



Metroplex Planner User Manual

Airspace Technology Demonstration 2 (ATD-2)

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Abstract

This document serves as a user manual for the ATD-2 Metroplex Planner (version 5.11) utilized by the Air Route Traffic Control Center (ARTCC), Terminal Radar Approach Control (TRACON), airport ATC Towers, and by Flight Operators. It describes the elements of the Metroplex Planner interface and provides step-by-step instructions for using the tool.

Metroplex Planner functionality includes the display of live flight information, management of traffic restrictions, prediction of expected traffic demand/delay, and Trajectory Option Set (TOS) Operations.

The Metroplex Planner is a component of the NASA Airspace Technology Demonstration 2 (ATD-2) sub-project.

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1 Metroplex Planner: Getting Started

The thin green bar on the left side of the display provides access to several different system views (Figure 1.1). Any local systems integrated with ATD-2 may also be selected.

To access “My Desktop”:

Step 1: Hover mouse over the green bar to display the menu.

Step 2: Select “My Desktop” from the menu.



Figure 1.1. Use the green bar tool to navigate to “My Desktop”.

The NASA icon in the lower left of the display provides access to ATD-2 tools, including the Metroplex Planner (Figure 1.2). To get started, first make sure that the correct desktop is displayed.

To open the Metroplex Planner:

Step 1: Ensure that “My Desktop” has been selected.

Step 2: Select the NASA icon in the lower left of the display (Figure 1.2) to open the ATD-2 suite (menu options vary).

Step 3: Select a version of Metroplex Planner.



Figure 1.2. Select Metroplex Planner version from the ATD-2 Suite (menu options vary).

2 Metroplex Planner: Overview

The Metroplex Planner displays live flight information on the surface and in the terminal area, demand and delay predictions, and allows the user to enter TMI and airport-specific restrictions. The interactive display consists of six primary elements, each displayed in their own window: toolbar, maps, Flights Table, TOS Departure Table, timelines, and graphs (Figure 2.1). A list of acronyms is provided in Appendix A.

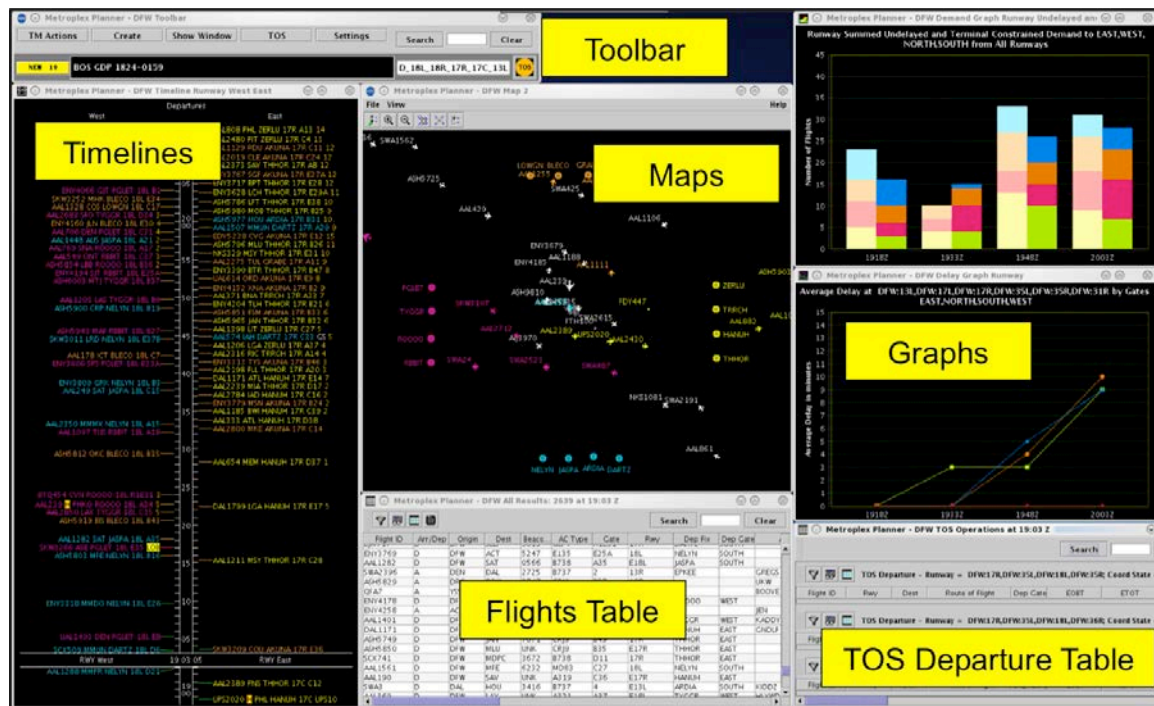


Figure 2.1. Metroplex Planner interactive display.

These elements are described in the following sections:

- Section 3: Toolbar (including TOS Operation tab)
- Section 4: Maps
- Section 5: Tables (including TOS Departure Table)
- Section 6: Timelines
- Section 7: Graphs

3 Metroplex Planner: Toolbar

Note: Available options vary by version of the Metroplex Planner.

The Toolbar provides access to TMI restriction information, interface controls/settings, and the TOS Departure table. Status icons and notifications are also displayed on the Toolbar (Figure 3.1). A complete list of functions and displays on the Toolbar is shown in Table 3.1.

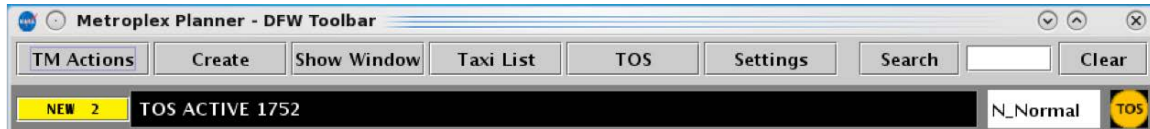


Figure 3.1. Metroplex Planner: Toolbar.

Table 3.1 Functions and Displays on the Toolbar

Toolbar Feature	Description
Traffic Management (TM) Actions	Section 3.1: View, add, modify, or remove TMI and airport-specific restrictions. Activate/Deactivate TOS Operations and view, add, modify, or remove TOS route availability settings. <i>*Not all options are available in all versions of the Metroplex Planner.</i>
Create	Section 3.2: Create new, or load previously saved, maps, tables, timelines, and graphs in new windows.
Show Window	Section 3.3: View list of open maps, tables, timelines, and graphs. Select a window to bring to the front of the display.
Taxi List	Section 3.4: View a list of departure flights by airport/runway with delay information. <i>*Not available in all versions of the Metroplex Planner.</i>
TOS	Section 3.5: Access the Trajectory Option Set (TOS) Departure table.
Settings	Section 3.6: Save or load a display configuration. Select display settings.
Search	Section 3.7: Search for flight number, a call sign, departure fix, destination airport, or General Aviation flight.
Notification Icon/Banner	Section 3.8: Displays new ATC and airport-related notifications.

Runway Utilization	Section 3.9: Displays current airport configuration and runway utilization.
Icons	Section 3.10: Icon indicates when Trajectory Option Set (TOS) Operations are active or inactive.

3.1 Toolbar: Traffic Management (TM) Actions

**Note: Not all “TM Actions” menu options are available in all versions of the Metroplex Planner.*

Use the TM Actions menu to view, add, modify, or remove TMI and airport-specific restrictions.

To access the TM Actions Panel from the Toolbar:

Step 1: Click on the “TM Actions” button and select from the dropdown menu to open the tab on the TM Actions Panel (Figure 3.2).

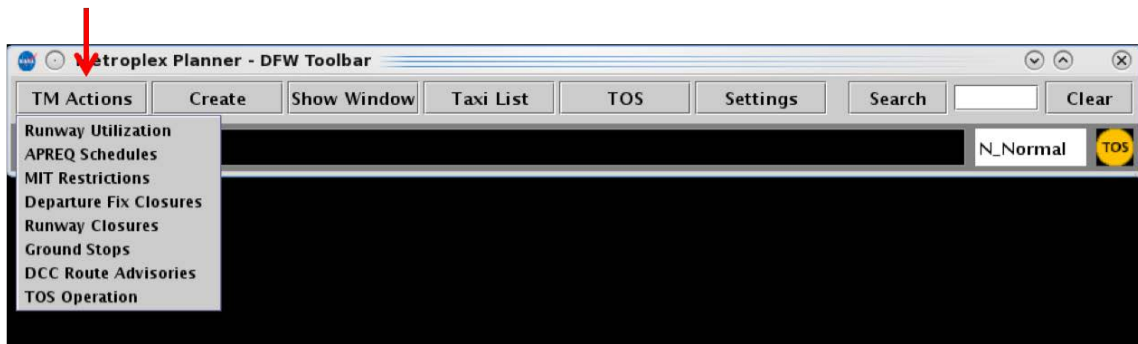


Figure 3.2. TM Actions dropdown menu (menu options vary by version).

In ATC versions of the Metroplex Planner, four types of **TMI restrictions** can be viewed/added/modified/removed on the TM Actions Panel:

- APREQ Schedules (Section 3.1.1)
- Miles-in-Trail (MIT) Restrictions (Section 3.1.2)
- Departure Fix Closures (Section 3.1.3)
- Ground Stops (Section 3.1.4)

There are two sources from which the ATD-2 system can detect TMI restrictions: The **FAA Operational Information System (OIS)** and the **National Traffic Management Log (NTML)/Traffic Flow Management (TFM) system**.

- If a TMI restriction is detected from OIS, “**OIS**” is displayed in the “Source” column on the TM Actions Panel. OIS restrictions can be removed or modified by the ATD-2 user.
- If a TMI restriction is detected from NTML, “**TFM**” is displayed in the “Source” column. TFM restrictions can be removed, *but cannot be modified*, by the ATD-2 user.

There may be some variation in which TMI restrictions are detected from which source across different airports/metroplexes. (As an example, in North Texas, Ground stops are detected from NTML/TFM, but not OIS.)

In ATC versions of the Metroplex Planner, two types of ***airport-specific* restrictions** can be manually entered, modified, or removed:

- Runway Utilization Tab (Section 3.1.6)
- Runway Closures (Section 3.1.7)

3.1.1 TM Actions: APREQ Schedules Tab

Note: Available only in ATC versions of the Metroplex Planner.

An APREQ restriction can be applied to an airport, departure fix, departure gate, or jet route.

To manually add an APREQ restriction:

Step 1: Select “APREQ Schedules” from the TM Actions dropdown menu (Figure 3.2) to open the APREQ Schedules tab (Figure 3.3).

Step 2: Select the resource to which the APREQ restriction will be applied (e.g., “Airport” in Figure 3.4):

- Airport
- Departure Fix
- Departure Gate
- Jet Route

Step 3: Click on the “Select” button or on the dropdown menu (depending on which resource has been selected) to select one or more Airports, Departure Fixes, or Departure Gates from their respective menus.

Alternatively: In the text field, type the:

- 3-digit Airport code(s), or
- Departure Fix name(s), or
- Departure Gate name(s), or
- Jet Route name(s)

Separate multiple entries with a comma, but no space (e.g., “DCA,LGA,PHL” in Figure 3.4).

Step 4: If the restriction begins in the future, uncheck “Start Now” and enter a time in the “Start Time” text box in “hhmm” format.

Step 5: If an “End Time” is known, uncheck “No End Time” and enter a time in the “End Time” text box in “hhmm” format (e.g., “0300” in Figure 3.4).

Step 6: If necessary, constraints can be added to the APREQ restriction. See Section 3.1.5 for more information about constraints.

Step 7: Select the “Add” button (Figure 3.4).

Note: *User-added APREQ restrictions are displayed in the APREQ Schedules table with “User” indicated the “Source” column (Figure 3.5).*

Alternatively: Select the “Clear All” button to clear and cancel all entries.

Note: *A TMI restriction applies to flights departing from all airports within a TRACON.*

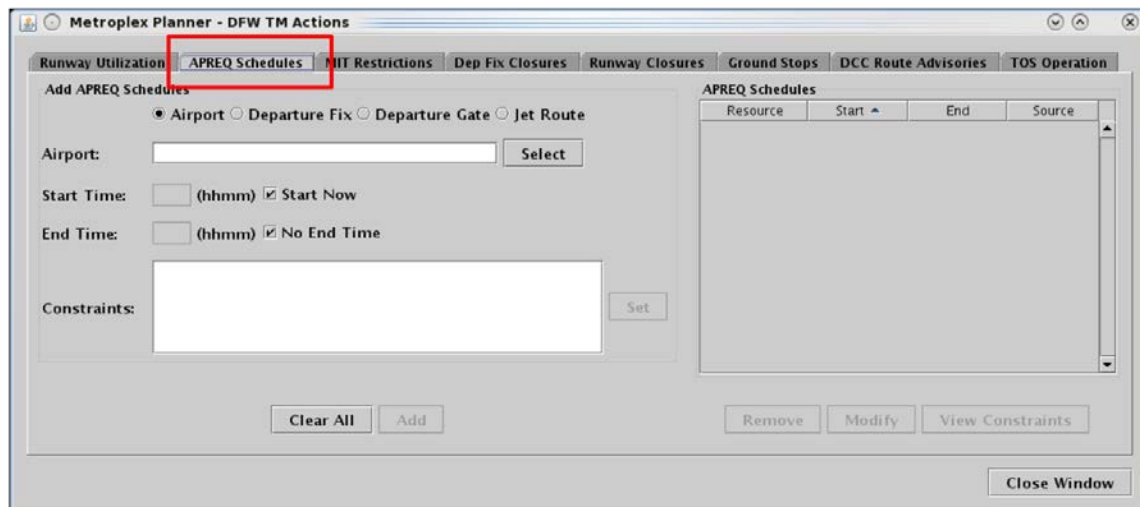


Figure 3.3. TM Actions panel: APREQ Schedules tab.

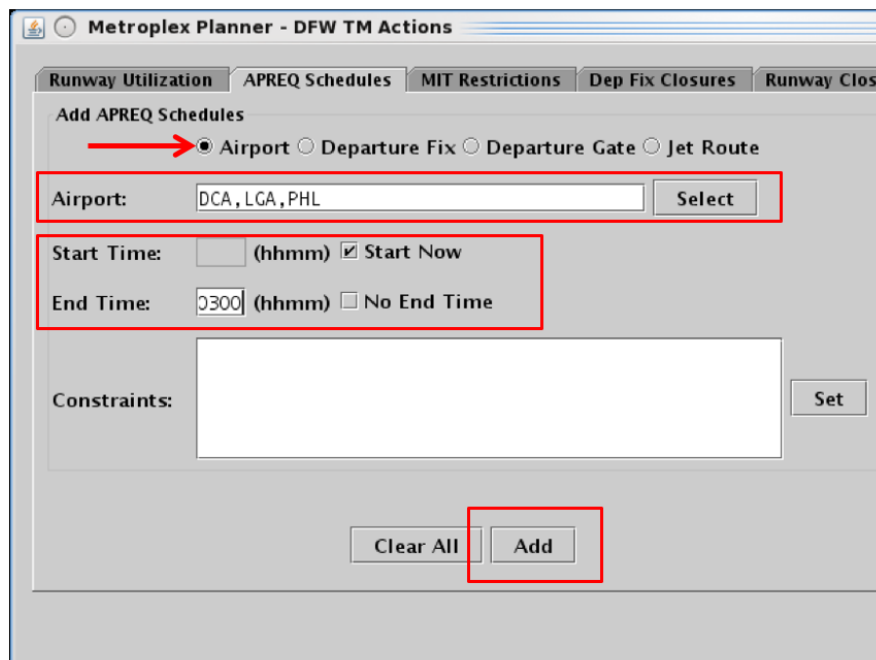


Figure 3.4. APREQ Schedules tab: Enter criteria for the APREQ restrictions.

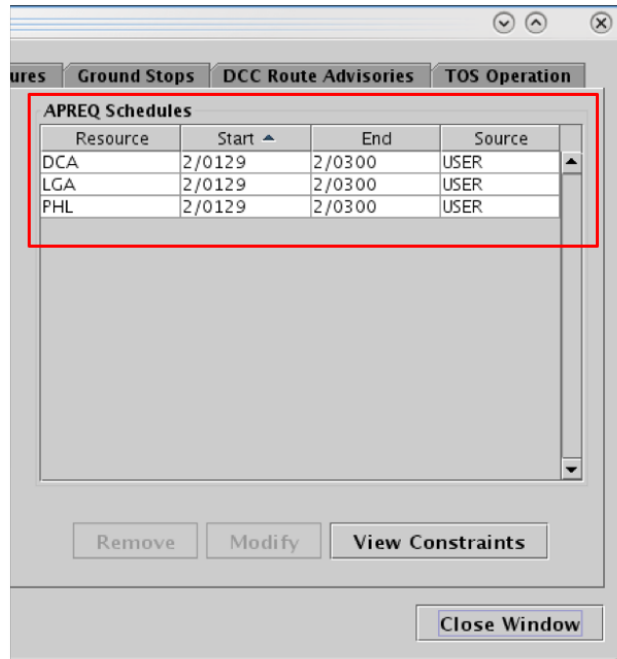


Figure 3.5. APREQ Schedules table.

