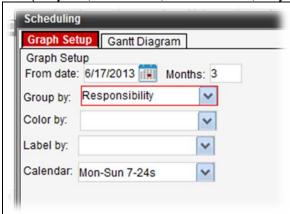


Figure 4-8. Scheduling Dialog Box - Graph Setup Tab Example

Table 4-4. Overview of Graph Setup Pane Fields

Field	Description
From Date	mm/dd/yyyy as selected with calendar button, for start date in Gantt diagram
Months	This field determines the length of time from the start date to show in the Gantt diagram
Group By	This field, only enabled by the Edit Group Schedule function, limits what shows in the Gantt diagram. A drop list is provided to select criteria (Figure 4-9).
Color By	This field causes all bars of a certain type to be colored the same in the Gantt diagram. A drop list is provided to select criteria (Figure 4-9).
Label By	This field specifies what is shown along the left side of the Gantt diagram. A drop list is provided to select criteria (Figure 4-9).
Calendar	This field specifies the calendar type that is to be used in scheduling. This affects which days are shown as working days, and the length of those days, along the top of the Gantt diagram.

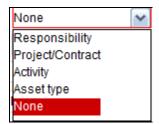


Figure 4-9. Graph Setup Drop List Example

- Once Work Orders are displayed in the Gantt Diagram (Figure 4-10), they
 may be arranged in the order in which they are to be performed, provided the
 Day Cards exist and are unapproved.
- Available commands in the Gantt Diagram tab are listed in Table 4-5.

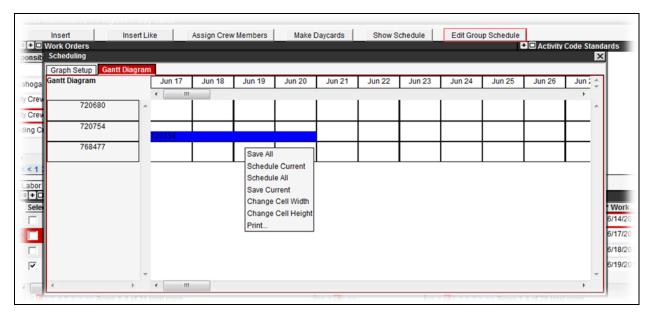


Figure 4-10. Scheduling Dialog Box - Gantt Diagram Tab Example

Table 4-5. Overview of Gantt Diagram Tab Commands

Command	Description
Save All	Based on date changes made in the Gantt Diagram tab, this command writes the Start Date, Duration, and End Date into the appropriate columns in the Work Order pane of the underlying Day Cards window, for all displayed Work Order bars. If unapproved Day Cards exist for the Work Orders, the dates are also changed for these Day Cards.
Schedule Current	This command "stair steps" the Work Order bars that have a Start Date after the Start Date of the Work Order bar to which the user pointed. The order is defined by the current order of the Start Dates.
Schedule All	This command "stair steps" all Work Order bars. The order is defined by the current order of the Start Dates.
Save Current	Based upon the date changes made in the Gantt Diagram tab for just the Work Order bar to which the user pointed, this command writes the Start Date, Duration, and End Date into the appropriate columns in the Work Order pane of the underlying Day Cards window for only the Work Order bar to which the user pointed. If unapproved Day Cards exist for the Work Order, the dates are also changed for these Day Cards.
Change Cell Width	Used to modify the width of the columns in the Gantt diagram. The next time this window is opened, the column width defaults to original.
Change Cell Height	Used to modify the height of the columns in the Gantt diagram. The next time this window is opened, the column height defaults to original.

- 3. To reschedule Work Orders directly in the Gantt Diagram tab (Figure 4-10), proceed as follows:
 - a. Review the Durations of the Work Orders, and modify any as needed by changing the length of the bars.
 - **TIP!** If the user drags a bar to overlap a non-working day, as shown in red text, the system automatically extends the Duration of the bar to account for the non-working days.
 - b. Arrange the bars in the order in which the Work Orders will begin. At this point, the user only needs to be concerned with the Start Dates of the Work Orders, and not the End Dates or how the bars overlap.
 - c. Once the starting dates of the Work Orders are correct relative to each other, point to the first bar and perform the **Schedule Current** function.

TIP! This function schedules each Work Order to begin when the previous Work Order ends; in effect, creating a "stair step" chart without overlap (Figure 4-11).

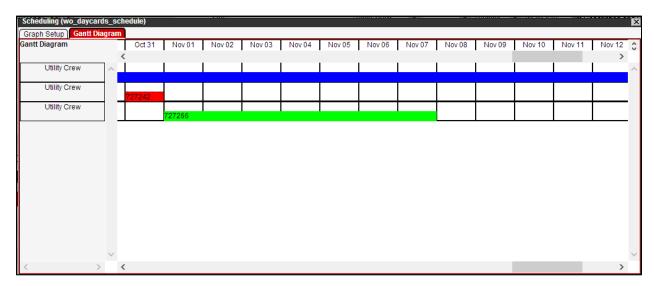


Figure 4-11. Scheduling Dialog Box – Example of Scheduled Work Orders

d. In the Gantt Diagram tab, point to any bar and perform a **Save All** function.

TIPS!

- This function now updates the start and end dates, and Durations, by copying them from the chart into the main Work Orders pane of the Day Cards window.
- This also triggers the Completely Remake Daycards function, which recreates new Day Cards for all resources for the entire Work Order Duration.
- e. Perform a Save function.

4.4 Editing an Existing Work Order

4.4.1 How to Edit Work Order Dates

An authorized user has the option to schedule an individual Work Order in an Edit Dates dialog box. This method is intended for use when the Work Order has no approved Day Cards.

Another scheduling method, involving a Gantt chart for viewing multiple scheduled Work Orders, is explained in paragraph 4.4.

1. Point to the Work Order, and perform the **Edit Dates** function from the menu (Figure 4-12). This command opens the Edit Dates dialog box (Figure 4-13).



Figure 4-12. Work Order Date Editing Command

TIP! The Edit Dates dialog box (Figure 4-13) shows the Calendar type at left, the current Start hour and day, End hour and day, and Duration. It also provides calculation buttons to assist with deriving the End Date and Hour or the Duration.

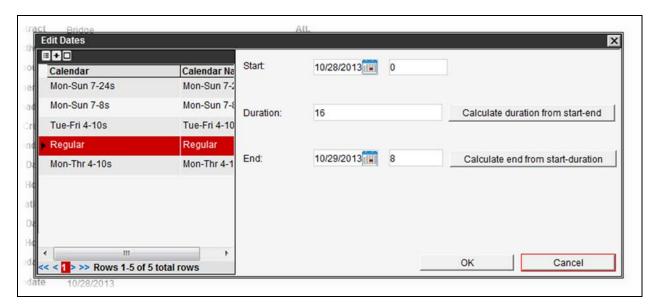


Figure 4-13. Work Order Edit Dates Dialog Box

- 2. Perform any of the following options in the Edit Dates dialog box (Figure 4-13):
 - a. Edit the Duration value, and select the **Calculate End from Start-Duration** button to refresh the End day and hour.
 - b. Edit the Start date and/or hour, and the End date and/or hour, and select the **Calculate Duration from Start-End** button to refresh the Duration.
 - c. Select a different Calendar type in the left pane, and select either of the calculation buttons to derive a new Duration or End date.
 - d. Edit all fields manually without using the calculation buttons.
- 3. Select **OK** in the dialog box (Figure 4-13) to accept any updates, or **Cancel** to exit.

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TIP! If any Day Cards exist outside of the range of edited dates, the following occurs:

- For Day Card(s) that are unapproved, those Day Card(s) of the outer-range date(s) are deleted.
- For Day Card(s) that are approved, the user is prompted to either abort the process, or extend the Duration to cover the already approved Day Card(s) date.
- 4. Click in the left gutter to save.

4.5 Setting Up Day Cards – Adding LEM

4.5.1 From the Work Orders Pane

The user has the following commands available for performing LEM assignments directly from the top Work Orders pane.

1. Point to the Work Order, and perform any of the functions listed (Figure 4-12) from the menu in the Work Orders pane, as explained in Table 4-6.