APREQ restrictions are indicated in Notification Banner (e.g., “APREQ to DCA”). A new notification is displayed for each scheduled APREQ restriction.

APREQ restrictions are indicated on the map, timeline, and in the Flights Table. On maps and timelines, an APREQ restriction is shown in the flight’s datablock, with color-coding to indicate predicted compliance with the APREQ window.

To modify an APREQ restriction:

Note: Only APREQ restrictions received from OIS or entered by the User can be modified; those received from TFM cannot be modified.

Step 1: Select an APREQ restriction in the APREQ Schedules table (e.g., “LGA” in Figure 3.6).

Step 2: Select “Modify” (Figure 3.6) to change:

- Start Time*
- End Time
- Constraints

***If the “Start Time” has already passed and the APREQ restriction is already in effect, the “Start Time” cannot be modified.**

Step 3: When changes are complete, select “Update” (Figure 3.7).

Alternatively: Select “Clear All” to cancel the update and retain the original settings for that restriction.

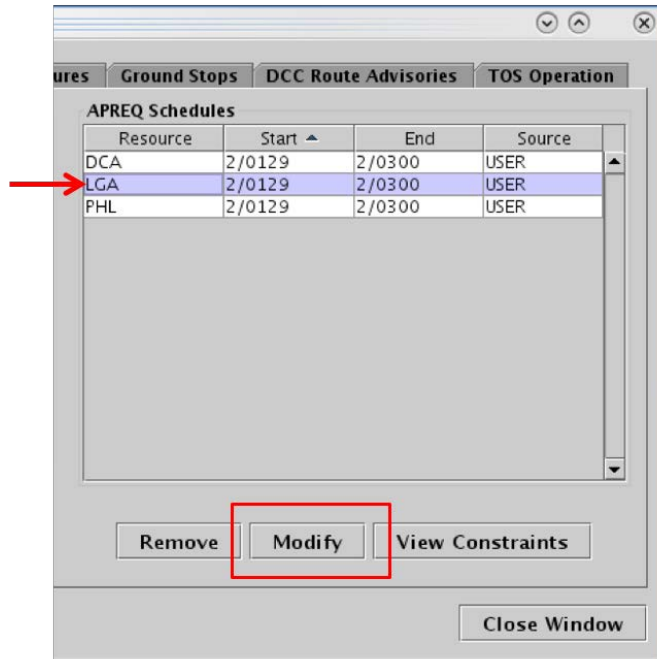


Figure 3.6. Modify an APREQ restriction.

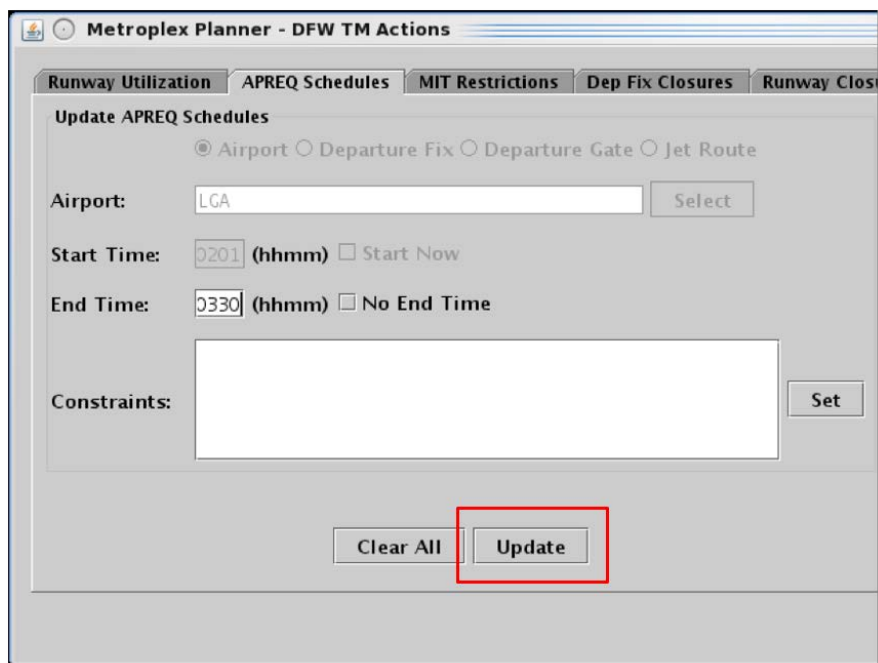


Figure 3.7. Select “Update” to apply changes.

To remove an APREQ Restriction:

Note: An APREQ restriction from any source (User-entered, OIS, or TFM) can be removed.

Step 1: Select an APREQ restriction in the APREQ Schedules table (e.g., “PHL” in Figure 3.8).

Step 2: Select “Remove” (Figure 3.8).

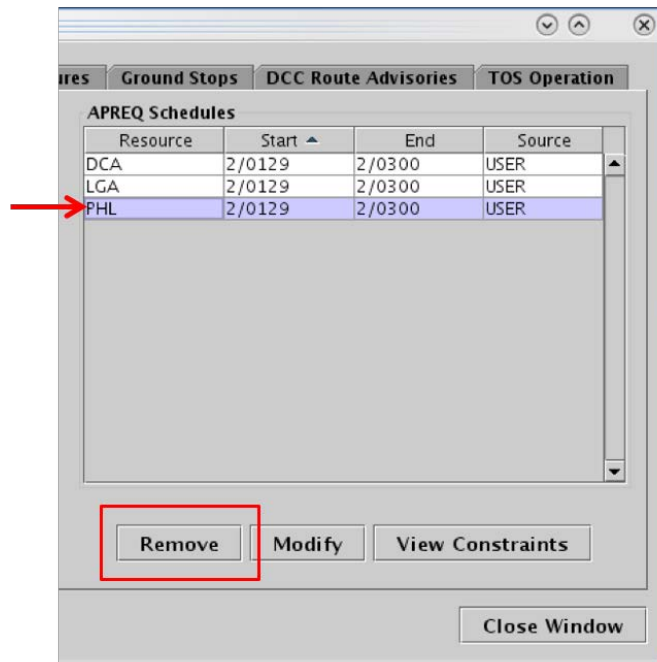


Figure 3.8. Remove an APREQ restriction.

APREQ expirations/cancellations are indicated in the “Details” column in the Notifications Panel.

3.1.2 TM Actions: MIT Restrictions Tab

Note: Available only in ATC versions of the Metroplex Planner.

A Miles-in-Trail (MIT) restriction can be applied to an airport, departure fix, departure gate, or jet route.

To manually add an MIT restriction:

Step 1: Select “MIT Restrictions” from the TM Actions dropdown menu (Figure 3.2) to open the MIT Restrictions tab (Figure 3.9).

Step 2: Select the resource to which the MIT restriction will be applied (e.g., “Departure Fix” in Figure 3.10):

- Airport
- Departure Fix
- Departure Gate
- Jet Route

Step 3: Click on the “Select” button or on the dropdown menu (depending on which resource has been selected) to select one or more Airports, Departure Fixes, or Departure Gates from their respective menus.

Alternatively: In the text field, type the:

- 3-digit Airport code(s), or
- Departure Fix name(s), or
- Departure Gate name(s), or
- Jet Route name(s)

Separate multiple entries with a comma, but no space (e.g., “AKUNA,GRABE” in Figure 3.10).

Step 4: Select the miles-in-trail (MIT) distance (10, 15, 20, 25, 30, or 35 *nm*) from the dropdown menu (e.g., 15 *nm* in Figure 3.10).

Alternatively: Enter a distance by typing a number between 1 and 50 *nm* in the MIT Restriction field.

Step 5: If the restriction begins in the future, uncheck “Start Now” and enter a time in the “Start Time” text box in “*hhmm*” format.

Step 6: If an “End Time” is known, uncheck “No End Time” and enter a time in the “End Time” text box in “*hhmm*” format (e.g., “0430” in Figure 3.10).

Step 7: If necessary, constraints can be added to the MIT restriction. See Section 3.1.5 for more information about constraints.

Step 8: Select the “Add” button (Figure 3.10).

Note: *User-added MIT restrictions are displayed in the MIT Restrictions table with “User” indicated the “Source” column (Figure 3.11).*

Alternatively: Select the “Clear All” button to clear and cancel all entries.

Note: *A TMI restriction applies to flights departing from all airports within a TRACON.*

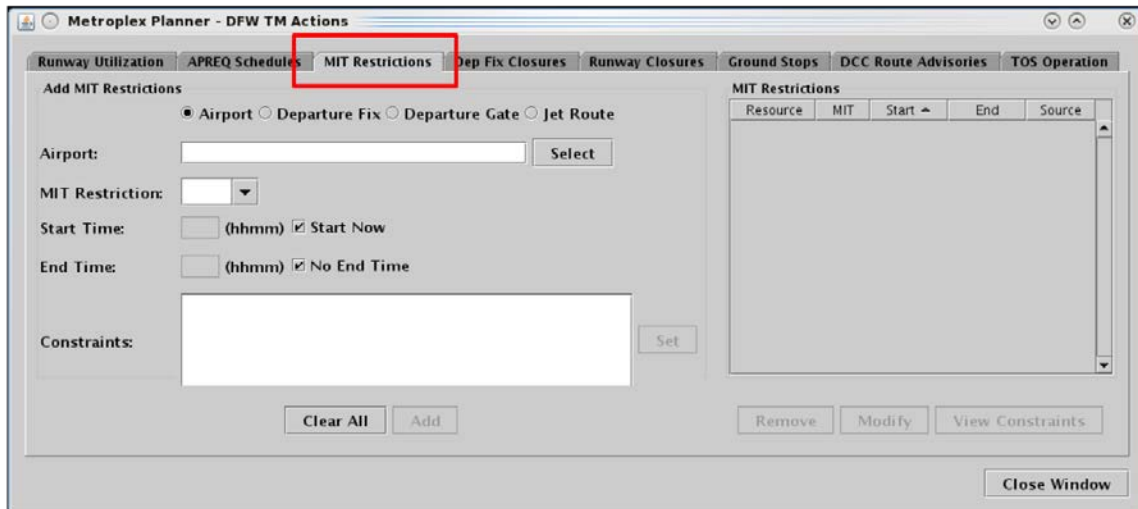


Figure 3.9. TM Actions panel: MIT Restrictions tab.

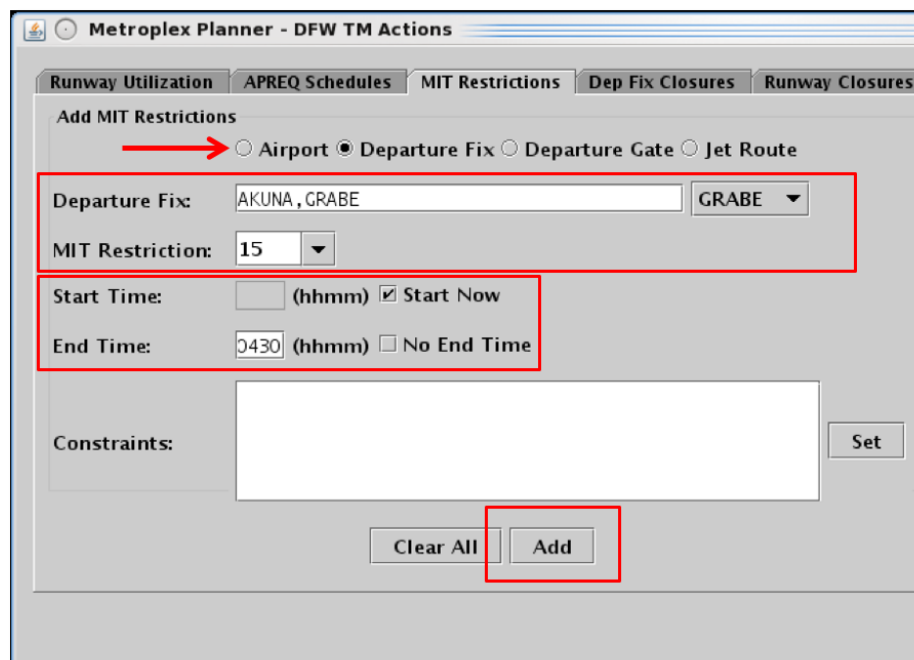


Figure 3.10. MIT Restrictions tab: Enter criteria for the MIT restrictions.

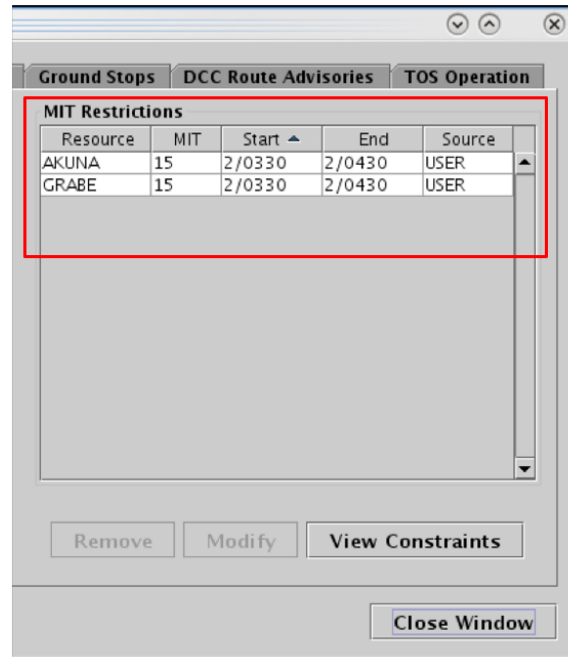


Figure 3.11. MIT Restrictions table.

MIT restrictions are indicated in the Notification Banner (e.g., “15 MIT AKUNA”). A new notification is displayed for each scheduled MIT restriction.

MIT restrictions are indicated on the map, timeline, and in the Flights Table. On maps and timelines, an MIT restriction is shown in the flight’s datablock.

To modify an MIT restriction:

Note: *Only MIT restrictions received from OIS or entered by the User can be modified; those received from TFM cannot be modified.*

Step 1: Select an MIT restriction in the MIT Restrictions table (e.g., “AKUNA” in Figure 3.12).

Step 2: Select “Modify” (Figure 3.12) to change:

- MIT Restriction distance (nm)
- Start Time*
- End Time
- Constraints

***If the “Start Time” has already passed and the MIT restriction is already in effect, the “Start Time” cannot be modified.**

Step 3: When changes are complete, select “Update” (Figure 3.13).

Alternatively: Select “Clear All” to cancel the update and retain the original settings for that restriction.

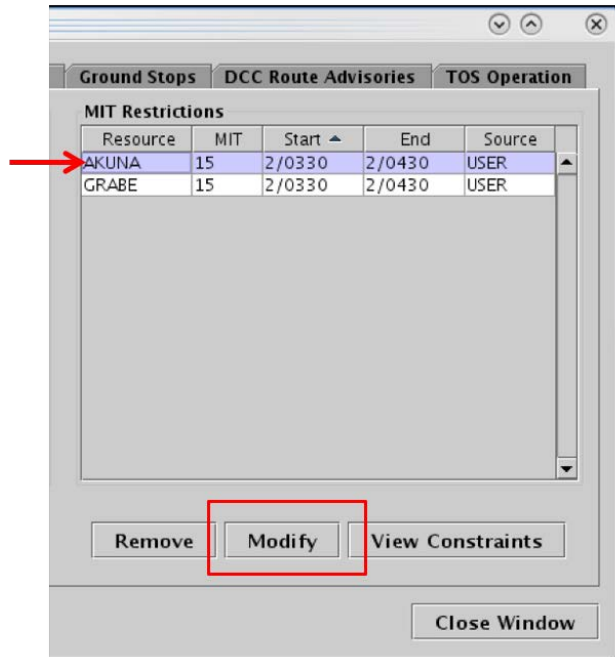


Figure 3.12. Modify an MIT restriction.

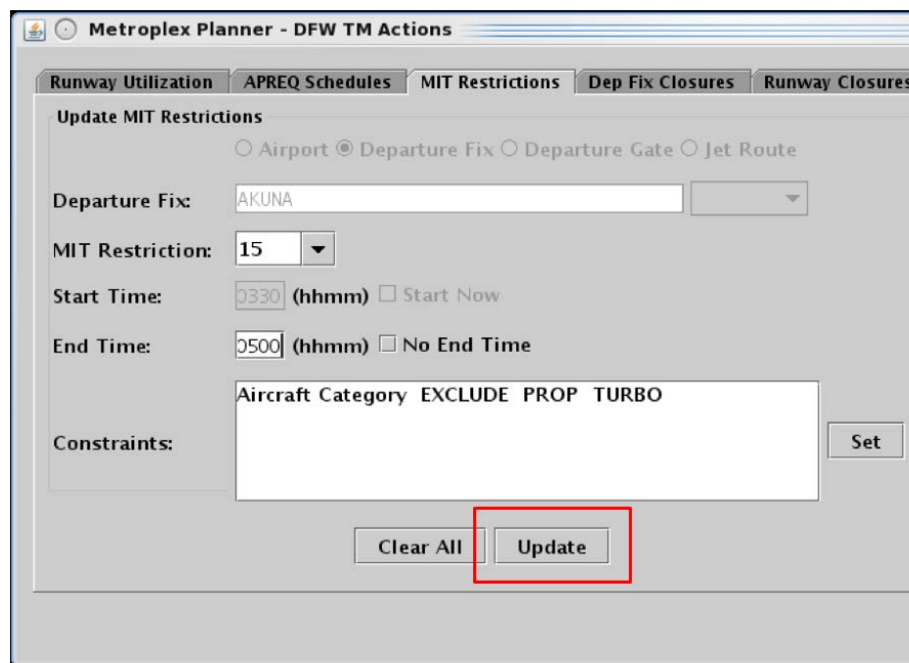


Figure 3.13. Select “Update” to apply changes.