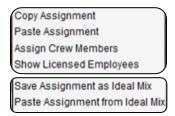


Figure 4-14. Work Order Resource Assignment Commands

Table 4-6. Overview of Work Order Resource Assignment Commands

Command	Description
Copy Assignment	This command copies the Labor, Equipment, and Material assignments (Day Cards area) from a selected Work Order to the clipboard.
Paste Assignment	This command pastes the Labor, Equipment, and Material assignments from the clipboard to a selected Work Order, which replaces any existing assignments.
Assign Crew Members Assign Crew Members	If a Crew has been selected in the Responsible Crew field, this command applies the assignments to the Labor and Equipment tabs (Day Cards area).
Show Licensed Employees	This command displays a list of employees who are licensed to perform the selected Activity. An Activity License is associated with an Activity in the System module. An employee is assigned a license in the Resources module, as imported from the Training Records System (TRS) application.
Save Assignment as Ideal Mix	An "ideal mix" is essentially a resource template. It is a combination of Labor, Equipment, and Material assignments that, together, are best able to accomplish certain work Activities. When selected, the system displays the Ideal Mix dialog box (Figure 4-15).
Paste Assignment from Ideal Mix	This command displays the Ideal Mix dialog box (Figure 4-15). The user may then select an ideal mix from the list, and select the OK button to paste the assignments to the selected Work Order (Day Cards area).

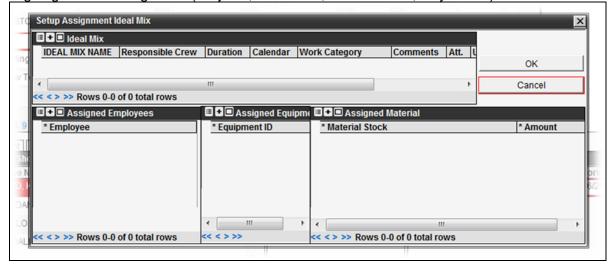


Figure 4-15. Ideal Mix Dialog Box

TIP! The Ideal Mix dialog box (Figure 4-15) contains panes for specifying Labor, Equipment, and Material resources, along with a pane to name the ideal mix. It has options to assign a Duration and Crew to the ideal mix. Selecting the **OK** button will save the ideal mix for future use.

2. Click in the left gutter to save

4.5.2 From the Lower Day Cards Configuration Pane

The user has the option of performing LEM assignments directly in the Day Cards area, as follows.

 Apply a checkmark to any Short List item appearing under Labor, Equipment, or Materials. This causes the selection to appear in the middle pane as an assignment (Figure 4-16)

TIP! Clearing the checkbox causes the Assigned selection to be removed.

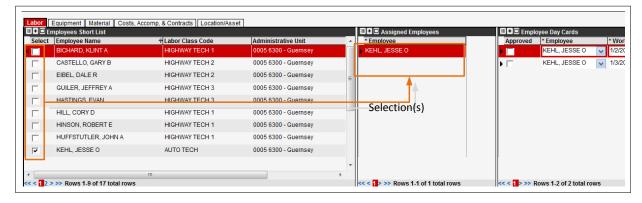


Figure 4-16. Day Cards – Work Order Resource Assignment Example

TIP! For a Material assignment, an Amount (quantity) must be entered, or the user will receive an error notification in the upcoming step.

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2. Click in the left gutter to save

4.5.3 Day Cards LEM Schedule View Windows

For reference, a read-only LEM Schedule window is available in the Day Cards area.

- 1. Under the Labor, Equipment, or Materials tab, select the **Show Schedule** function, where:
 - The Schedule View dialog box (Figure 4-17) shows a schedule with dates along the top and the list of resources along the left side. Dates in red indicate nonworking days.
 - Approved Day Cards are shown as green bars, while unapproved Day Cards are shown as red bars.
 - If the user hovers over a bar, a floating box shows the Work Order Number, Activity, and Duration of the Day Card (Figure 4-17).

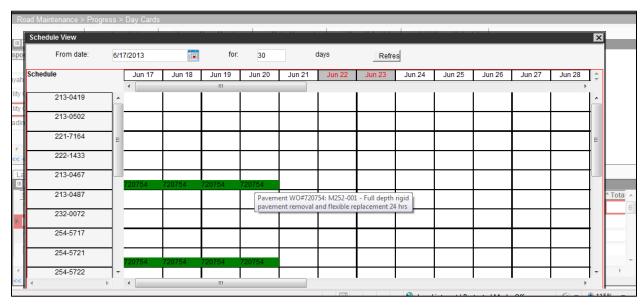


Figure 4-17. Day Cards – LEM Schedule View Dialog Box Example

- 2. To modify the start and/or end dates being viewed, edit the **From date:** and **for:** (date range) fields as needed, and select the **Refresh** button.
- 3. When finished viewing the schedule, close the window by using the Close icon.

4.5.4 How to Assign Locations and/or Asset Inventory

If the Work Order requires a Work Target to be specified, for a route segment or other asset (e.g., bridge, sign, or guardrail), this paragraph explains how to insert a location.

TIP! Work Targets may already be shown under the Location/Asset tab, from Work Order Creation.

1. Insert or modify a record under the Location/Asset tab (Day Cards area), using any of the following menu options (Figure 4-18), as explained in Table 4-7.

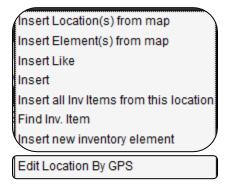


Figure 4-18. Work Order Location Assignment Commands

Table 4-7. Overview of Work Order Location Assignment Commands

Command	Description
Insert Location(s) from map	This command is useful if inserting a route segment with its corresponding county log mile, using a Geographic Information System (GIS) map box. This command opens the Map window (Figure 4-20), from which the user may select the inventory item(s) for which the selected Work Order will be performed.
	The active layer in the Floating Map window is the layer associated with the Asset type as selected during Work Order Creation. It allows selection of asset-specific inventory items.
Insert Inv. Element(s) from map	This command behaves like the Insert Location(s) from map command described above, with the exception that the Routes layer is the active layer. The user may select one or more locations, such as bridges or signs, where the selected Work Order will be performed.
Insert	Inserts a blank record from which the user may select a route segment or inventory element.
Insert Like	Creates a new record for editing based on the currently selected record.
Insert all Inv Items from this location	This command finds all inventory items within the route and mile point boundaries of the selected record, and inserts each of them as separate records in the Location/Asset tab. The system inserts the name of an inventory item in the Inventory Item Name column, as a hyperlink. The user may select this link to display a new window with more detailed information about the inventory item.
Find Inv. Item	This command opens a dialog box (Figure 4-19) that lists all inventory elements of the Work Order's Asset type (i.e., Bridges), to assist the user with changing the inventory item of the currently selected record. Multiple items may be selected by holding the CTRL or SHIFT key. Selecting OK adds the inventory item in the Work Target pane under Inventory Item Name.

Command	Description
Insert new inventory element	This command allows the user to establish a new inventory element and location, and save it into inventory. (This function may only be performed on those assets managed by EIMS and not an external system – for example Road Sections, Bridges may not be added/modified)
Edit Location By GPS	This command displays a dialog box (Figure 4-19) for manually entering a location obtained from a GPS device, or viewing the coordinates of a selected record. The dialog box contains four entry fields: two for longitude ("from" and "to"), and two for latitude ("from" and "to"). Once the user supplies this information and closes the dialog box, the system finds the route, mile point from, and mile point to values that correspond to the entered coordinates and displays them in the selected record.

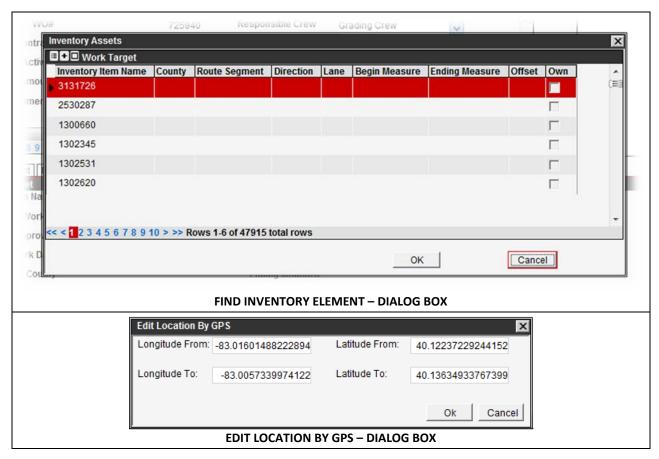


Figure 4-19. Find Inventory Dialog Box Examples

TIP! When the user performs an **Insert Location(s) / Inv. Elements from map** function, the system displays a Map window (Figure 4-20). The Map window contains two panes: the Selected Features pane (at left), from which inventory elements may be selected, and the Map pane (at right) with a map view of this data.

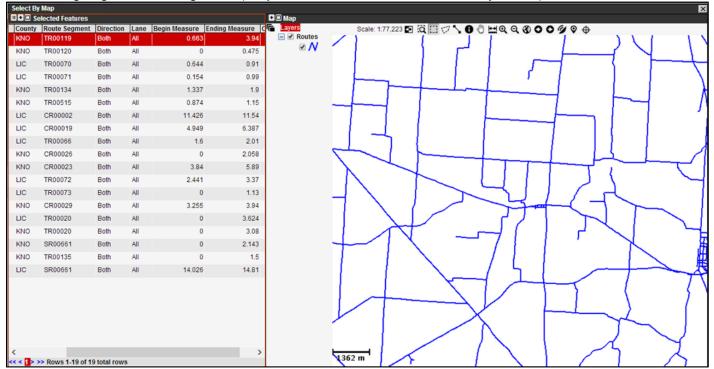


Figure 4-20. Map (GIS Explorer) Window Example

2. Using map pane menu options, listed in Table 4-8, configure the dialog box as needed. Examples of usage are provided in the following steps.

Table 4-8. Map Pane Options

Command	Description
Print	This command places the map view into a new browser window, for printer compatibility.
Edit Layer Properties	This command opens the Layer Properties dialog box, which may be used to modify how the selected layer is shown on the map. (Note: Instead, the user may double-click on the layer name or the symbol used for the layer.)
Save As Layer	After modifying a layer, this command assists the user with saving the modifications. A saved layer can then be used with the Add Layer command.
Add Layer	Used to add additional GIS layers to the default layers in the Map window, from the user's library of GIS layers, in a Layer Selection dialog box. The system will recall this selection for subsequent viewings of the Map window. Opens dialog box (Figure 4-21).
Remove Layer	Used to delete the layer from the map and the list of layers. (Note: If the user only wishes to remove the layer from the map, but keep the layer available in the list of layers, clear the checkbox beside the name of the layer.)
Copy Layer	This command copies the existing layer to the clipboard.

Command	Description
Paste Layer	This command pastes the copied layer from the clipboard to the Map window.
Show Labels	This command is used to display the text labels of inventory elements on the map.
Hide Labels	This command removes labels from the map.
Show Attributes	This command displays the inventory items of the active layer.
Set Layer Active	This command may be used to make a theme from which assets (features) can be selected. The system boldfaces the layer label to denote that it is the active layer.
Zoom To Layer	This command changes the magnification of the map so the entire extent of the layer is displayed.
Save Map	This command assists the user with saving the currently displayed map as a new Report, from a dialog box (Figure 4-21).
Save Map As PDF	This command opens the report in a format readable by the Adobe Reader application, from a dialog box (Figure 4-21).
Open Map	This command displays the Map Selection dialog box (Figure 4-21). Select the desired GIS Map, and then select the OK button. The system then closes the dialog box and displays the selected map.
New Map	This command removes all layers from the map other than those generated by the underlying window.

- a. To configure the map pane, either: perform an **Open Map** function (Figure 4-21) to select an established GIS Map, and/or use map pane controls (i.e., the Pan (i) icon) to center and zoom the viewing area.
- b. To add a layer to the map pane, perform an **Add Layer** function (Figure 4-21) to select an established layer.
- c. To save the GIS Report's map pane (such as for other use), use the **Save Map** and/or **Save Map as PDF** functions as prompted in Figure 4-21.



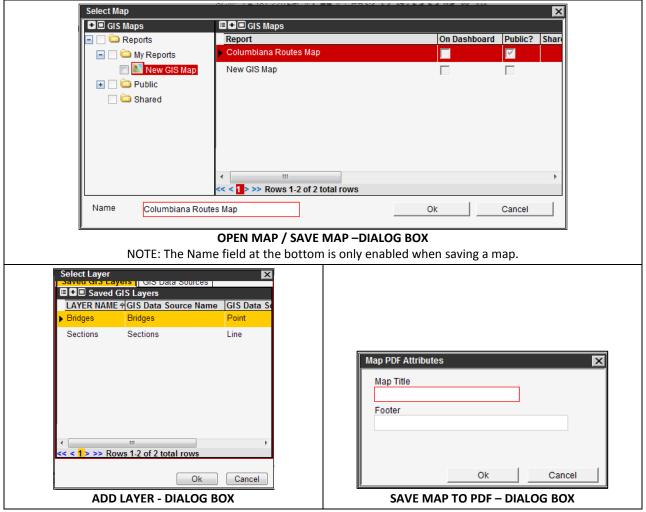


Figure 4-21. Map Pane Option Examples

- 3. Ensure the desired inventory element's GIS theme is selected.
- 4. Draw a box around the desired area of the map, using the Select Features By Rectangle ☐ icon, to pull in those items into the Selected Features pane.
 - a. (Optional) With inventory item(s) selected in the Selected Features pane (such as by holding CTRL or SHIFT when making selections), use the right-select the **Highlight Feature** function to highlight the feature(s) on the map.

Table 4-9. Overview of Special Commands in Selected Features Pane

Command	Description
Add Locations	With one or more inventory item records selected from the list, this command adds the selected inventory items to the Work Order as records. The window remains open to allow the user to select additional inventory items to add to the selected Work Order.
Highlight Feature	This command causes the selected inventory item to be highlighted in the map.

Command	Description
Insert new inventory element	This command allows the user to establish a new inventory element and location, and save it into inventory. (This function may only be performed on those assets managed by EIMS and not an external system – for example Road Sections, Bridges may not be added/modified)

5. Once the desired inventory item(s) are selected in the Selected Features pane, perform an **Add Locations** function to add them to the current Work Order.

TIP! Records appear in the Location/Asset tab, Work Target pane (Figure 4-22).

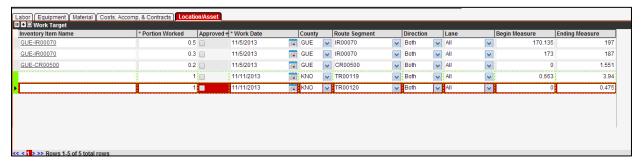


Figure 4-22. Work Target Pane Example

- 6. When finished selecting inventory items, close the Map window by using the Close **▼** icon.
- 7. Perform editing on fields in the new Work Target record (Figure 4-23) as required, where
 - The Work Target pane's fields are described in Table 4-10.



Figure 4-23. Work Target Pane

Table 4-10. Work Target Pane Fields

Label	Overview
Inventory Item Name	Inserts the name of an inventory item as a hyperlink. If keying in, the item name must be an exact match of what is available in the inventory list.
Portion Worked*	Defaults to 1 (for 100 percent), which may be edited if multiple work locations are being entered. The value is automatically prorated if the location is listed multiple times.
Approved	Status box for Day Card approval

Label	Overview
Work Date*	mm/dd/yyyy as selected with calendar button
County	Allows selection or entry of County for specifying a route segment (drop list)
Route Segment	Allows selection or entry of a valid route segment (drop list)
Direction	Allows selection of direction for the selected route segment (drop list)
Lane	Allows selection of a lane for the selected route segment (drop list)
Begin Measure	Allows entry of a beginning location for the selected route segment (entry)
Ending Measure	Allows entry of an ending location for the selected route segment (entry)

 Optional commands (Figure 4-24) are available in the Work Target pane, as explained in Table 4-11.

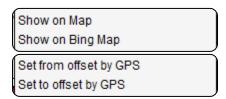


Figure 4-24. Other Work Target Pane Commands

Table 4-11. Overview of Other Commands in Work Target Pane

Command	Description
Show on Map	This command is available for all windows that display location data from a table. When the user selects a record and performs this function, the application displays a new window with a map. The location of the selected record is shown in red on the map.
Show on Bing Map	This command is available for all windows that display location data from a table and that have a Bing map attached. When the user selects a record and performs this function, the application displays a new window with the location shown on a Bing map. The location of the selected record is shown on the map. If the user selects a different record, the window with the Bing map remains displayed and the location changes to that of the newly selected record.
Set From Offset by GPS	Provided the GpsGate Client is installed and running on the user's machine, and GpsGate Client has obtained a GPS fix on the user's location (as indicated by the green network symbol in the system tray), this command inserts the user's current location in the From Offset field of the selected record.
Set To Offset by GPS	This command functions similarly to the Set From Offset by GPS command described above, with the exception that it inserts the user's current location in the To Offset field of the selected record rather than the From Offset field.

TIP! GpsGate Client for Windows is a free download, for connecting with a GPS device.

8. Perform a **Save** function.

4.6 Make Day Cards Function

Once Day Cards have been configured, the user must perform the "Make Daycards" command in order to actually schedule the resources (labor/equipment/materials) to perform the work. This procedure creates Day Cards for all assigned resources and for Accomplishments. The LEM assignments must be pre-configured, for this procedure to succeed.

1. Point to the Work Order, and perform either of the functions listed (Figure 4-25) in the Work Orders pane as explained in Table 4-12.