To remove an MIT restriction:

Note: An MIT restriction from any source (User-entered, OIS, or TFM) can be removed.

Step 1: Select an MIT restriction in the MIT Restrictions table (e.g., “GRABE” in Figure 3.14).

Step 2: Select “Remove” (Figure 3.14).

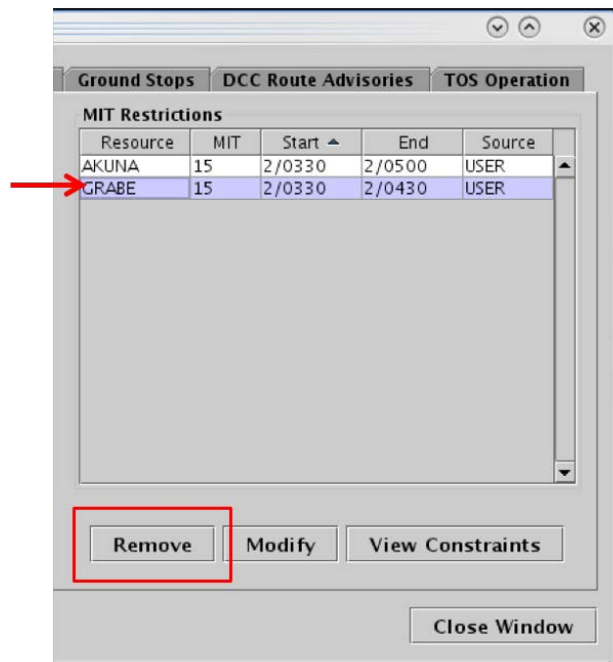


Figure 3.14. Remove an MIT restriction.

MIT restriction expirations/cancellations are indicated in the “Details” column in the Notifications Panel.

3.1.3 TM Actions: Departure Fix Closures Tab

Note: Available only in ATC versions of the Metroplex Planner.

A Departure Fix Closure restriction can be applied to a Departure Fix or all of the fixes in a Departure Gate.

To manually add a Departure Fix Closure:

Step 1: Select “Departure Fix Closures” from the TM Actions dropdown menu (Figure 3.2) to open the Dep Fix Closures tab (Figure 3.15).

Step 2: Select where to apply the closure (e.g., “Departure Fix” in Figure 3.16):

- Departure Fix
- Departure Gate

Note: *When a Departure Gate is closed, all of the Departure Fixes associated with that gate are closed.*

Step 3: Click on the dropdown menu to select one or more Departure Fixes or Departure Gates.

Alternatively: In the text field, type the:

- Departure Fix name(s), or
- Departure Gate name(s)

Separate multiple entries with a comma, but no space (e.g., “PGLET,TYGGR,ROOOO” in Figure 3.16).

Optional: Select an alternate fix to reassign flights to in the “CDR Flights To” field (e.g., “RBBIT” in Figure 3.16).

Step 4: If the restriction begins in the future, uncheck “Start Now” and enter a time in the “Start Time” text box in “hhmm” format.

Step 5: If an “End Time” is known, uncheck “No End Time” and enter a time in the “End Time” text box in “hhmm” format (e.g., “0630” in Figure 3.16).

Step 6: If necessary, constraints can be added to the Departure Fix Closure. See Section 3.1.5 for more information about constraints.

Step 7: Select the “Add” button (Figure 3.16).

Note: *User-added Departure Fix closures are displayed in the Dep Fix Closures table with “User” indicated the “Source” column (Figure 3.17).*

Alternatively: Select the “Clear All” button to clear and cancel all entries.

Note: *A TMI restriction applies to flights departing from all airports within a TRACON.*

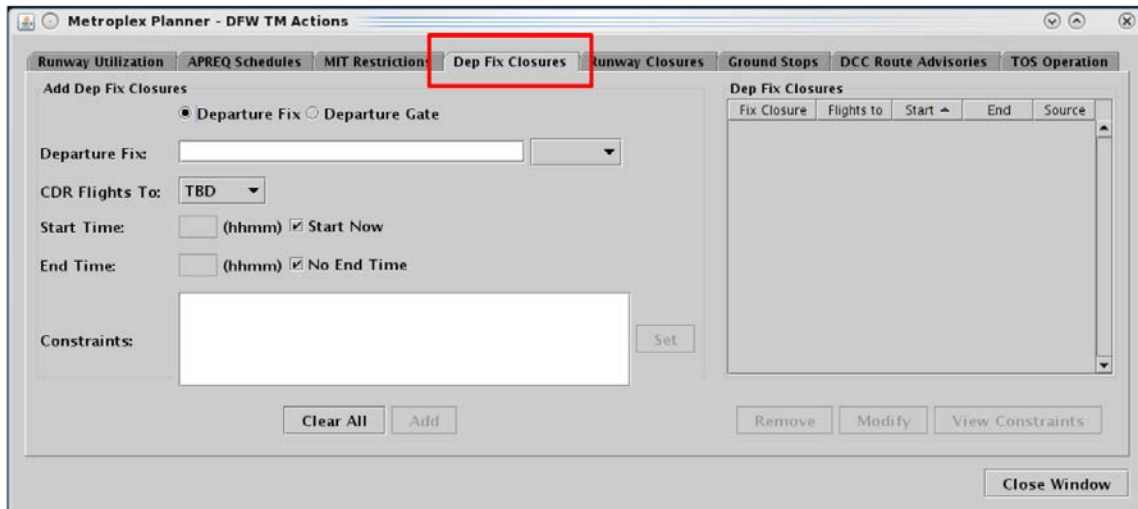


Figure 3.15. TM Actions panel: Dep Fix Closures tab.

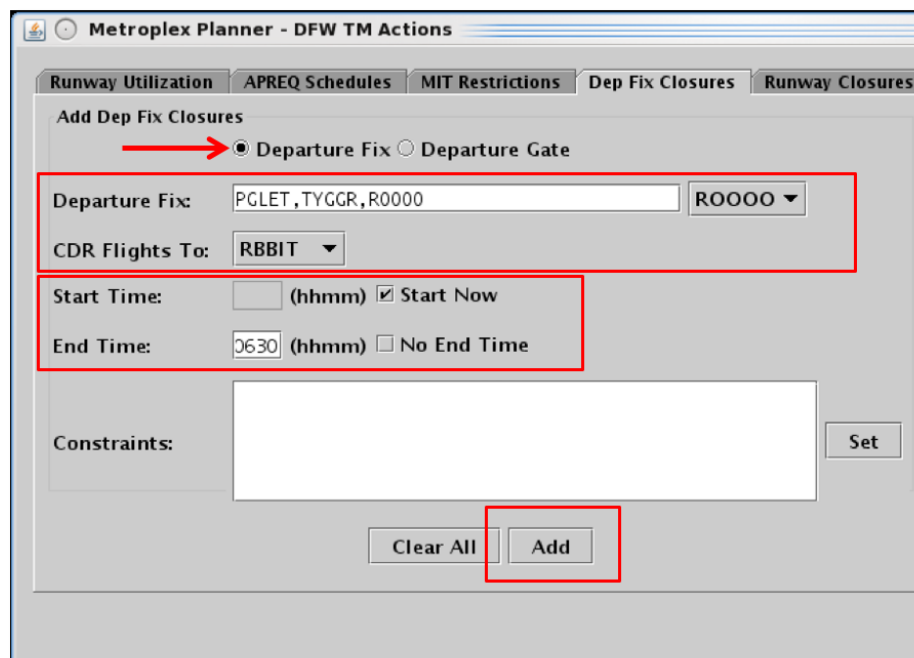


Figure 3.16. Dep Fix Closures tab: Enter criteria for the Departure Fix Closures.

Fix Closure	Flights to	Start	End	Source
PGLET	RBBIT	2/0503	2/0630	USER
ROOOO	RBBIT	2/0503	2/0630	USER
TYGGR	RBBIT	2/0503	2/0630	USER

Figure 3.17. Dep Fix Closures table.

Departure Fix closures are indicated in Notification Banner (e.g., “PGLET CLOSED”). A new notification is displayed for each scheduled Departure Fix closure.

Departure Fix closure information is indicated on maps, tables, and timelines. See “Departure Fix Display” settings in Section 3.6.1 for a description of displaying Departure Fix closure information on the timeline.

On a map, the Fix *label* is grayed-out when the Departure Fix is closed. If an alternate Departure Fix is selected in the “CDR Flight To” field, the names of the reassigned fixes (e.g., PGLET, TYGGR, and ROOOO) are displayed next to the alternate fix (e.g., RBBIT).

To modify a Departure Fix Closure:

Note: Only Departure Fix closures received from OIS or entered by the User can be modified; those received from TFM cannot be modified.

Step 1: Select a Departure Fix closure from the Dep Fix Closures table (e.g., “PGLET” in Figure 3.18).

Step 2: Select “Modify” (Figure 3.18) to change:

- Selection in the “CDR Flights To” field
- Start Time*
- End Time
- Constraints

***If the “Start Time” has already passed and the Departure Fix closure is already in effect, the “Start Time” cannot be modified.**

Step 3: When changes are complete, select “Update” (Figure 3.19).

Alternatively: Select “Clear All” to cancel the update and retain the original settings for that restriction.

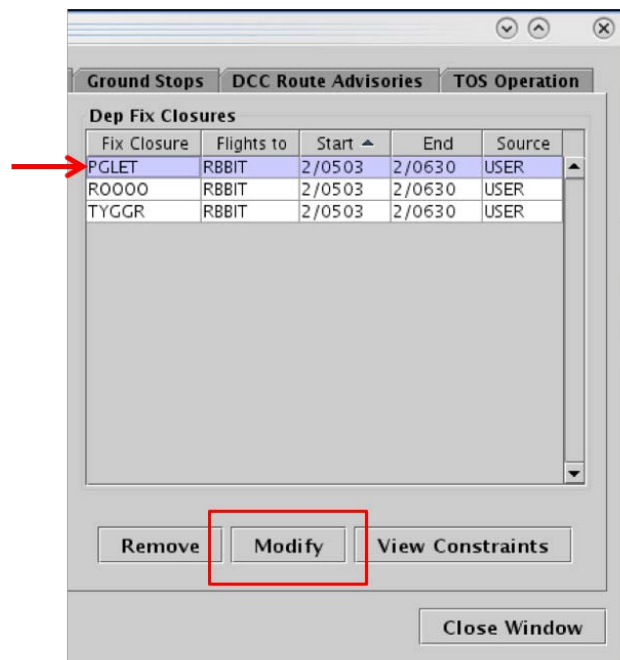


Figure 3.18. Modify a Departure Fix closure.

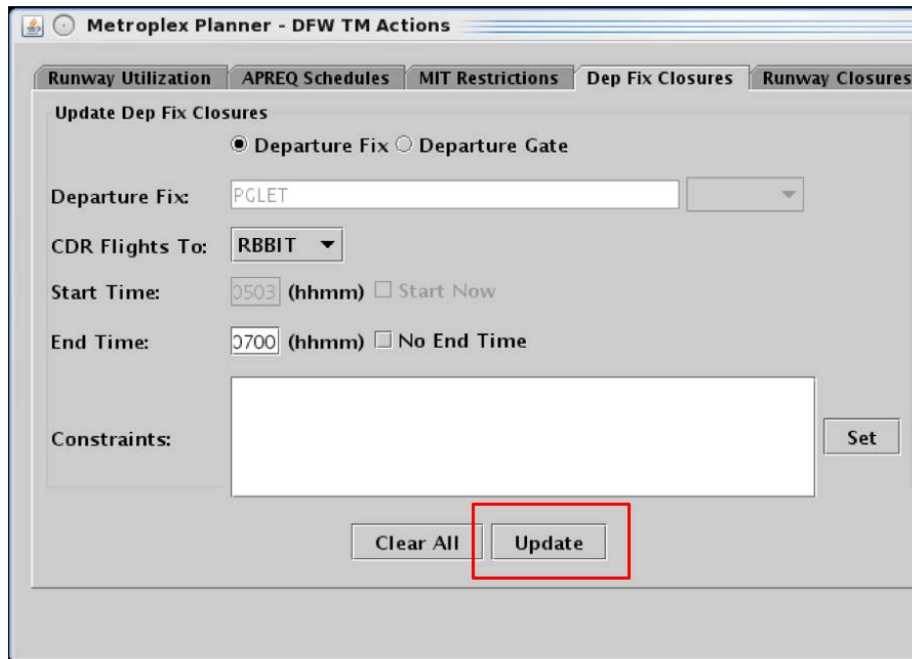


Figure 3.19. Select “Update” to apply changes.

To remove a Departure Fix Closure:

Note: A *Departure Fix Closure* from any source (User-entered, OIS, or TFM) can be removed.

Step 1: Select a Departure Fix Closure in the “Dep Fix Closures” table (e.g., “TYGGR” in Figure 3.20).

Step 2: Select “Remove” (Figure 3.20).

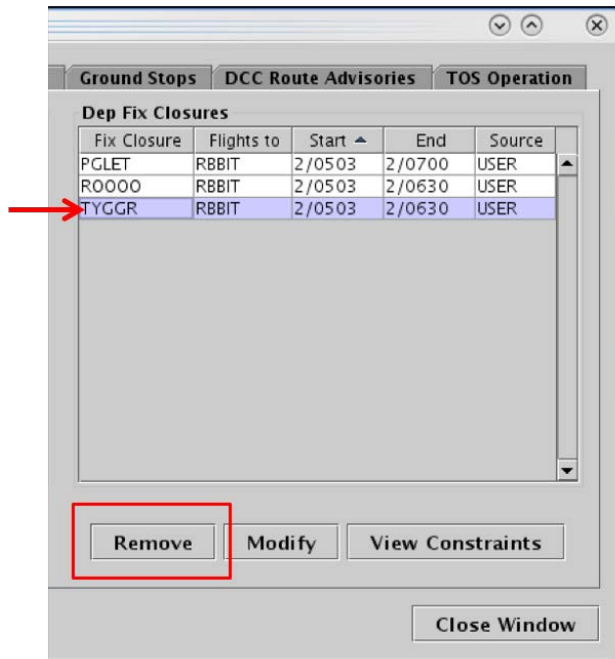


Figure 3.20. Remove a Departure Fix closure.

Fix closure expirations/cancellations are indicated in the Notification Banner (e.g., “TYGGR”).

3.1.4 TM Actions: Ground Stops Tab

Note: Available only in ATC versions of the Metroplex Planner.

A Ground Stop restriction can be applied to a destination airport.

To manually add a Ground Stop restriction:

Step 1: Select “Ground Stops” from the TM Actions dropdown menu (Figure 3.2) to open the Ground Stops tab (Figure 3.21).

Step 2: Click on the “Select” button to select one or more destination Airports (e.g., “LGA,JFK” in Figure 3.22).

Alternatively: In the text field, type the:

- 3-digit Airport code(s)

Separate multiple entries with a comma, but no space.

Step 3: If the Ground Stop begins in the future, uncheck “Start Now” and enter a time in the “Start Time” text box in “hhmm” format.

Step 4: If an “End Time” is known, uncheck “No End Time” and enter a time in the “End Time” text box in “hhmm” format

Step 5: If necessary, constraints can be added to the Ground Stop restriction. See Section 3.1.5 for more information about constraints.

Step 6: Select the “Add” button (Figure 3.22).

Note: User-added Ground Stop restrictions are displayed in the Ground Stops table with “User” indicated in the “Source” column (Figure 3.23).

Alternatively: Select the “Clear All” button to clear and cancel all entries.

Note: A TMI restriction applies to flights departing from all airports within a TRACON.