Figure 4-25. Work Order Make Day Cards Commands

Table 4-12. Overview of Work Order "Make Day Card" Commands

Command	Description
Make Daycards	This command prompts the user for a date range (Figure 4-26), and then creates Day Cards for all assigned LEM resources and Accomplishments for those dates.
Make Daycards	
Completely Remake Daycards	This command deletes all existing, unapproved Day Cards and creates new Day Cards for all dates that the Work Order is scheduled, regardless of the date range specified at the top of the window. If approved Day Cards exist, a warning message will be displayed.

2. Specify the effective dates in the Make Day Cards From dialog box (Figure 4-26), using the calendar buttons as needed.

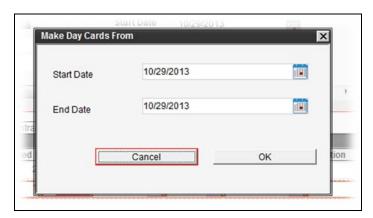


Figure 4-26. Work Order Make Day Cards From Dialog Box

 Select OK to apply the dates to the making of Day Cards. The system now creates all types of Day Cards for the selected Work Order and effective dates, as shown in the examples in Figure 4-27.

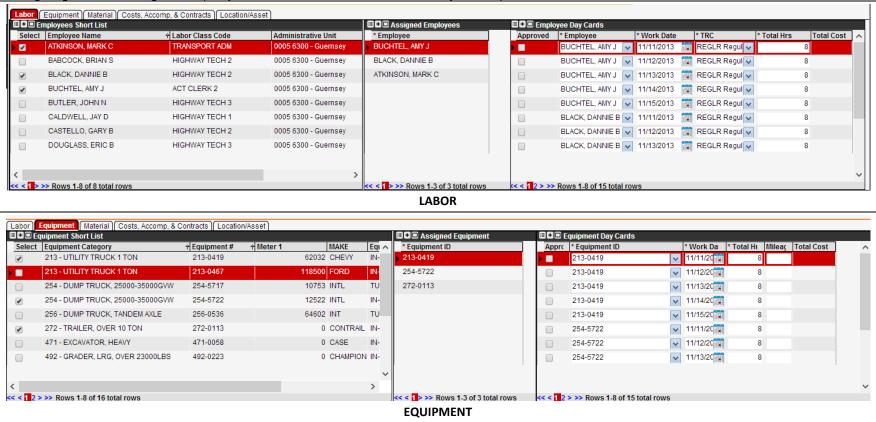


Figure 4-27. LEM and Accomplishments Day Cards Examples

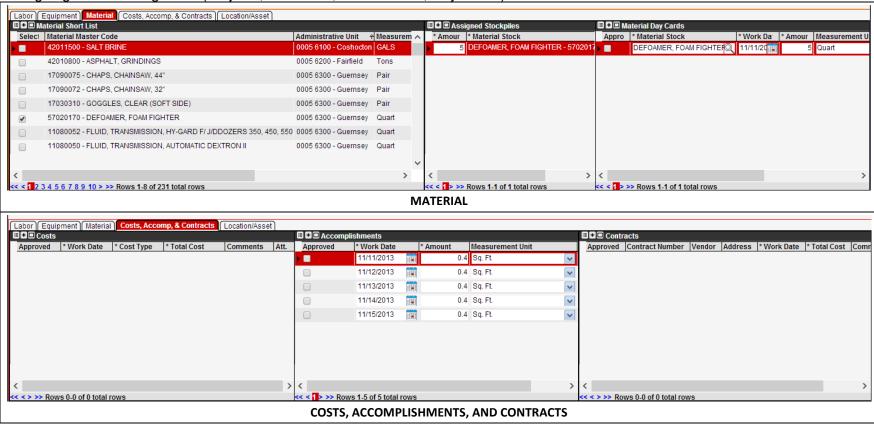


Figure 4-27. LEM and Accomplishments Day Cards Examples (Continued)

- If an existing Day Card, on the dates newly specified, is unapproved, a new Day Card replaces it.
- If an existing Day Card has been approved and thereby is not replaceable, the user receives a warning message (Figure 4-28).



Figure 4-28. Example Message of Approved Day Card Conflict

TIP! If a resource is over-allocated, the user receives a warning message (Figure 4-29).

4. If applicable, select **OK** when prompted (Figure 4-29) to view the resource name and conflicting WO# in a subsequent dialog box.

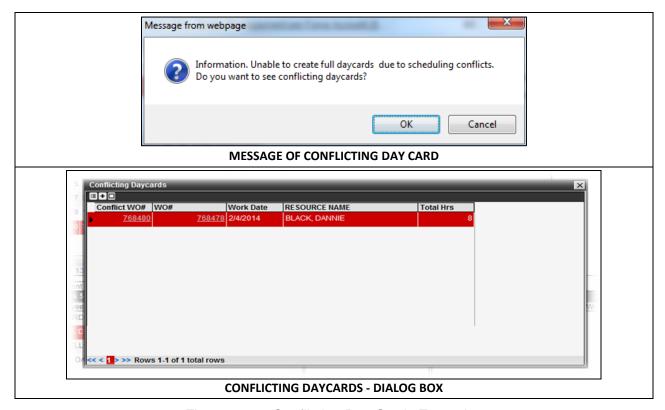


Figure 4-29. Conflicting Day Cards Examples

NOTE! A resource may be allocated for less than a full day (<8 hours) depending on the Duration and effective dates specified.

5. Click $feathrel{B}$ in the left gutter to save.

5 Other Methods for Creating a Work Order

There are various methods that may be used to create a **Work Order**, all methods of **Work Order** creation undergo a common process of selecting a **Project** (name) from a drop list, followed by an associated **Asset Type** and **Activity**, and potentially an **Inventory Element** if available to be selected (Figure 4.2)

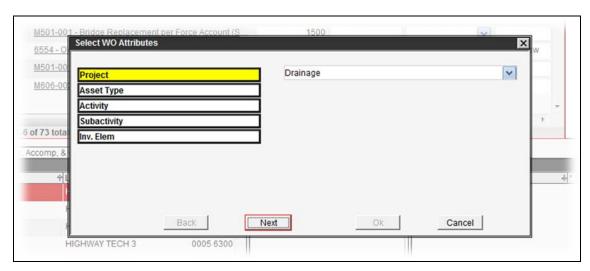


Figure 5-1. Select Work Order Attributes Dialog Box Example

TIP! The user has an opportunity to specify Work Target(s) during or after Work Order creation. However, a Work Target is not required. For PM Items, the Work Target is prefilled.

5.1 Issue Work Order from Work Request

This paragraph explains how to create and activate a Work Order from a WR# selection.

 Navigate to Road Maintenance > Issue > Work Orders from ... > Work Request (Figure 5-2).

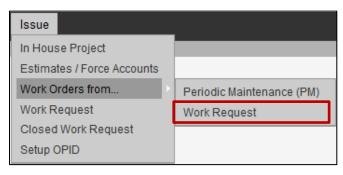


Figure 5-2. Issue ~ Work Orders from... Menu Options – Work Request

TIPI Available Work Requests for the logged-in Division/Cost Center appear in the District Work Request List (upper pane) of the window (Figure 5-3).

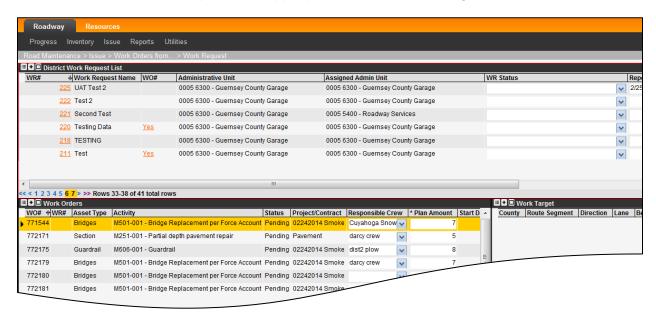


Figure 5-3. Issue ~ Work Orders from... > Work Request Window Example

- 2. Locate the requested maintenance activity needing to be scheduled with a Work Order, such as by using the **Sort** and/or **Find** features.
- 3. Point to the record in the District Work Request List pane.
- 4. In the Work Orders pane (lower-left) of the window (Figure 5-4), perform an **Insert** function to begin creating a Work Order.

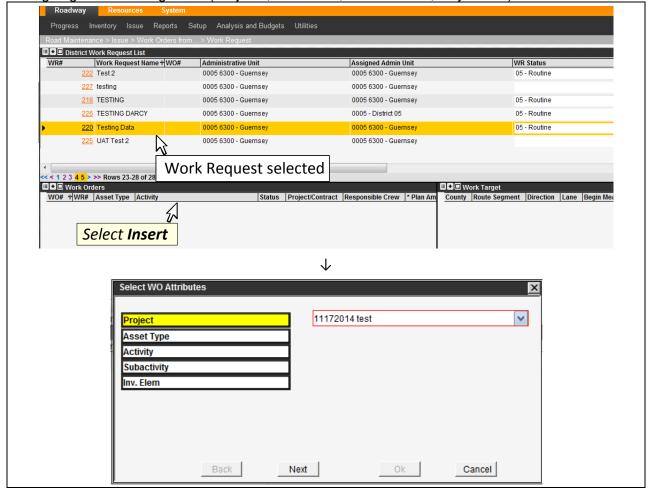


Figure 5-4. Issue ~ Work Request Window

- 5. In the Select WO Attributes dialog box (Figure 5-4), configure the Work Order as requested in the Work Request (in whole or in part), as follows:
 - a. Select a Project name from a drop list, and select **Next**.
 - b. Select an Asset Type from a subsequent drop list, and select **Next**.
 - c. Select an Activity from a subsequent drop list, select **Next** to proceed.
 - d. Allow approximately 20 seconds for the screen to update, without intervening. **TIPS!**
 - The Subactivity field is typically 00: * NO SUBACTIVITY, in which
 case it is selected without user intervention. This may take several
 seconds to complete.
 - In the final category, Inventory Element (Inv. Elem), the field may default to "None" based on the Asset Type, in which case the dialog box will complete and close.
 - e. If the dialog box remains open to the Inv. Elem selection (Figure 5-5), select from inventory item names, and select **Next** one time to proceed.

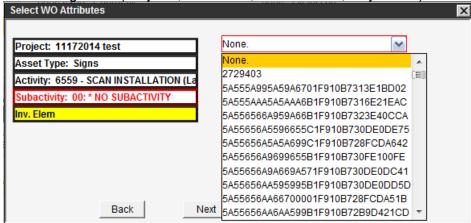


Figure 5-5. Select Work Order Inv. Elem Example

TIPI If an Inventory Element was specified in the WO Attributes dialog box (Figure 5-5), the Work Target pane in the background shows the record.

- f. To select another location by inventory item name, to add as a Work Target, repeat step e. as needed.
- g. Select **OK** when ready to exit the dialog box.

TIP! When the dialog box closes, a new Work Order appears in the Work Orders pane (lower-left) of the window (Figure 5-6). It has a Pending status.

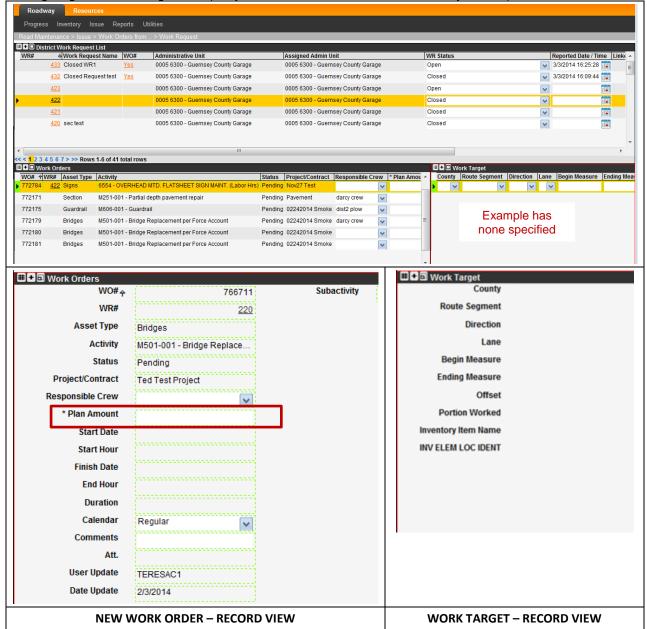


Figure 5-6. Issue ~ Work Request – Work Orders / Work Target Panes

- 6. Perform editing in the Work Orders pane (lower-left) of the window (Figure 5-6), as follows:
 - **TIP!** Each Activity has a defined accomplishment unit of measure, which appears in the description of the Activity.
 - a. Enter the **Plan Amount** for planned work amount based on the Activity (i.e., **20**).
 - b. Edit other fields to the extent applicable to the planned work activity, as listed with shading in Table 5-1.

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Table 5-1. Issue ~ Work Request – Work Orders Pane Fields

Label	Overview
WO#	Read-only: system generated Work Order number (WO#)
WR#	Read-only: WR# is listed and hyperlinked
Asset Type	Read-only: specified by the user during Work Order Creation
Activity	Read-only: specified by the user during Work Order Creation
Project/Contract	Read-only: specified by the user during Work Order Creation
Responsible Crew	(Optional) Allows selection from Crews Short List. May be left blank.
Plan Amount*	Numeric value required for specifying the amount of work the WO# should produce
Calendar	Allows selection of a special calendar type, which defaults to Regular
Comments	Free-text entry field for the Comments field of the Work Order
Att.	Accepts an attachment by way of the Work With Attachments feature

TIPI If the pending Work Order lacks a Plan Amount value, the user will see an error message in the upcoming step, because Plan Amount is a required field.

- 7. Perform a Save function.
- 8. When completed with edits, perform an **Activate WO** function, to activate the Work Order (Figure 5-7).

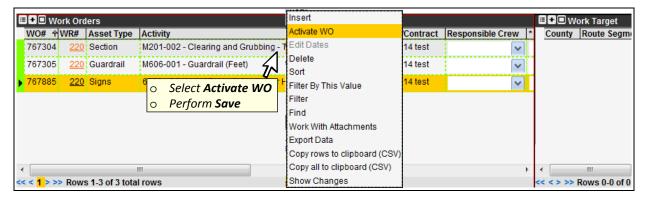


Figure 5-7. Issue ~ Work Request – Work Orders Pane (Activate WO)

9. Perform a Save function.

TIP! Once the screen is refreshed, the Work Order disappears from the Issue > Work Orders from ... > Work Request window and is only available in the Progress > Day Cards window.

10. Proceed to Section 4 for Work Order editing in the Day Cards window.

5.1.1 How to Add or Change a Linked Work Request

This section explains how to add a WR# association (if needed) or to make a change to a referenced Work Request (if needed).

1. Point to the Work Order, and perform the **Attach to WR** function from the menu (Figure 5-8). This command opens a list of WR#s for the logged-in Division/Cost Center is presented, to assist the user with selection (Figure 5-10).



Figure 5-8. Work Order Attach to WR Command

TIP! If the selected Work Order already has a WR# associated to it, a warning message appears (Figure 5-9).

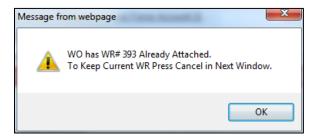


Figure 5-9. Existing Work Request Link Dialog Box Example

TIP! Each WR# may be associated with multiple Work Orders. Therefore, a selectable WR# in this list may already have a WO# "Yes" status (Figure 5-10).

2. To select a WR#, point to the row of the WR# to associate (Figure 5-10), and then select the **Select** button, or to abort the process, select **Cancel**.

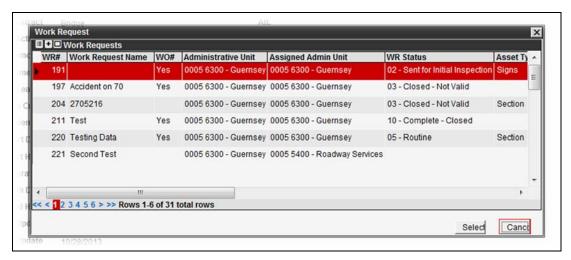


Figure 5-10. Editing Work Request Link Dialog Box Example

TIP! The WR# field of the Work Order shows an unsaved update, if edited.

3. Click in the left gutter to save

5.2 Issue Work Order from PM Item

TIP! This procedure assumes Preventive Maintenance (PM) triggers for asset inventory have been established. This functionality is explained in Roadway Module End User manual RM-204, titled "Asset Inventory Record Functions."

 Navigate to Road Maintenance > Issue > Work Orders from ... > Periodic Maintenance (PM) (Figure 5-11).

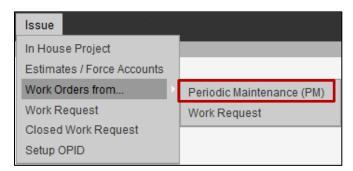


Figure 5-11. Issue ~ Work Orders from... Menu Options – PM

TIP! The available PM items for the logged-in cost center appear in the PM Items pane (upper pane) of the window (Figure 5-12).