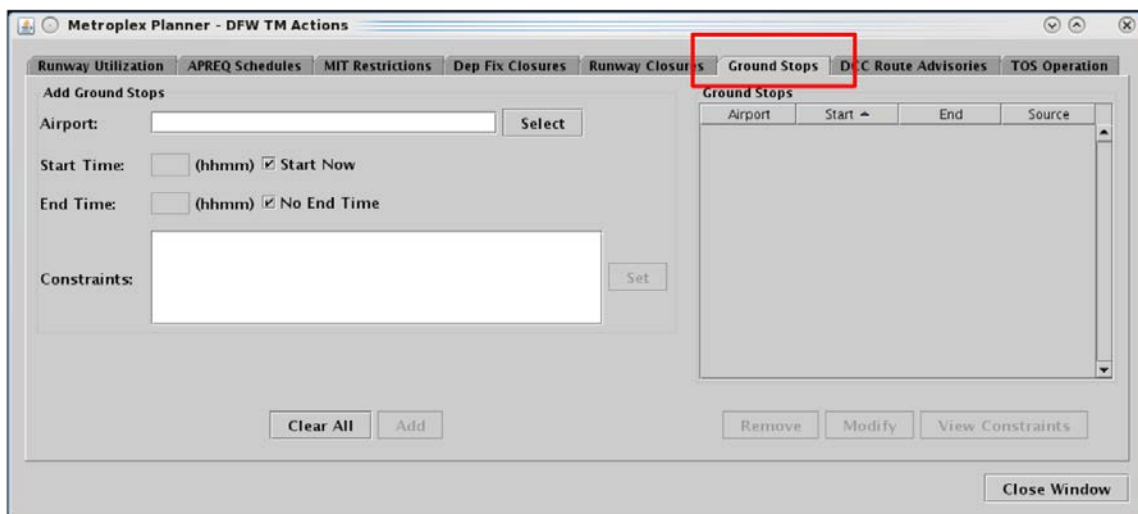


Figure 3.21. TM Actions panel: Ground Stops tab.

Metroplex Planner - DFW TM Actions

Runway Utilization | APREQ Schedules | MIT Restrictions | Dep Fix Closures | Runway Closures

Add Ground Stops

Airport:

Start Time: (hhmm) ☒ Start Now

End Time: (hhmm) ☐ No End Time

Constraints:

Figure 3.22. Ground Stops tab: Enter criteria for the Ground Stop restrictions.

Ground Stops

Airport	Start ▲	End	Source
JFK	2/1331	2/1500	USER
LGA	2/1331	2/1500	USER

Figure 3.23. Ground Stops tab: Ground Stops table.

Ground Stop restrictions are indicated in Notification Banner (e.g., “LGA STOP”). A new notification will be displayed for each Ground Stop restriction.

Ground Stop restrictions are shown on maps, tables, and timelines. On maps and timelines, a Ground Stop restriction is indicated in the flight’s datablock.

To modify a Ground Stop restriction:

Note: *Only Ground Stop restrictions received from OIS or entered by the User can be modified; those received from TFM cannot be modified.*

Step 1: Select a Ground Stop restriction in the Ground Stops table (e.g., “JFK” in Figure 3.24).

Step 2: Select “Modify” (Figure 3.24) to change:

- Start Time*
- End Time
- Constraints

Note: **If the “Start Time” has already passed and the Ground Stop restriction is already in effect, the “Start Time” cannot be modified.*

Step 3: When changes are complete, select “Update” (Figure 3.25).

Alternatively: Select “Clear All” to cancel the update and retain the original settings for that restriction.

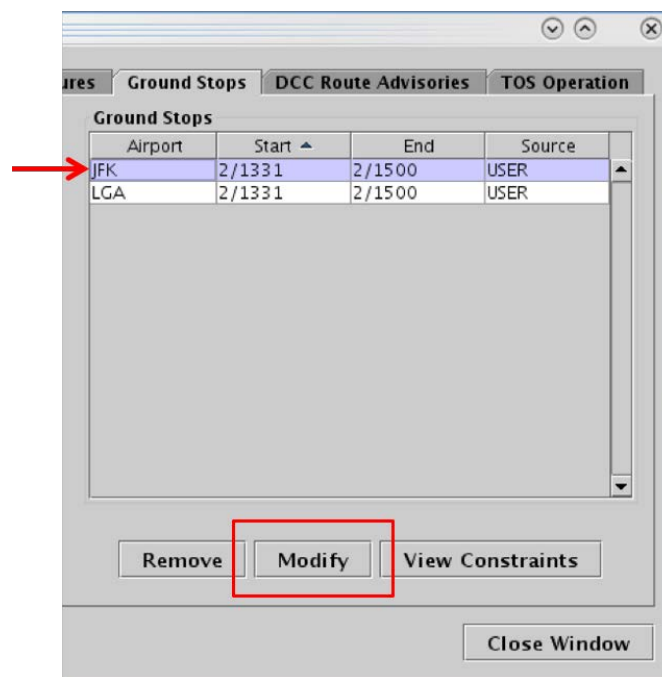


Figure 3.24. Modify a Ground Stop restriction.

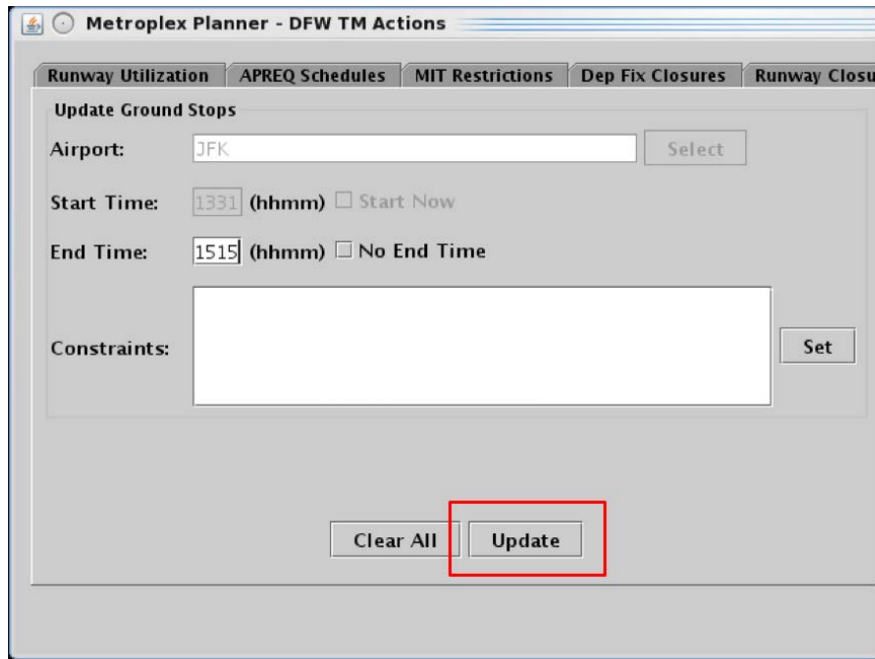


Figure 3.25. Ground Stops tab: Modify a Ground Stop restriction.

To remove a Ground Stop restriction:

Note: A Ground Stop restriction from any source (User-entered, OIS, or TFM) can be removed.

Step 1: Select a Ground Stop restriction in the Ground Stop table (e.g., "LGA" in Figure 3.26).

Step 2: Select "Remove" (Figure 3.26).

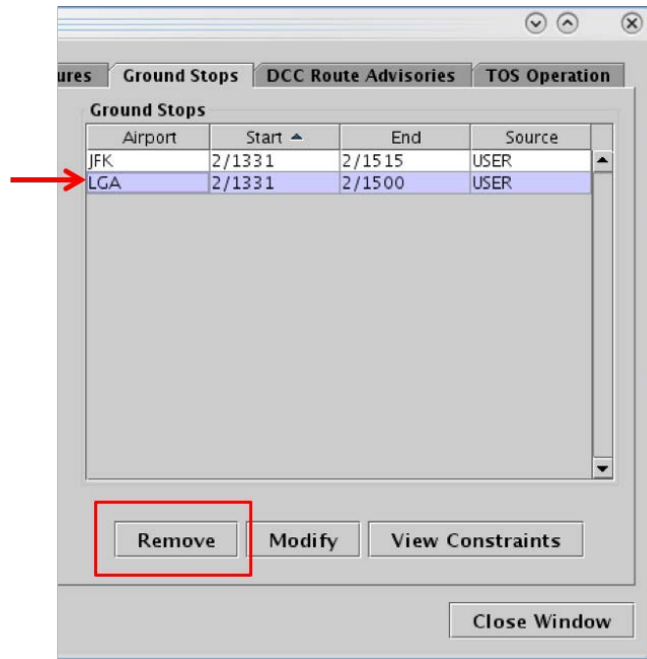


Figure 3.26. Remove a Ground Stop restriction.

Ground Stop expirations/cancellations are indicated in the “Details” column in the Notifications Panel.

3.1.5 Constraints Used in TMI Restrictions

Note: Available only in ATC versions of the Metroplex Planner.

A TMI restriction may also require additional constraint criteria. For example, a Miles-in-Trail (MIT) restriction may:

- Apply to all flights flying over a departure fix with the *exception* of APREQ flights, or
- Apply to all flights flying over a departure fix with the *exception* of a particular destination, or
- *Include* only flights above a particular flight level (e.g., FL 230).

In the Metroplex Planner, constraints can be applied to APREQ Schedules, MIT Restrictions, Departure Fix Closures, and Ground Stops by accessing the TM Actions panel. When a constraint is added – like the restriction itself – the constraint applies to flights departing from all airports within a TRACON.

Table 3.2 shows the available options for constraining each of the four TMI restrictions (cells marked with an “x” indicate availability of the constraint).

Table 3.2. Available Options for Constraining TMI Restrictions

<i>Constraint</i>	Traffic Management Initiative (TMI) Restrictions			
	APREQ Schedules	MIT Restrictions	Departure Fix Closures	Ground Stops
<i>Engine Type</i>	x	x	x	x
<i>Aircraft Type</i>	x	x	x	x
<i>User Category</i>	x	x	x	x
<i>Center</i>	x	x	x	x
<i>Sector</i>	x	x	x	x
<i>Airway</i>	x	x	x	x
<i>Airline</i>	x	x	x	x
<i>Airport</i>	x	x	x	x
<i>Filed Altitude</i>	x	x	x	x
<i>Weight Class</i>	x	x	x	x
<i>MIT</i>	x		x	x
<i>Departure Fix</i>	x			x
<i>Departure Gate</i>	x			x
<i>APREQ</i>		x	x	x
<i>Destination</i>		x	x	

3.1.5.1 Add a Constraint

Use the “Constraint” field to add a constraint to a TMI restriction. In this example, an MIT restriction is constrained by flights that are subject to an APREQ. That is, the MIT restriction will apply to all flights flying over a departure fix with the exception of APREQ flights.

To add Constraints to a TMI restriction:

Step 1: On a TMI-restriction tab (i.e., the APREQ Schedules, MIT Restrictions, Departure Fix Closures, or Ground Stops tab) select/enter restriction criteria (in Figure 3.27, for example, the “AKUNA” departure fix is selected with a 15-mile restriction).

Step 2: Select the “Set” button (Figure 3.27) next to the Constraints field.

Note: *The “Set” button is grayed-out until TMI-restriction criteria has been entered.*

Step 3: In the Constraint Settings window, available options for constraining the TMI restriction are displayed on individual tabs. Select a Constraint tab in the Constraint Settings window (in Figure 3.28, the “APREQ” tab is selected).

Step 4: Select/enter the criteria with which to constrain the TMI restriction and choose between:

- **Inclusion:** Select “Inclusion” when the restriction applies to only selected criteria.
- **Exclusion:** Select “Exclusion” when the restriction applies to all *except* the selected criteria. (In Figure 3.28, “APREQ” is checked and “Exclusion” is selected because the 15 MIT restriction will apply to all flights flying over the departure fix *with the exception* of APREQ flights. In other words, APREQ flights are *excluded* from the restriction.)

Step 5: Select a different tab to add more constraints or select the “Apply” button when finished adding constraints (Figure 3.28).

Note: *Upon returning to the TMI-restriction window, the selected constraints are displayed in the Constraints field (in Figure 3.29, “APREQ EXCLUDE” is displayed).*

Step 6: Select the “Add” button to complete adding the TMI restriction (Figure 3.29).

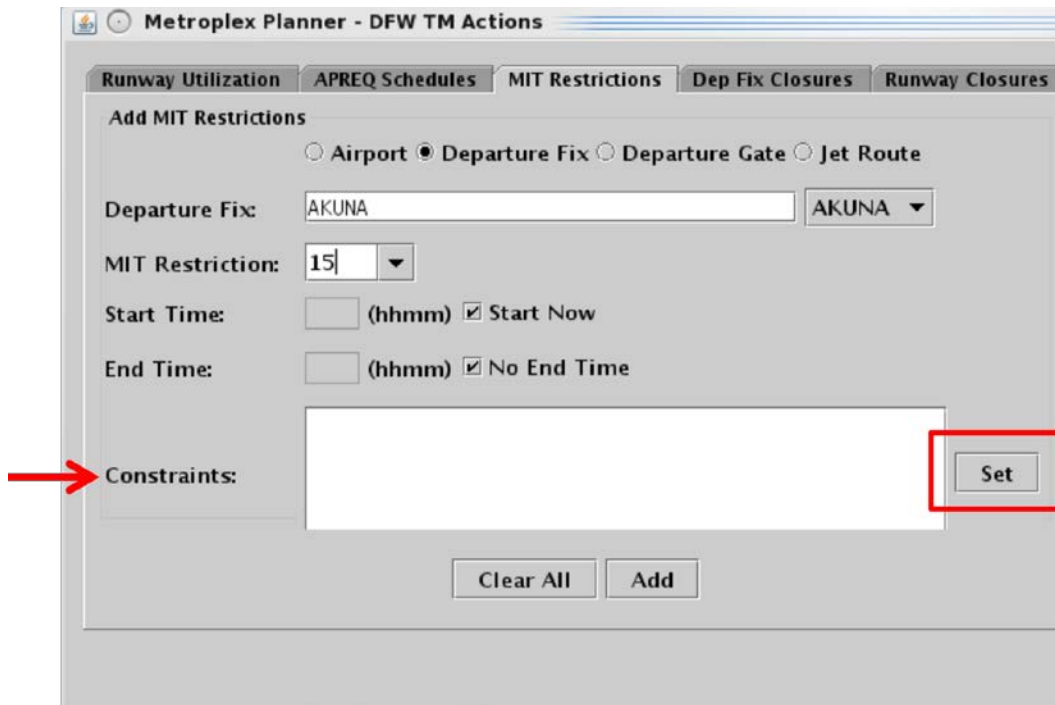


Figure 3.27. On a TMI-restriction tab, select the “Set” button to open the Constraint Settings window.

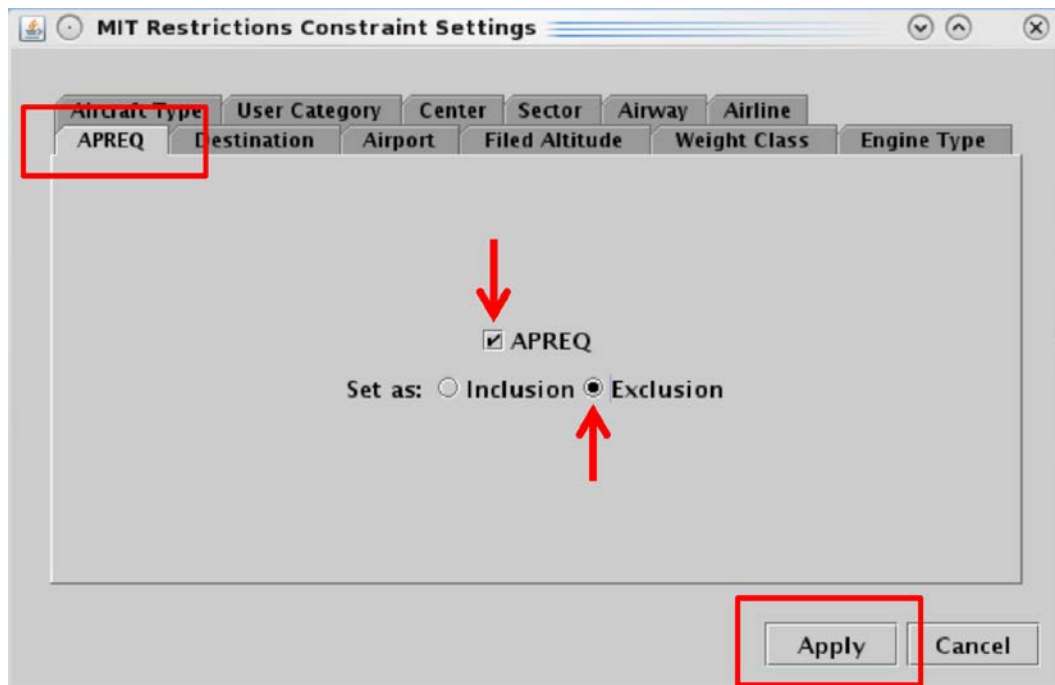


Figure 3.28. In the Constraint Setting window, select a constraint tab and enter criteria (in this example, “APREQ” is checked and “Exclusion” is selected to *exclude* APREQ flights from the restriction).

Metroplex Planner - DFW TM Actions

Runway Utilization | **APREQ Schedules** | MIT Restrictions | Dep Fix Closures | Runway Closures

Add MIT Restrictions

☐ Airport
 ☒ **Departure Fix**
☐ Departure Gate
☐ Jet Route

Departure Fix: AKUNA ▼

MIT Restriction: ▼

Start Time: (hhmm) ☒ Start Now

End Time: (hhmm) ☒ No End Time

Constraints: Set

Clear All Add

Figure 3.29. Criteria entered in the Constraint Settings window are displayed in the Constraints field (in this example, “APREQ EXCLUDE”).

3.1.5.2 View Constraints

Constraints associated with TMI restrictions can be viewed in the TMI-restriction tab.

To view Constraints associated with a TMI restriction:

Step 1: On a TMI-restriction tab (i.e., the APREQ Schedules, MIT Restrictions, Departure Fix Closures, or Ground Stops tab), select the “View Constraints” button below the restriction table (Figure 3.30).

Note: *When there are multiple restrictions (i.e., multiple rows) in the table, all constraints associated with all restrictions in that table will be displayed.*

Alternatively: Select a specific restriction in the table before selecting the “View Constraints” button to view constraints associated with only that restriction (in Figure 3.30, for example, the “AKUNA 15 MIT” restriction (row) has been selected).

Note: *Constraints are displayed in a new window along with Start and End times (in Figure 3.31, “APREQ EXCLUDE” is displayed in the Constraints window).*

Step 2: Select the “Close” button to close the Constraints window.

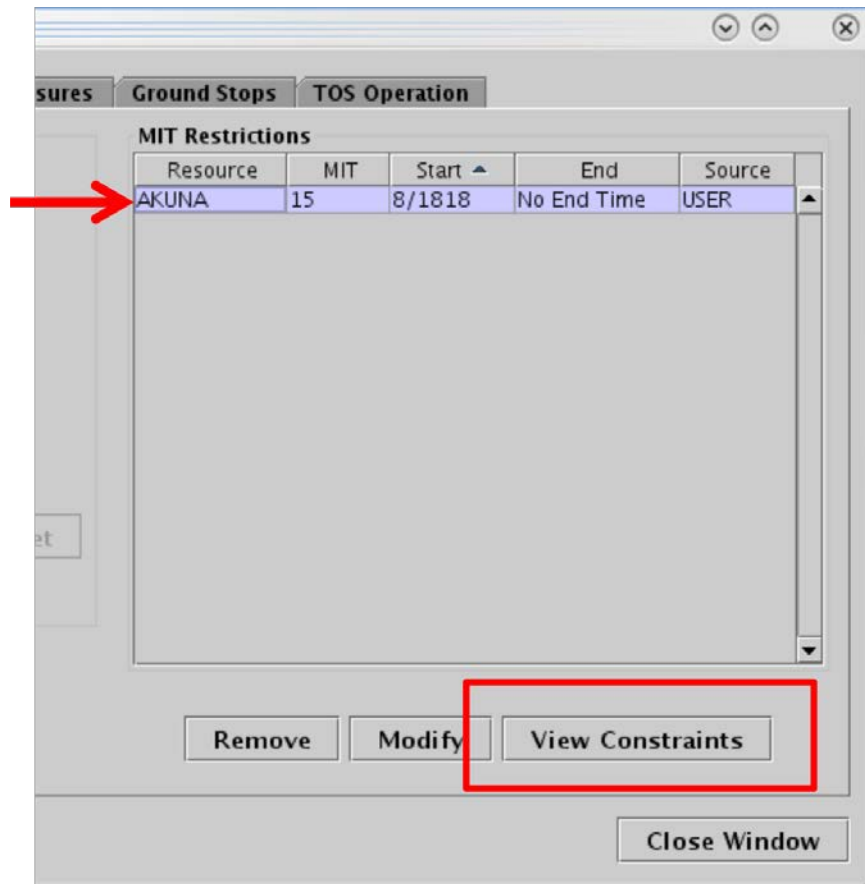


Figure 3.30. Select a TMI Restriction in the table (in this example, the 15 MIT restriction is selected) and select the “View Constraints” button to view the constraint criteria associated with a TMI restriction.

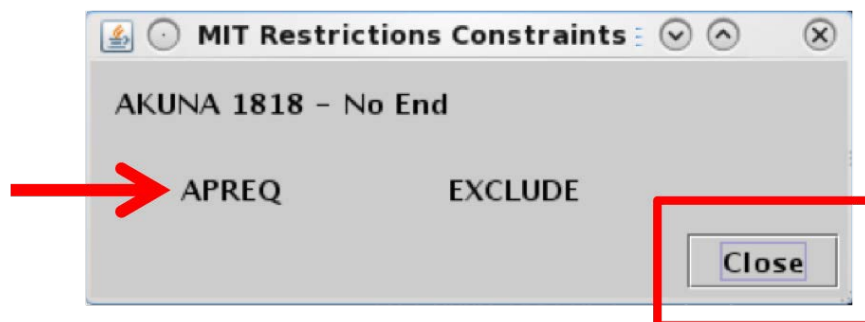


Figure 3.31. View Constraints window (in this example, “APREQ EXCLUDE” is displayed).

In addition to being displayed in the Constraints window, constraints associated with a TMI restriction are also displayed in the “Details” column in the Notifications Panel (see Section 3.8 for a description of Notifications).

3.1.5.3 Change a Constraint

Constraints associated with TMI restrictions can be modified.

To Modify a Constraint:

Step 1: On a TMI-restriction tab (i.e., the APREQ Schedules, MIT Restrictions, Departure Fix Closures, or Ground Stops tab), select a restriction in the table (in Figure 3.32, for example, the “AKUNA 15 MIT” restriction has been selected).

Step 2: Select the “Modify” button below the table (Figure 3.32).

Step 3: Select the “Set” button in the Constraints field (Figure 3.33).

Step 4: In the Constraint Settings window, available options for constraining the TMI restriction are displayed on individual tabs. Select a Constraint tab to modify a current constraint or add an additional constraint (in Figure 3.34, on the “Destination” tab, “LGA” is added as an additional constraint to the MIT restriction).

Step 5: Select/enter the criteria with which to constrain the TMI restriction and choose between:

- **Inclusion:** Select “Inclusion” when the restriction applies to only selected criteria.
- **Exclusion:** Select “Exclusion” when the restriction applies to all *except* the selected criteria. (In Figure 3.34, “Exclusion” is selected because the 15 MIT restriction will apply to all flights flying over the departure fix *with the exception* of flights going to LGA. In other words, LGA flights are *excluded* from the restriction.)

Step 6: Select a different tab to modify/add more constraints or select the “Apply” button when finished modifying/adding constraints.

Note: *Upon returning to the TMI-restriction window, the selected constraints are displayed in the Constraints field (in Figure 3.35, “APREQ Exclude” and “Destination EXCLUDE LGA” are displayed).*

Step 7: Select the “Update” button to complete modifying the TMI restriction (Figure 3.35).

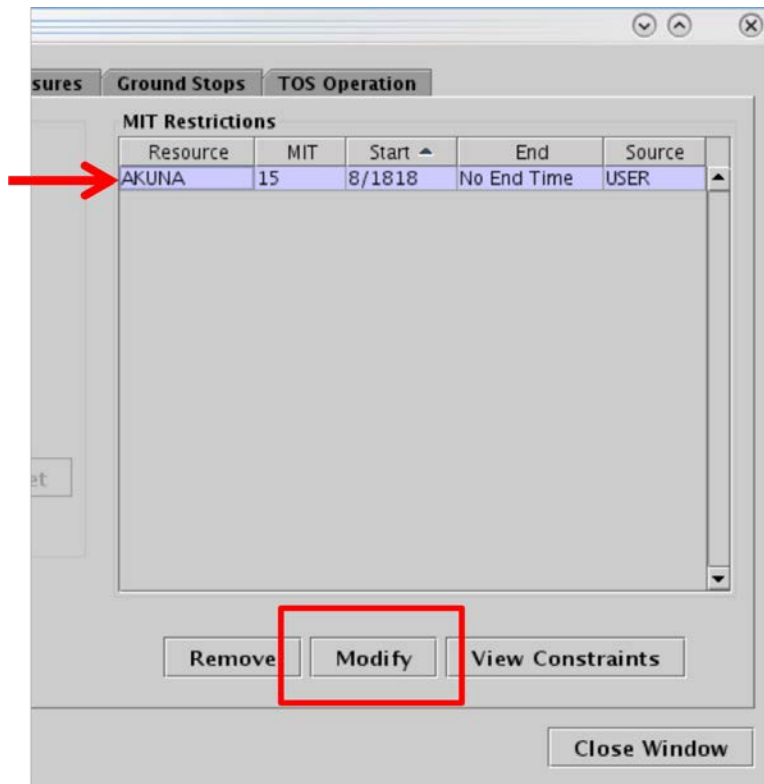


Figure 3.32. Select a TMI Restriction in the table (in this example, the 15 MIT restriction is selected) and select the “Modify” button to modify constraints.

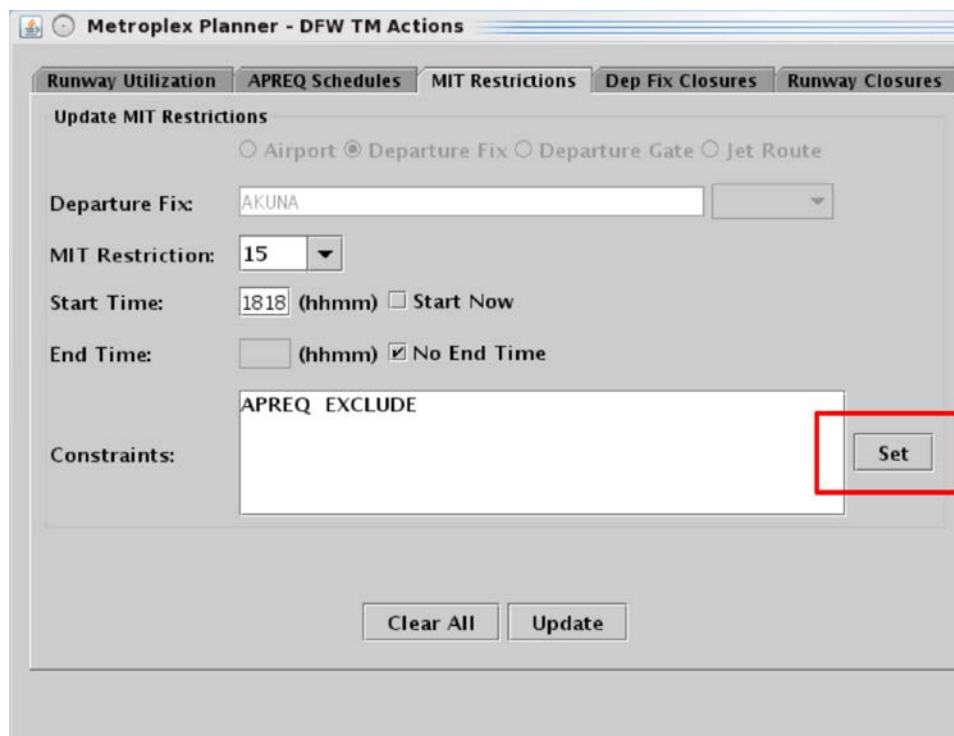


Figure 3.33. Select the “Set” button to open the Constraint Settings window.

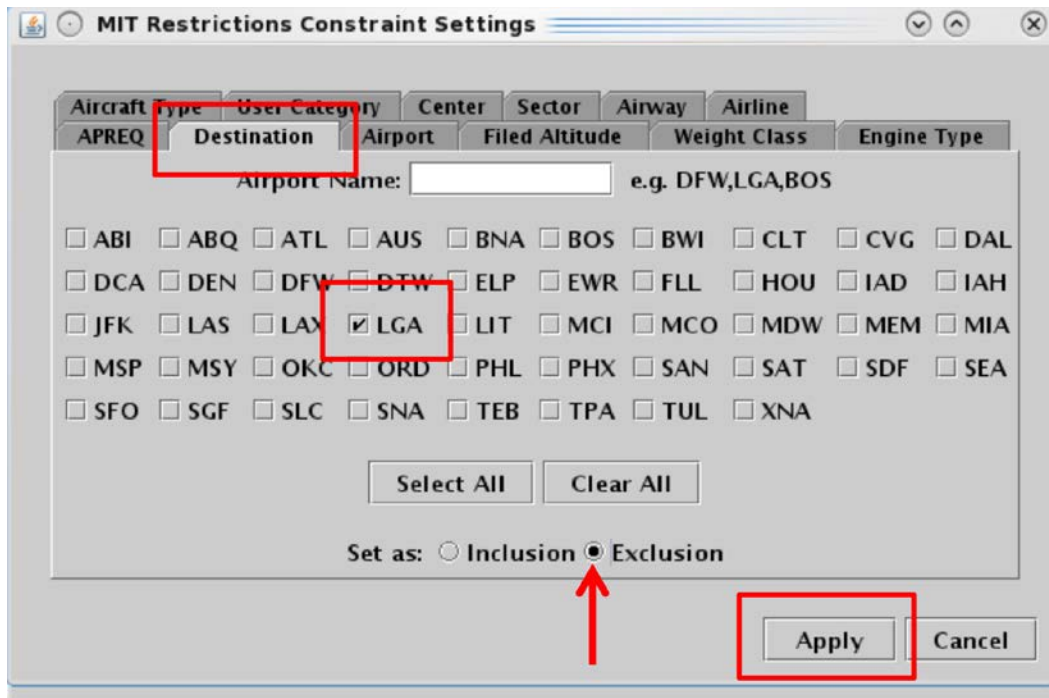


Figure 3.34. In the Constraint Settings window, modify/add constraints. (In this example, an additional constraint is added on the “Destination” tab – flights going to LGA will also be *excluded* from the MIT restriction).

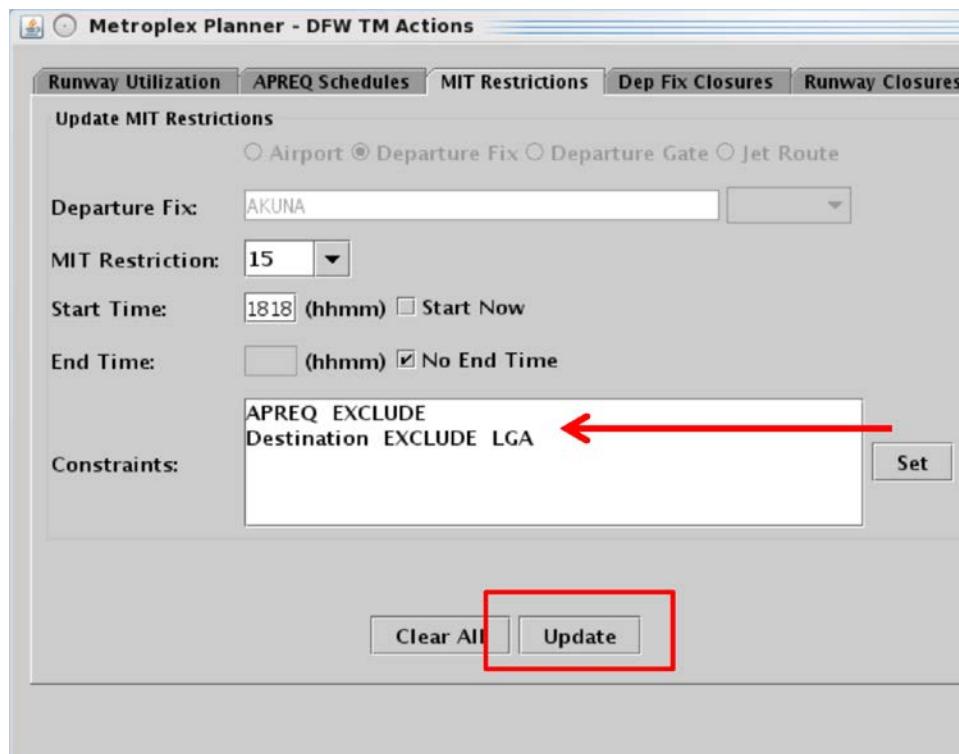


Figure 3.35. Criteria entered in the Constraint Settings window are displayed in the Constraints field (in this example, “APREQ EXCLUDE” and “Destination EXCLUDE LGA”).

3.1.5.4 Remove a Constraint

Constraints associated with TMI restrictions can be removed.

To Remove a Constraint:

Step 1: On a TMI-restriction tab (i.e., the APREQ Schedules, MIT Restrictions, Departure Fix Closures, or Ground Stops tab), select a restriction in the table (in Figure 3.36, for example, the “AKUNA 15 MIT” restriction has been selected).

Step 2: Select the “Modify” button below the table (Figure 3.36).

Step 3: Select the “Set” button in the Constraints field (Figure 3.37).

Step 4: In the Constraint Settings window, select a Constraint tab to remove a current constraint. Depending on the tab, uncheck or delete text on the tab to remove the constraint. (In Figure 3.38, a constraint is removed from the “Destination” tab by unchecking “LGA”.)

Step 5: Select a different tab to remove more constraints or select the “Apply” button when finished removing constraints.