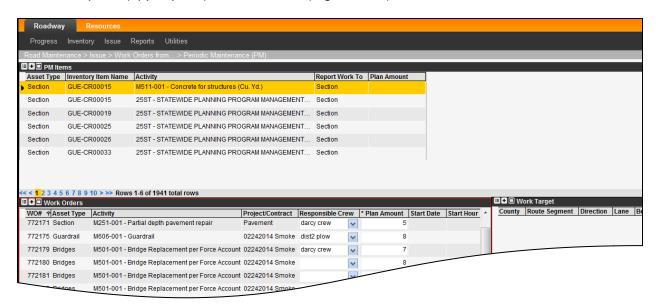


Figure 5-12. Issue ~ Work Orders from... > Periodic Maintenance (PM) Window Example

- 2. Locate the PM item needing to be scheduled with a Work Order, such as by using the **Sort** and/or **Find** features.
- 3. Point to the record in the PM Items list (upper pane).
- 4. Perform an Issue Work function to begin creating a Work Order (Figure 5-13).

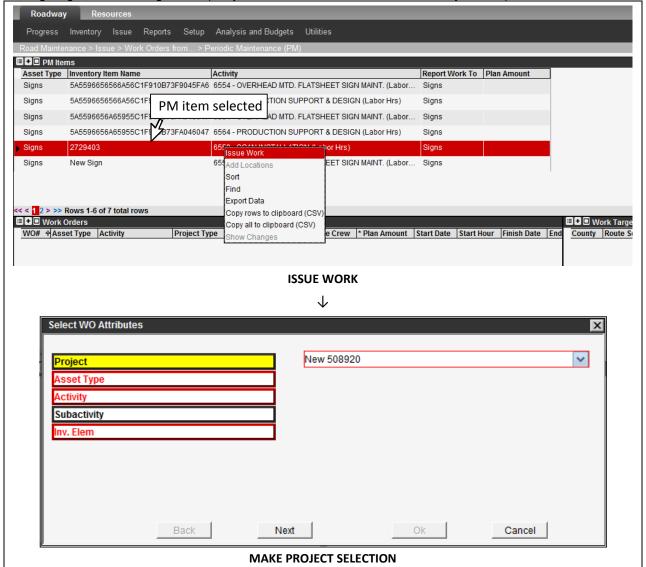


Figure 5-13. Issue Work ~ PM Window

TIP! Certain categories have only one possible value and are pre-filled in the upcoming selection.

- 5. In the Select WO Attributes dialog box (Figure 5-13), select the Project name from a drop list, and select **Next** to proceed.
- 6. Allow approximately 20 seconds for the screen to update, without intervening.
 - **TIP!** The Subactivity field is typically 00: * NO SUBACTIVITY, in which case it is selected without user intervention.

TIP! When the dialog box closes, a new Work Order record appears in the Work Orders pane (lower-left) of the window (Figure 5-14). It has a Pending status. The PM Item's asset Inventory Item appears in the Work Target pane.

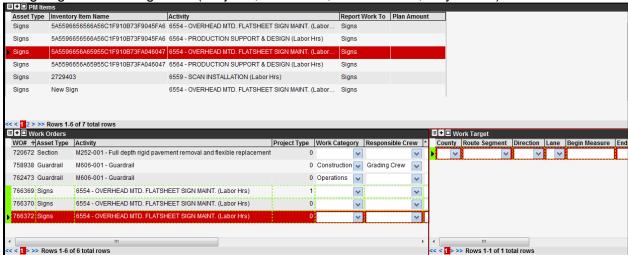


Figure 5-14. Issue ~ PM Items – Work Orders / Work Target Panes

7. Perform editing in the Work Orders pane (lower-left) of the window (Figure 5-14), as follows:

TIP! Each Activity has a defined accomplishment unit of measure, which appears in the description of the Activity.

- a. Enter the **Plan Amount** for planned work amount based on the Activity (i.e., 1). The Plan Amount should be appropriate for the Asset Inventory and Activity Combination. For example, if performing an Inspection on one Sign Inventory Item, a Plan Amount of 1 would be appropriate.
- b. Edit other fields to the extent applicable to the planned work activity, as listed with shading in Table 5-2.

Table 5-2. Issue ~ PM – Work Orders Pane Fields

Label	Overview
WO#	Read-only: system generated Work Order number (WO#)
Asset Type	Read-only: specified by PM Item during Work Order Creation
Activity	Read-only: specified by the PM Item during Work Order Creation
Responsible Crew	(Optional) Allows selection from Crews Short List. May be left blank.
Plan Amount*	Numeric value required for specifying the amount of work the WO# should produce
Calendar	Allows selection of a special calendar type, which defaults to Regular
Comments	Free-text entry field for the Comments field of the Work Order
Att.	Accepts an attachment by way of the Work With Attachments feature

- 8. To group together Work Targets as needed, proceed as follows. Otherwise, skip to step 9.
 - a. From the PM Items list, select another record for adding. It must have the same Asset Inventory to Activity configuration as the original selection, as highlighted in the Work Orders pane.
 - b. Perform an **Add Locations** function (Figure 5-15) as many times as desired to create new records in the Work Target pane.

TIPI If a selected record for the **Add Locations** function (Figure 5-15) is not compatible with the selected **Work Order Activity**, the user will see an error message.

TIP! If adding more than one asset inventory location, this will impact the Plan Amount.

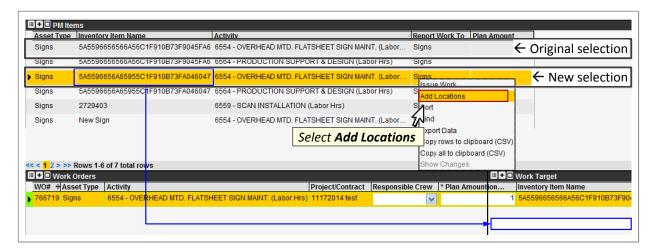


Figure 5-15. Issue ~ PM – Add Locations from PM Items

TIP! If the pending Work Order lacks a Plan Amount value, the user will see an error message in the upcoming step, because Plan Amount is a required field.

- 9. Click in the left gutter to save.
- 10. When completed with Work Order edits, perform an **Activate WO** function, to activate the Work Order (Figure 5-16).

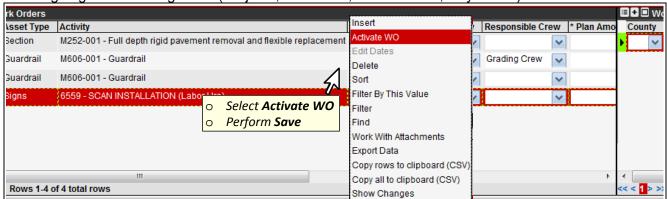


Figure 5-16. Issue ~ PM – Work Orders Pane (Activate WO)

TIP! Once the screen is refreshed, the Work Order disappears from the Issue > Work Orders from ... > Periodic Maintenance (PM) window and is only available in the Progress > Day Cards window.

11. Proceed to Section 4 for Work Order editing in the Day Cards window.

5.3 Issue Work Order from Estimate

The Estimates function is used for general estimations, or when required for Force Account work. Refer to the *EIMS Business Rules* document for the list of Activities and criteria requiring Force Account estimates.

The Estimates / Force Accounts window includes a feature for entering individual Labor, Equipment, and Materials in order to lock in the estimated cost for a Work Order, while developing the Work Order in pending status.

5.3.1 Create an Estimate / Force Account Item

- 1. Navigate to the Road Maintenance > Issue > Estimates / Force Accounts window (Figure 5-17).
- 2. In the Work Orders pane (upper-left) of the window (Figure 5-17), perform an **Insert** function to begin creating a Work Order.

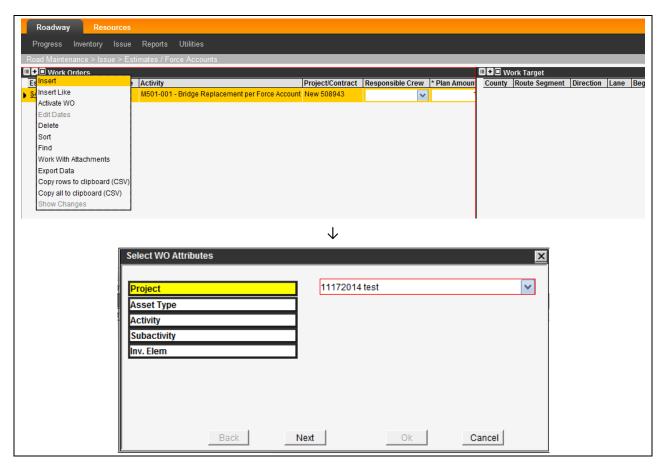


Figure 5-17. Issue ~ Estimates / Force Accounts Window

- 3. In the Select WO Attributes dialog box (Figure 5-17), configure the Work Order as follows:
 - a. Select a Project name from a drop list, and select Next.
 - b. Select an Asset Type from a subsequent drop list, and select **Next**.
 - c. Select an Activity from a subsequent drop list, select **Next** to proceed.

- d. Allow approximately 20 seconds for the screen to update, without intervening.
 - **TIP!** The Subactivity field is typically 00: * NO SUBACTIVITY, in which case it is selected without user intervention. This may take several seconds to complete.
 - **TIP!** In the final category, Inventory Element (Inv. Elem), the field may default to "None" based on the Asset Type, in which case the dialog box will complete and close.
- e. If the dialog box remains open to the Inv. Elem selection (Figure 5-18), select from inventory item names, and select **Next** one time to proceed.

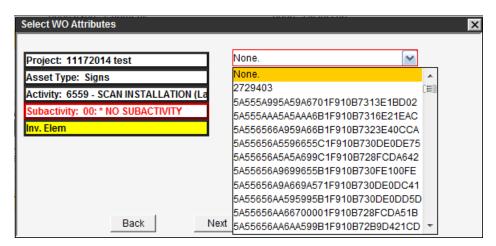


Figure 5-18. Select Work Order Inv. Elem Example

TIP! If an Inventory Element was specified in the WO Attributes dialog box (Figure 5-18), the Work Target pane in the background shows the record.

- f. To select another location by inventory item name, to add as a Work Target, repeat step e. as needed.
- g. Select **OK** when ready to exit the dialog box.

TIP! When the dialog box closes, a new Work Order appears in the Work Orders pane (upper-left) of the window (Figure 5-19). It has a Pending status.

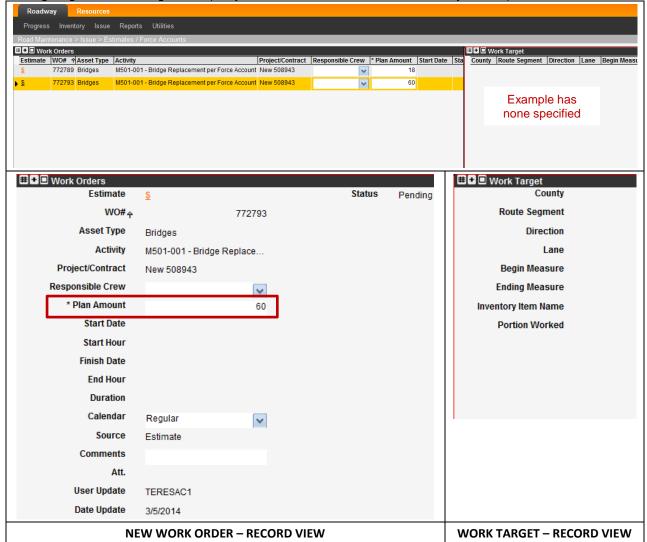


Figure 5-19. Issue ~ Estimates / Force Accounts – Work Orders / Work Target Panes

- 4. Perform editing in the Work Orders pane (Figure 5-19) as follows:
 - **TIP!** Each Activity has a defined accomplishment unit of measure, which appears in the description of the Activity.
 - a. Enter the **Plan Amount** for planned work amount based on the Activity (i.e., **20**).
 - b. Edit other fields to the extent applicable to the planned work activity, as listed with shading in Table 5-3.

Assigning and Tracking Work (Projects, Estimates, Work Orders, Day Cards)

Table 5-3. Issue ~ Estimates / Force Accounts – Work Orders Pane Fields

Label	Overview
Estimate	The dollar sign (\$) is a hyperlink, which opens a dialog box for entering Labor, Equipment, and Materials. A value appears when the planned \$ amount is entered and approved.
WO#	Read-only: system generated Work Order number (WO#)
Asset Type	Read-only: specified by the user during Work Order Creation
Activity	Read-only: specified by the user during Work Order Creation
Project/Contract	Read-only: specified by the user during Work Order Creation
Responsible Crew	(Optional) Allows selection from Crews Short List. May be left blank.
Plan Amount*	Numeric value required for specifying the amount of work the WO# should produce
Calendar	Allows selection of a special calendar type, which defaults to Regular
Comments	Free-text entry field for the Comments field of the Work Order
Att.	Accepts an attachment by way of the Work With Attachments feature

TIPI If the pending Work Order lacks a Plan Amount value, the user will see an error message in the upcoming step, because Plan Amount is a required field.

- 5. Click in the left gutter to save.
- 6. Select the \$ symbol in the **Estimate** field of the pending Work Order, as shown in Figure 5-22. This opens an Estimated Cost dialog box, as shown (Figure 5-22).

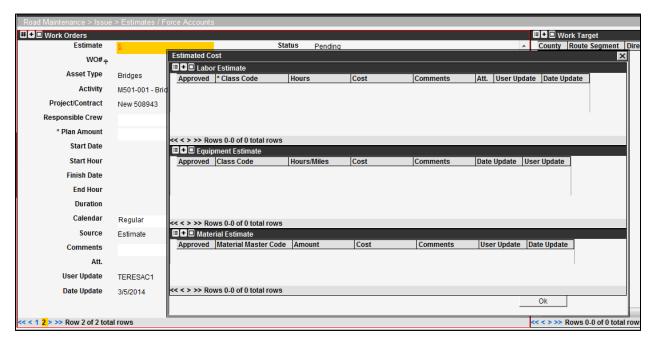


Figure 5-20. Estimate Cost Selection Example

7. In the Estimated Cost dialog box (Figure 5-21), perform **Insert** function(s) in each of the cost categories: Labor, Equipment, and/or Material, as required.

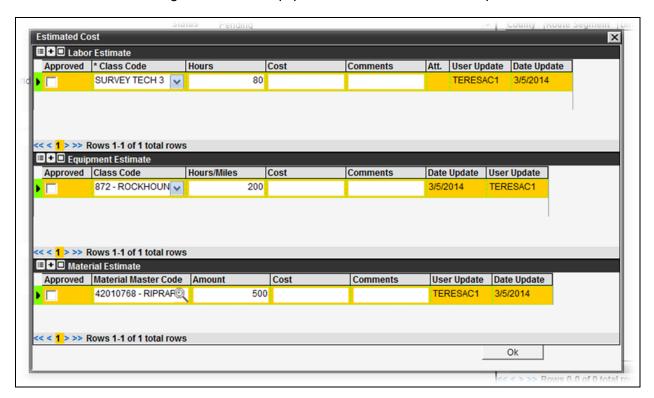


Figure 5-21. Estimated Cost Dialog Box Example

- 8. For each line of the estimate (Figure 5-21):
 - a. Specify the resources needed, by using the provided search tool for Class Code or Material Master Code.
 - b. Complete the data entry fields as appropriate, and establish the **Cost** field.
- 9. Select **OK** to apply the selection(s) and exit the dialog box.
 - **TIP!** A \$ value now appears in the pending Work Order's **Estimate** field. It provides a link that may be used to re-open the dialog box as needed, while the Work Order is in pending status.
- 10. Click in the left gutter to save
 - **TIP!** The Estimate based Work Order will remain in the estimates list and remain editable until it is activated.
- 11. Proceed to the next paragraph when ready to activate the estimate-based Work Order.

5.3.2 Creating a Work Order from Estimate / Force Account Item

- 1. Navigate to the Road Maintenance > Issue > Estimates / Force Accounts window (Figure 5-22).
- 2. Select the pending Work Order in the Work Orders pane.

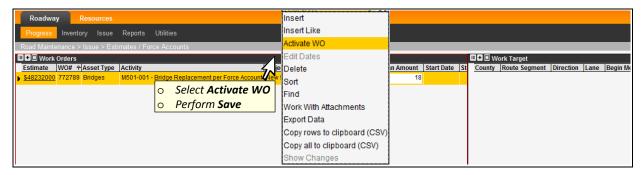


Figure 5-22. Issue > Estimates / Force Accounts – Work Orders Pane (Activate WO)

- 3. Perform an **Activate WO** function (Figure 5-22), to activate the Work Order.
- 4. Click $oldsymbol{\mathsf{B}}$ in the left gutter to save

TIP! Once the screen is refreshed, the Work Order disappears from the Issue > Estimates / Force Accounts window and is only available in the Progress > Day Cards window.

TIP! The Estimate value (\$) becomes a read-only Amount in the Work Order and can be referenced in a Report comparing Estimate to Actual Costs.

5. Proceed to Section 4 for Work Order editing in the Day Cards window.

5.4 Issue Work Order from Day Cards Window

In the Day Cards window, the user may elect to create a Work Order by inserting a record and using the standard workflow (selecting a Project, Asset Type, and Activity).

This type of Work Order creation might be useful for Emergencies, and for planned effort that does not require an Estimate or Work Request.

TIP! An associated WR# may be added in the future, using the "Attach to WR" function.