Note: *Upon returning to the TMI-restriction window, constraints that have been removed are no longer displayed in the Constraints field (in Figure 3.39, “Destination EXCLUDE LGA” is no longer displayed in the Constraints field.*

Step 6: Select the “Update” button to complete modifying the TMI restriction (Figure 3.39).

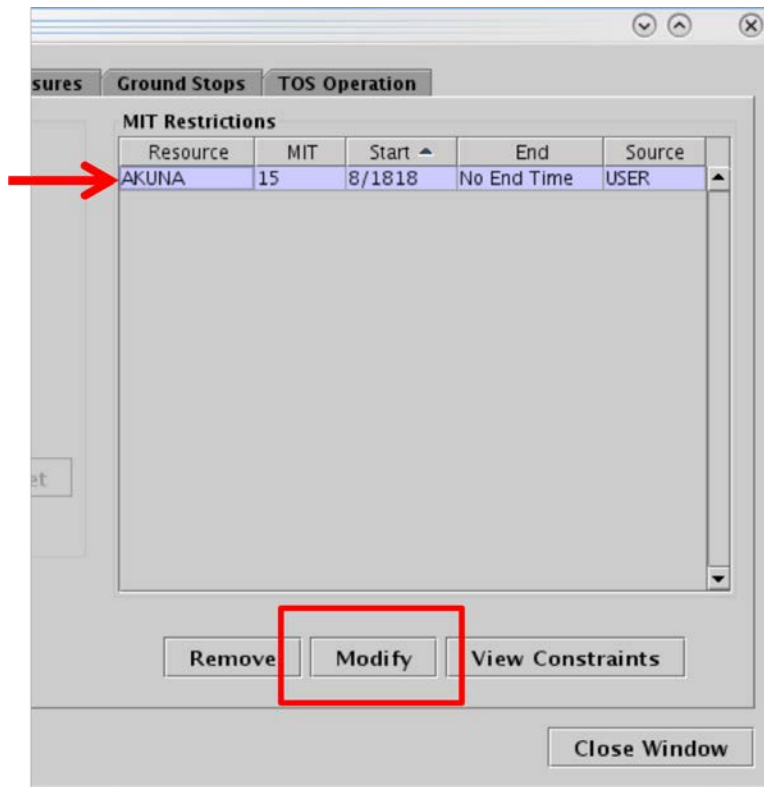


Figure 3.36. Modify a TMI Restriction (in this example, the 15 MIT restriction is selected) and select the “Modify” button to modify constraints.

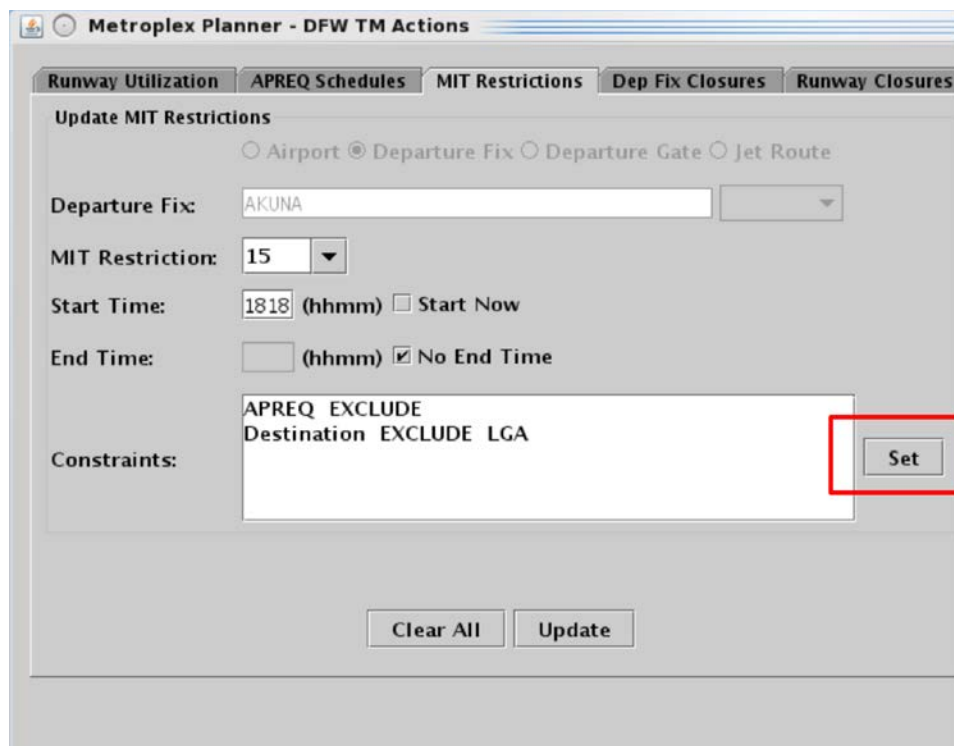


Figure 3.37. Select the “Set” button to open the Constraint Settings window.

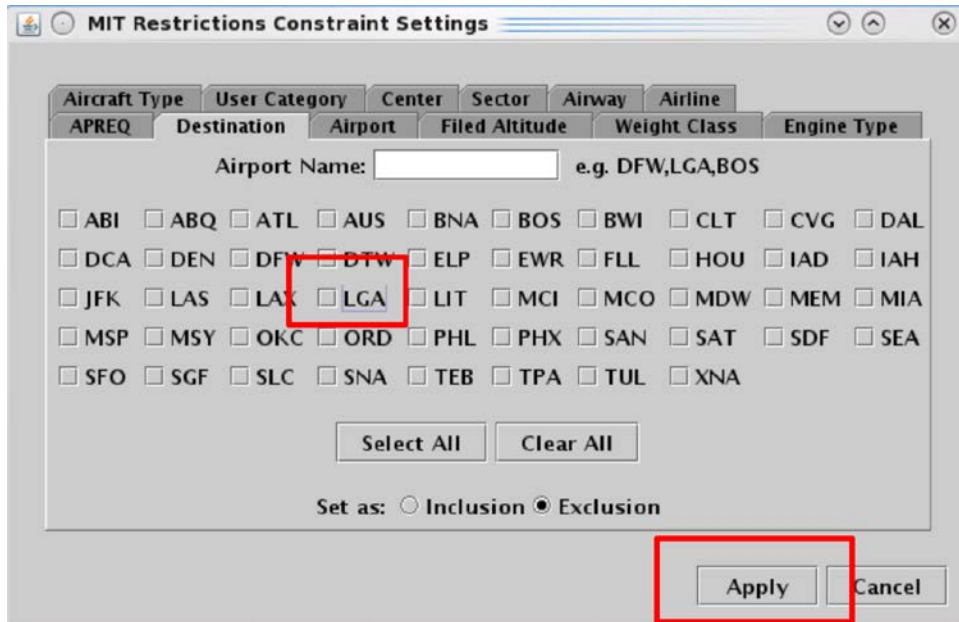


Figure 3.38. In the Constraint Settings window, uncheck or clear constraints. (In this example, a constraint is removed from the “Destination” tab by unchecking “LGA”).

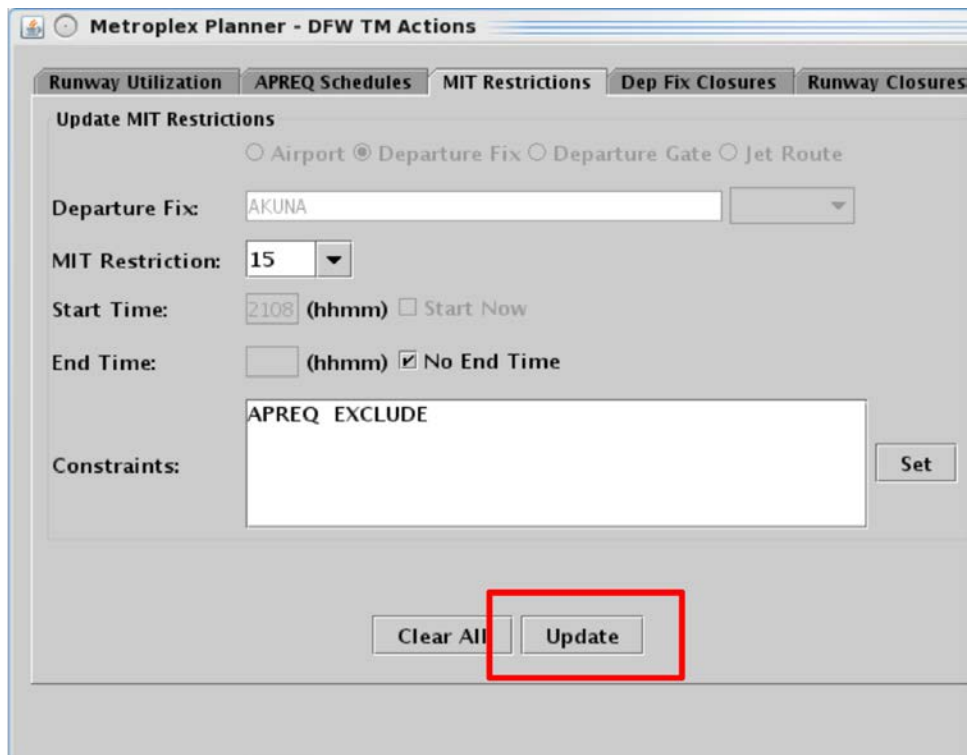


Figure 3.39. After removing a constraint in the Constraint Settings window, it is no longer displayed in the Constraints field on the TMI-restriction tab. (In this example, “Destination EXCLUDE LGA” is no longer displayed.)

3.1.5.5 TMI-Restriction Constraints

Each constraint tab is described in the following sub-sections: Engine Type, Aircraft Type, User Category, Center, Sector, Airway, Airline, Airport, Filed Altitude, Weight Class, Miles-in-Trail (MIT), Departure Fix, Departure Gate, APREQ, and Destination.

3.1.5.5.1 Constraint: Engine Type

The following TMI restrictions can be constrained by aircraft Engine Type:

- APREQ Schedule
- MIT Restriction
- Departure Fix Closure
- Ground Stop

To apply an engine type constraint, select from three aircraft engine types (Figure 3.40):

- “P” for piston
- ”T” for turboprop, or
- “J” for jet

More than one type can be selected at a time. See Section 3.1.5.1 for more information about adding constraints.

Select “Inclusion” to include flights matching these criteria in the TMI restriction or “Exclusion” to exclude flights from the TMI restriction. Then select “Apply” to return to the TMI-restriction window or select a different tab to add another constraint.

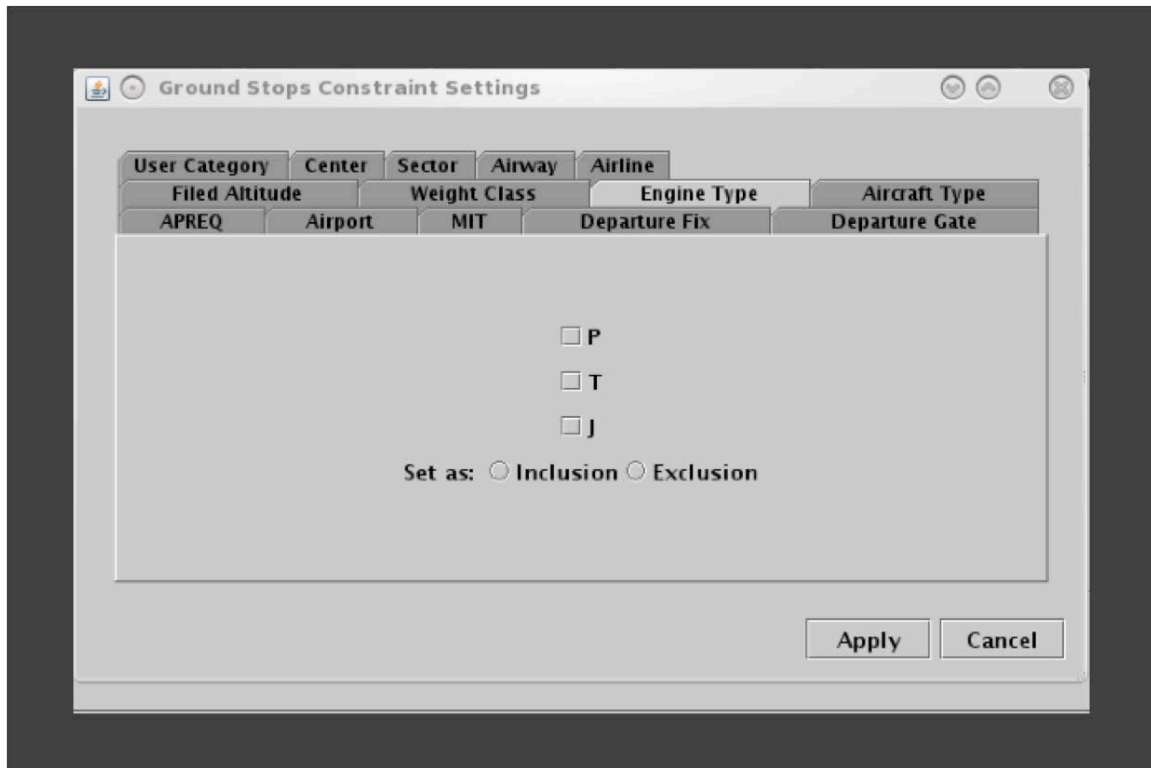


Figure 3.40. Constraint: Engine Type.

See Section 3.1.5.3 for a description of how to *modify* constraints and Section 3.1.5.4 for a description of how to *remove* constraints.

3.1.5.5.2 Constraint: Aircraft Type

The following TMI restrictions can be constrained by aircraft Engine Type.

- APREQ Schedule
- MIT Restriction
- Departure Fix Closure
- Ground Stop

To apply an Engine Type constraint, enter the 4-character alphanumeric code for an aircraft type (e.g., A320) (Figure 3.41). To enter more than one aircraft type, separate aircraft codes with a comma, but no space (e.g., “A320,A319,E170”). See Section 3.1.5.1 for more information about adding constraints.

Select “Inclusion” to specify a flight or flights matching these criteria in the TMI restriction or “Exclusion” to exclude flights from the TMI restriction. Then select “Apply” to return to the TMI restriction window or select a different tab to add another constraint.

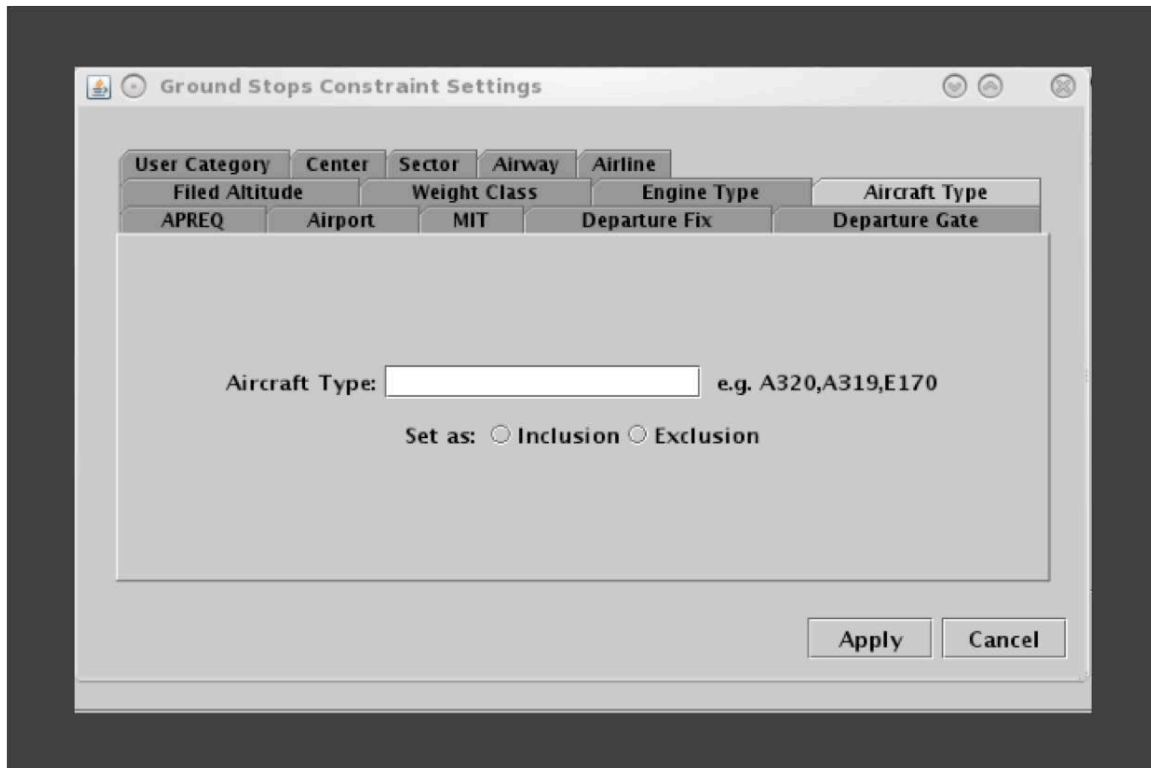


Figure 3.41. Constraint: Aircraft Type.

See Section 3.1.5.3 for a description of how to *modify* constraints and Section 3.1.5.4 for a description of how to *remove* constraints.

3.1.5.5.3 Constraint: User Category

The following TMI restrictions can be constrained by User Category:

- APREQ Schedule
- MIT Restriction
- Departure Fix Closure
- Ground Stop

To apply a User Category constraint, select from the following User Categories: Air Carrier, Freight Cargo Carrier, General Aviation, Military, Air Taxi, Lifeguard, Other, or Unknown (e.g., “Air Taxi” in Figure 3.42). More than one type can be selected at a time. See Section 3.1.5.1 for more information about adding constraints.

Select “Inclusion” to include flights matching these criteria in the TMI restriction or “Exclusion” to exclude flights from the TMI restriction. Then select “Apply” to return to the TMI restriction window or select a different tab to add another constraint.

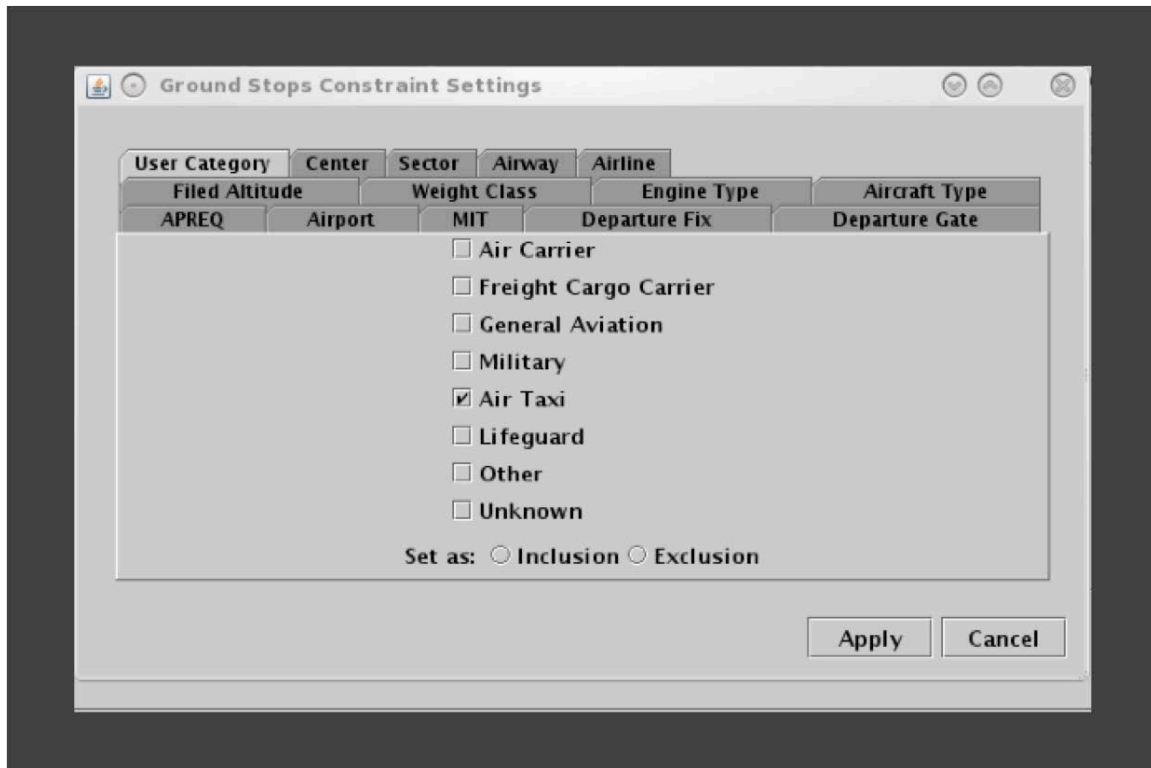


Figure 3.42. Constraint: User Category.

See Section 3.1.5.3 for a description of how to *modify* constraints and Section 3.1.5.4 for a description of how to *remove* constraints.

3.1.5.5.4 Constraint: Center

The following TMI restrictions can be constrained by Air Route Traffic Control Center (ARTCC; or Center).

- APREQ Schedule
- MIT Restriction
- Departure Fix Closure
- Ground Stop

To apply a Center constraint, enter the 3-letter code of the Center (e.g., ZDC) (Figure 3.43). To enter more than one Center, separate codes with a comma, but no space (e.g., “ZDC,ZTL”). See Section 3.1.5.1 for more information about adding constraints.

Select “Inclusion” to include flights matching these criteria in the TMI restriction or “Exclusion” to exclude flights from the TMI restriction. Then select “Apply” to return to the TMI-restriction window or select a different tab to add another constraint.

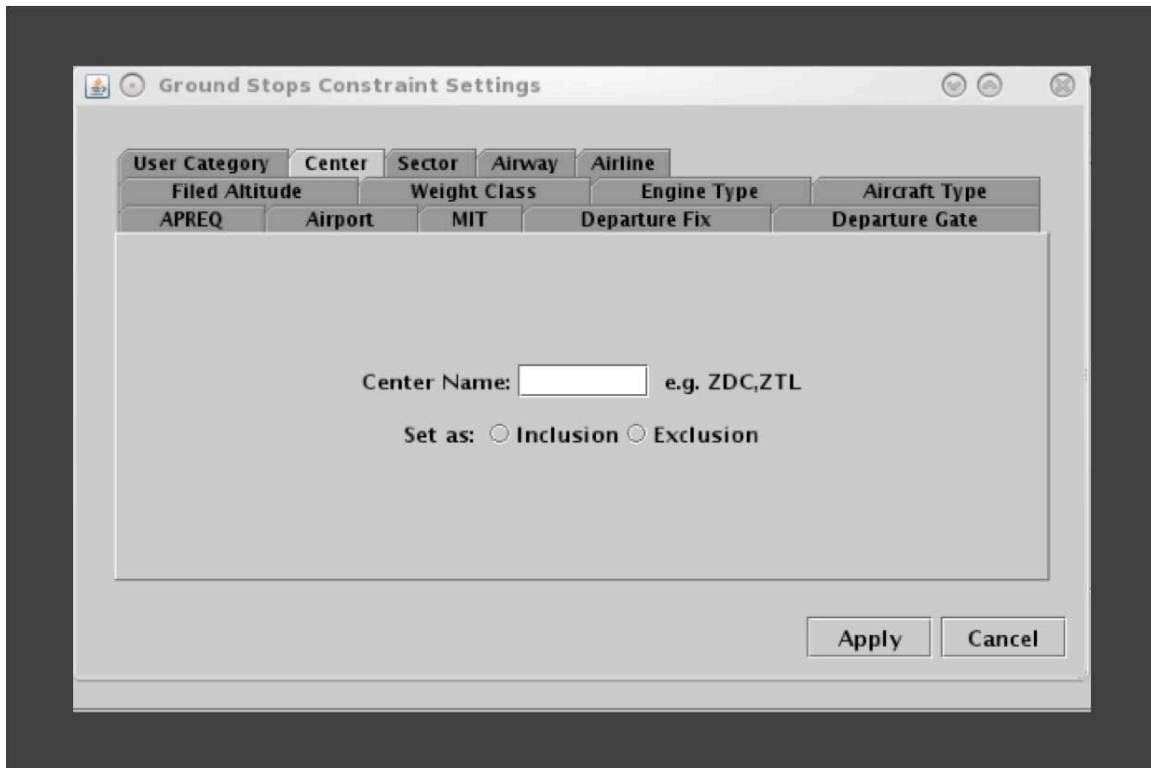


Figure 3.43. Constraint: Center.

See Section 3.1.5.3 for a description of how to *modify* constraints and Section 3.1.5.4 for a description of how to *remove* constraints.

3.1.5.5.5 Constraint: Sector

The following TMI restrictions can be constrained by Sector.

- APREQ Schedule
- MIT Restriction
- Departure Fix Closure
- Ground Stop

To apply a Sector constraint, enter the Sector name in the form of the 3-letter code of the Center, plus the sector number (e.g., “ZTL30” for Sector 30 in Atlanta Center) (Figure 3.44). To enter more than one Sector, separate codes with a comma, but no space (e.g., “ZTL30,ZJX72”). See Section 3.1.5.1 for more information about adding constraints.

Select “Inclusion” to include flights matching these criteria in the TMI restriction or “Exclusion” to exclude flights from the TMI restriction. Then select “Apply” to return to the TMI-restriction window or select a different tab to add another constraint.

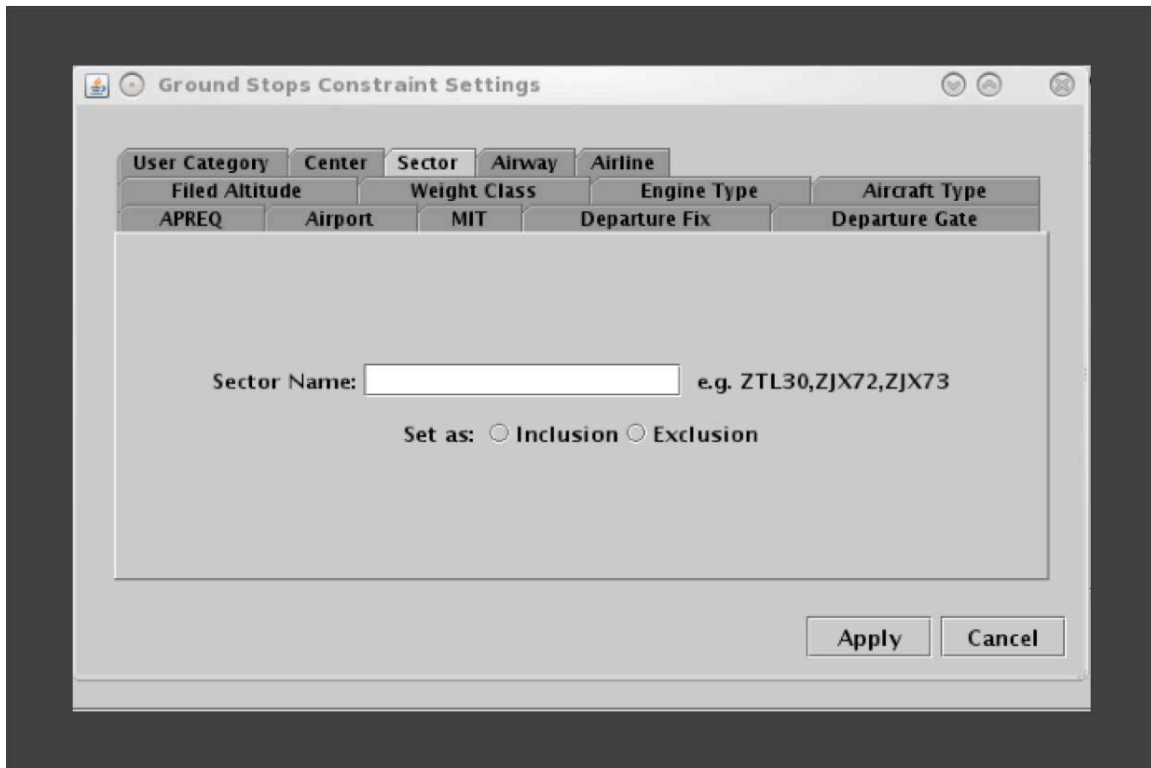


Figure 3.44. Constraint: Sector.

See Section 3.1.5.3 for a description of how to *modify* constraints and Section 3.1.5.4 for a description of how to *remove* constraints.

3.1.5.5.6 Constraint: Airway

The following TMI restrictions can be constrained by Airway.

- APREQ Schedule
- MIT Restriction
- Departure Fix Closure
- Ground Stop

To apply an Airway constraint, enter the alphanumerical code of the airway (e.g., “J75”) (Figure 3.45). To enter more than one airway, separate codes with a comma, but no space (e.g., “J75,J48”). See Section 3.1.5.1 for more information about adding constraints.

Select “Inclusion” to include flights matching these criteria in the TMI restriction or “Exclusion” to exclude flights from the TMI restriction. Then select “Apply” to return to the TMI-restriction window or select a different tab to add another constraint.

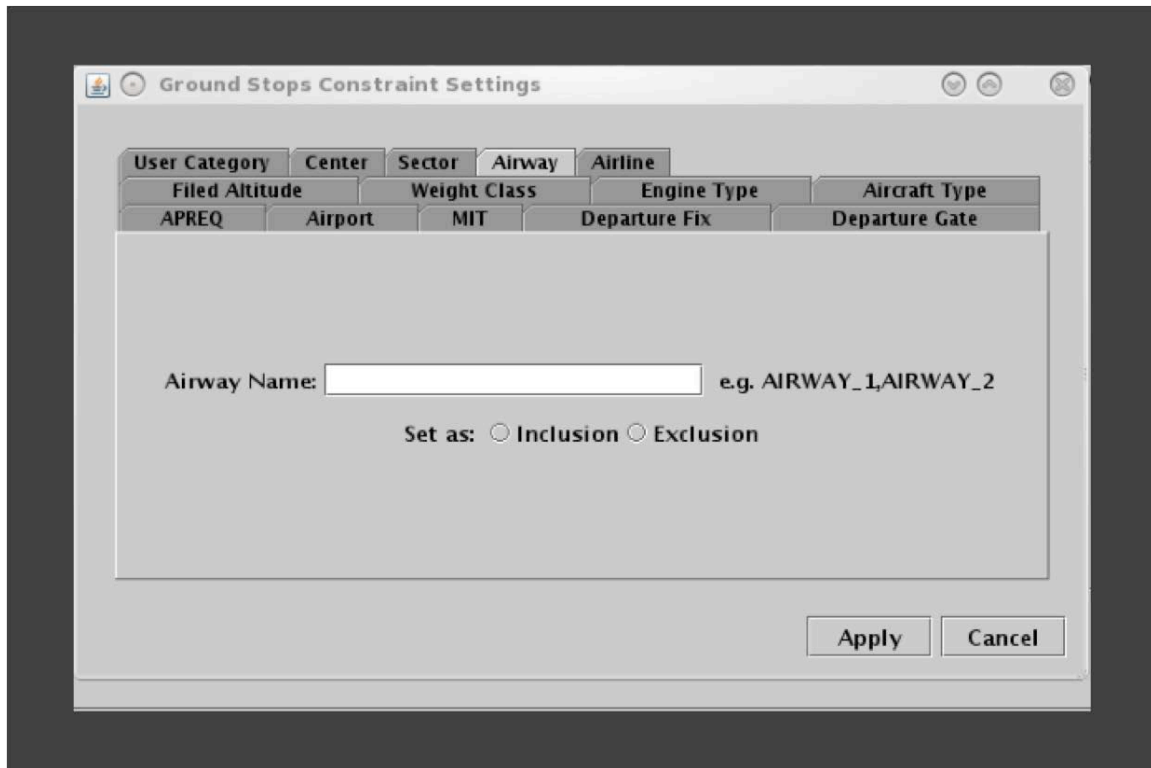


Figure 3.45. Constraint: Airway.

See Section 3.1.5.3 for a description of how to *modify* constraints and Section 3.1.5.4 for a description of how to *remove* constraints.

3.1.5.5.7 Constraint: Airline

The following TMI restrictions can be constrained by Airline.

- APREQ Schedule
- MIT Restriction
- Departure Fix Closure
- Ground Stop

To apply an airline constraint, enter the 3-letter airline code (e.g., “AAL”) (Figure 3.46). To enter more than one airline, separate codes with a comma, but no space (e.g., “AAL,UAL”). See Section 3.1.5.1 for more information about adding constraints.

Select “Inclusion” to include flights matching these criteria in the TMI restriction or “Exclusion” to exclude flights from the TMI restriction. Then select “Apply” to return to the TMI-restriction window or select a different tab to add another constraint.