- 1. Navigate to the Road Maintenance > Progress > Day Cards window (Figure 5-23).
- 2. Perform an **Insert** or **Insert Like** function depending on use of an existing Work Order as a starting point (Figure 5-23).

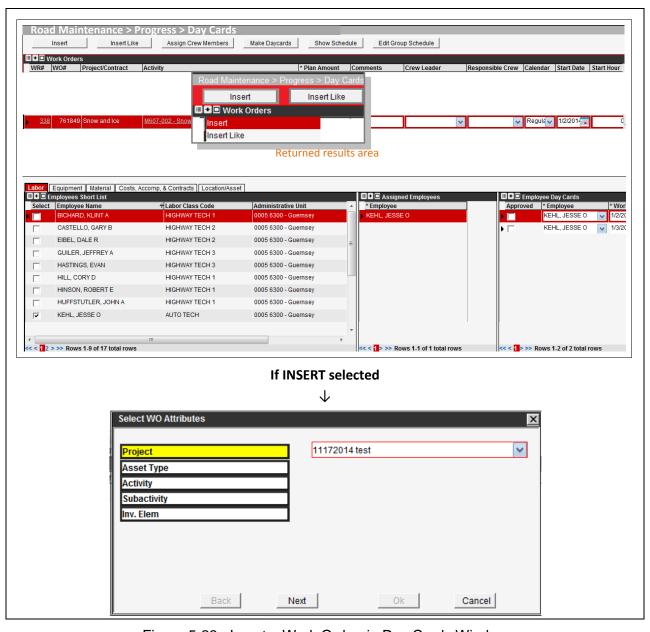


Figure 5-23. Insert a Work Order, in Day Cards Window

- 3. When prompted with the Select WO Attributes dialog box (Figure 5-23), based on selecting **Insert**, configure the **Work Order** as follows.
 - a. Select a Project from a drop list, and select **Next**.
 - b. Select an Asset Type from a subsequent drop list, and select **Next**.
 - c. Select an Activity from a subsequent drop list, select **Next** to proceed.
 - d. Allow approximately 20 seconds for the screen to update, without intervening.

TIPS!

- The Subactivity field is typically 00: * NO SUBACTIVITY, in which case it is selected without user intervention. This may take several seconds to complete.
- In the final category, Inventory Element (Inv. Elem), the field may default to "None" based on the Asset Type and whether or not Asset Inventory exists in the system, in which case the dialog box closes.
- e. If the dialog box prompts for the Inv. Elem selection (Figure 5-24), select from inventory item names, and select **Next** to proceed.

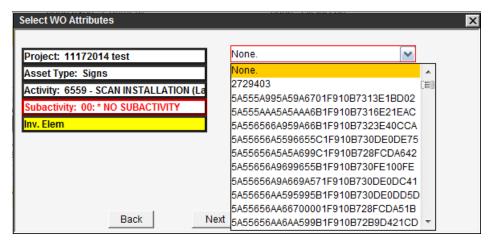


Figure 5-24. Select Work Order Inv. Elem Example

TIP! If an Inventory Element was specified in the WO Attributes dialog box (Figure 5-24), the Work Target is now inserted in the Day Cards area's Location/Asset tab, based on the selection.

- f. To select another location by inventory item, to add as a Work Target, repeat step e. as needed.
- g. Select **OK** to exit the dialog box.

TIPS!

- When the dialog box closes, a new Work Order appears in the Work Orders pane (upper half) of the window (Figure 5-23). It has an Active status.
- If an Asset Inventory Item(s) was specified in the WO Attributes dialog box (Figure 5-24), the Location/Asset tab's Work Target pane shows each item.

4. In the new Work Order (Figure 5-25), enter the **Plan Amount** for planned work amount based on the Activity (i.e., **2**). The Plan amount is derived based on considering the Activity and its unit of measure.

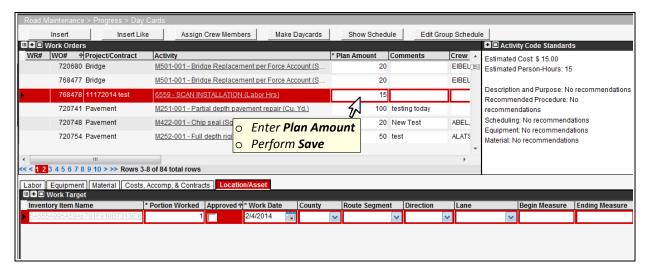


Figure 5-25. Inserted Work Order with Day Cards Window Example

TIPI If the pending Work Order lacks a Plan Amount value, the user will see an error message in the upcoming step, because Plan Amount is a required field.

- 5. Click in the left gutter to save.
- 6. See to Section 4 for Work Order editing using the Day Cards window.

6 Creating an OPID

An OPID is a system-generated reference number. OPID's are used to identify work entered into the PEC Module (by Planning, Engineering or Construction staff) that is associated with a Roadway Operations initiative. OPID's may or may not be associated with a Roadway project. OPIDS must be created in the Roadway Module. (Refer to the EIMS Business Rules document for rules on when to create an OPID)

This paragraph explains the process of creating an OPID in the Roadway module.

- 1. Navigate to the Road Maintenance > Issue > Setup OPID window (Figure 6-1).
- 2. Perform an Insert (Figure 6-1).

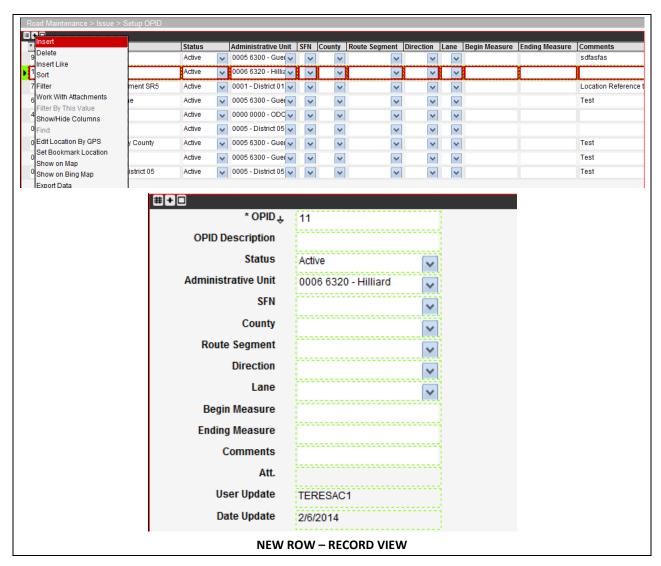


Figure 6-1. Setup OPID Window

3. Point to the **OPID Description** field of the new record (Figure 6-7**Error! Reference source not found.**), and enter a description. (Refer to the *EIMS Business Rules* document for OPID naming conventions)

TIP! The OPID Description field accepts text up to 200 characters.

4. Specify a location (required) by editing the work target fields, available fields are described in Table 6-1. Required fields are identified with an asterisk (*).

Table 6-1. Setup OPID Fields

Label	Overview
OPID*	Read-only: system generated OPID number
OPID Description	Free-text entry field for the description of the effort. Field accepts text up to 200 characters.
Status	Defaults to Active
Administrative Unit	Defaults to logged- in Division/Cost Center
SFN	Allows selection or entry of a Bridge's Structure File Number (SFN) (drop list)
County	Allows selection or entry of County for specifying a route segment (drop list)
Route Segment	Allows selection or entry of a valid route segment (drop list)
Direction	Allows selection of direction for the selected route segment (drop list)
Lane	Allows selection of a lane for the selected route segment (drop list)
Begin Measure	Allows entry of a beginning location for the selected route segment (entry)
Ending Measure	Allows entry of an ending location for the selected route segment (entry)
Comments	Free-text entry field for the Comments about the planned work.
Att.	Accepts an attachment by way of the Work With Attachments feature

- 1. Enter comments about the planned work in the **Comments** field.
- 2. If supporting documentation is available, insert the file(s) to the attachments **Att.** field, which shows a red box if an attachment is already present.
- 3. Click in the left gutter to save

7 Notes

7.1 Acronyms and Abbreviations

EIMS Enterprise Information Management System
FEMA Federal Emergency Management Agency

GIS Geographic Information System

Inv. Elem Inventory Element

LEM labor, equipment, and materials
LRS Linear Referencing System
OPID Operational Project Identifier

OUPS Ohio Utilities Protection Services

PEC Planning, Engineering, and Construction

PM Periodic Maintenance / preventive maintenance

SFN Structure File Number
TRS Training Records System

WO# Work Order number
WR# Work Request number

7.2 Applicable Documents

EIMS Security Roles Matrix of security roles and applicable functions, grouped by module

EIMS Activity Codes Matrix of program activity codes, names, and attributes

EIMS Business

Document of EIMS business rules

Rules