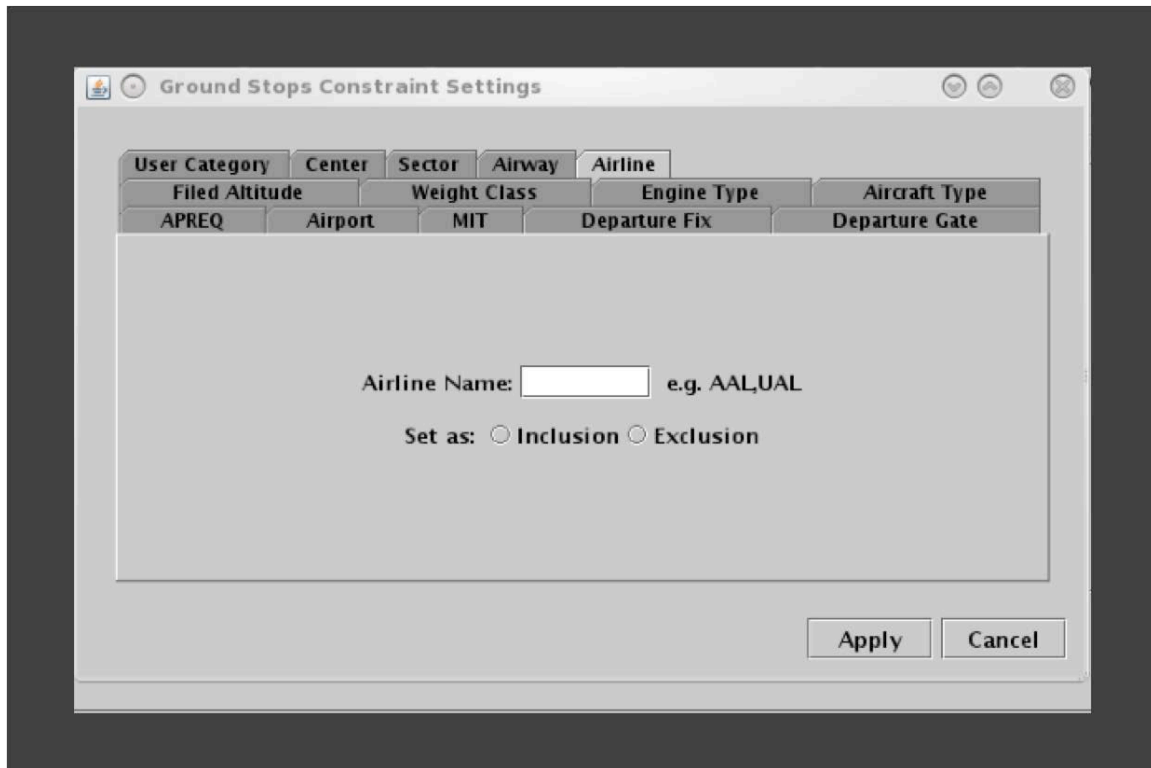


Figure 3.46. Constraint: Airline.

See Section 3.1.5.3 for a description of how to *modify* constraints and Section 3.1.5.4 for a description of how to *remove* constraints.

3.1.5.5.8 Constraint: Airport

The following TMI restrictions can be constrained by departure Airport.

- APREQ Schedule
- MIT Restriction
- Departure Fix Closure
- Ground Stop

To apply a departure airport constraint, select from the list of airports (Figure 3.47). More than one airport can be selected at a time. To select all airports in the list, click on the “Select All” button. See Section 3.1.5.1 for more information about adding constraints.

Select “Inclusion” to include flights matching these criteria in the TMI restriction or “Exclusion” to exclude flights from the TMI restriction. Then select “Apply” to return to the TMI-restriction window or select a different tab to add another constraint.

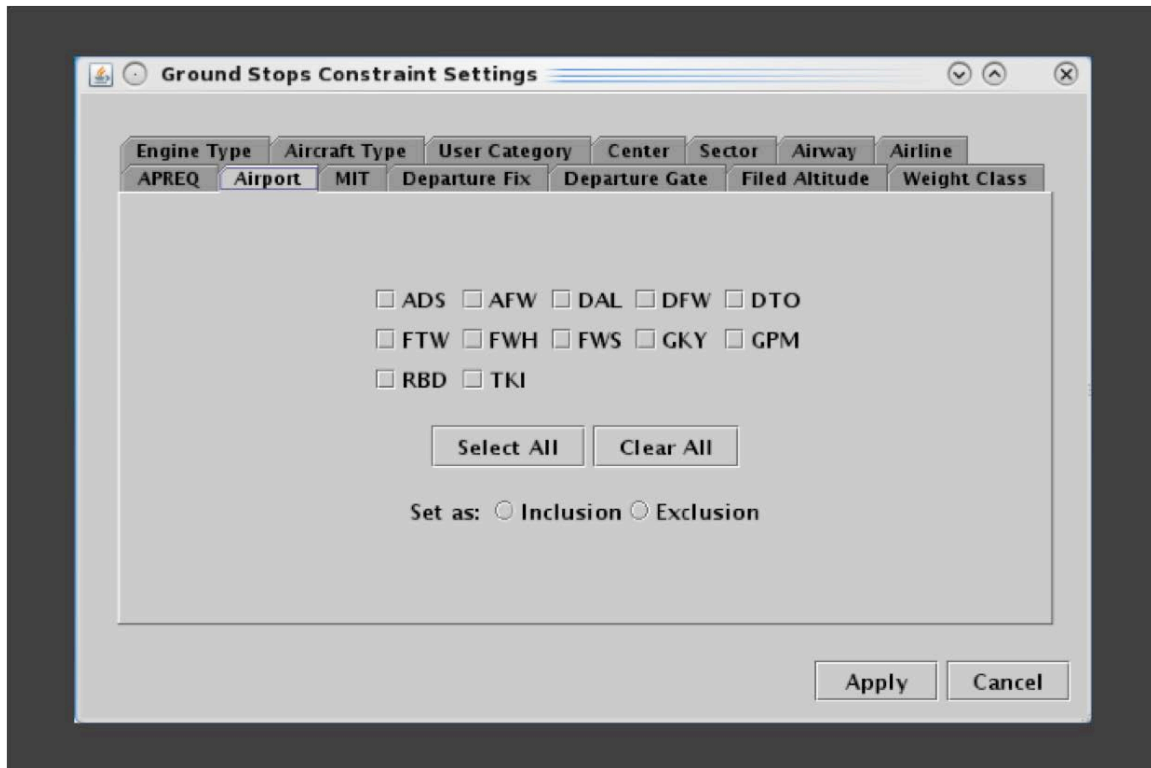


Figure 3.47. Constraint: Departure Airport.

See Section 3.1.5.3 for a description of how to *modify* constraints and Section 3.1.5.4 for a description of how to *remove* constraints.

3.1.5.5.9 Constraint: Filed Altitude

The following TMI restrictions can be constrained by Filed Altitude.

- APREQ Schedule
- MIT Restriction
- Departure Fix Closure
- Ground Stop

To apply a filed altitude constraint, select “At or Above” or “At or Below” to specify the range for the altitude constraint (Figure 3.48). Next, enter a 3-digit flight level altitude in the text box. The 3-digit format for altitudes is the abbreviated form of a 5-digit altitude (e.g., “230” is an abbreviation of “23,000 ft.”). See Section 3.1.5.1 for more information about adding constraints.

Select “Inclusion” to include flights matching these criteria in the TMI restriction or “Exclusion” to exclude flights from the TMI restriction. Then select “Apply” to return to the TMI-restriction window or select a different tab to add another constraint.

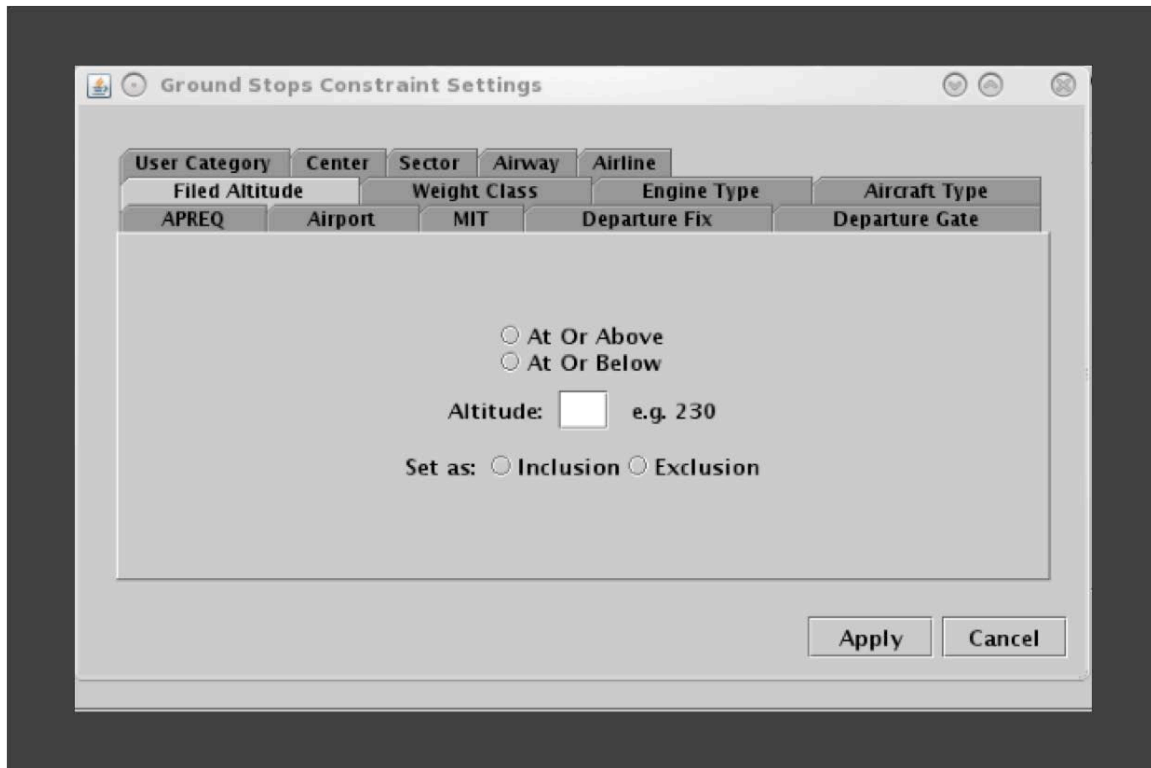


Figure 3.48. Constraint: Filed Altitude.

See Section 3.1.5.3 for a description of how to *modify* constraints and Section 3.1.5.4 for a description of how to *remove* constraints.

3.1.5.5.10 Constraint: Weight Class

The following TMI restrictions can be constrained by aircraft Weight Class.

- APREQ Schedule
- MIT Restriction
- Departure Fix Closure
- Ground Stop

To apply a weight class constraint, select from the following aircraft weight classes: A, B, C, D, E, or F (Figure 3.49). More than one class can be selected at a time. See Section 3.1.5.1 for more information about adding constraints.

Select “Inclusion” to include flights matching these criteria in the TMI restriction or “Exclusion” to exclude flights from the TMI restriction. Then select “Apply” to return to the TMI-restriction window or select a different tab to add another constraint.

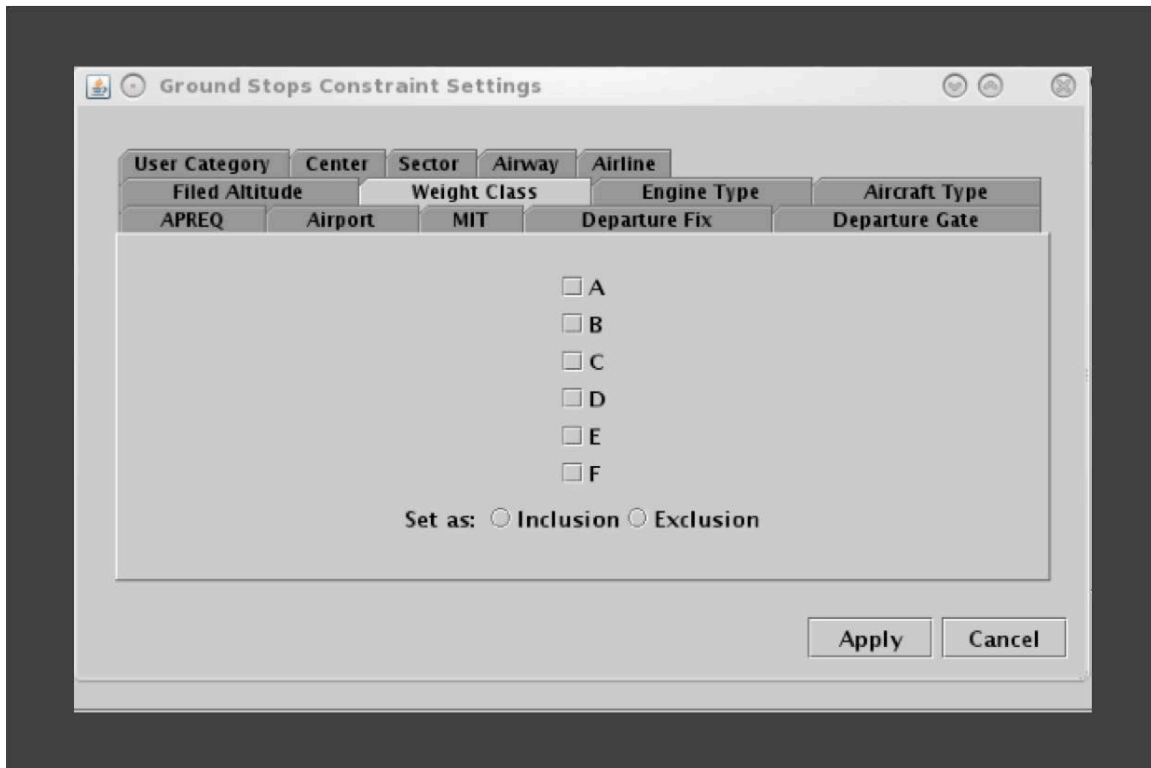


Figure 3.49. Constraint: Weight Class.

See Section 3.1.5.3 for a description of how to *modify* constraints and Section 3.1.5.4 for a description of how to *remove* constraints.

3.1.5.5.11 Constraint: Miles-in-Trail (MIT)

The following TMI restrictions can be constrained by MIT restrictions.

- APREQ Schedule
- Departure Fix Closure
- Ground Stop

To apply an MIT constraint, select “MIT” (Figure 3.50). See Section 3.1.5.1 for more information about adding constraints.

Select “Inclusion” to include flights matching these criteria in the TMI restriction or “Exclusion” to exclude flights from the TMI restriction. Then select “Apply” to return to the TMI-restriction window or select a different tab to add another constraint.

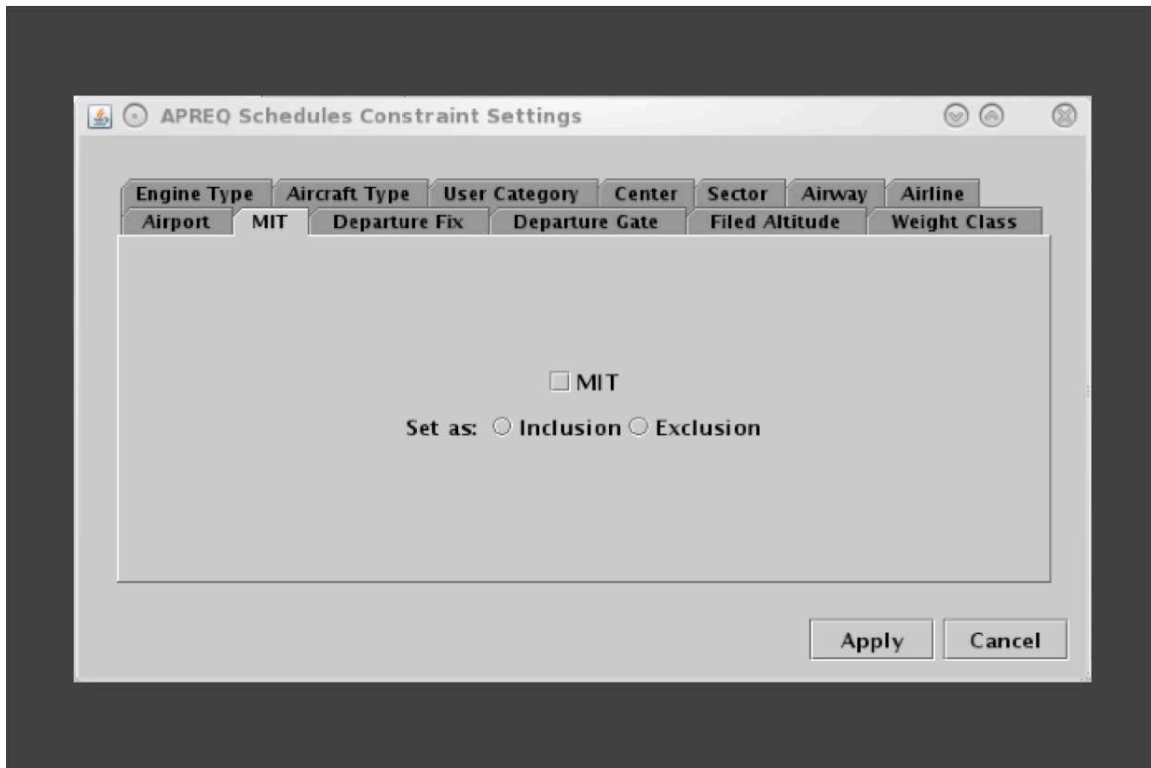


Figure 3.50. Constraint: Miles-in-Trail (MIT).

See Section 3.1.5.3 for a description of how to *modify* constraints and Section 3.1.5.4 for a description of how to *remove* constraints.

3.1.5.5.12 Constraint: Departure Fix

The following TMI restrictions can be constrained by Departure Fix.

- APREQ Schedule
- Ground Stop

To apply a Departure Fix constraint, enter the fix name (Figure 3.51). To enter more than one fix, separate names with a comma, but no space (e.g., JOJJO,ICONS). Alternatively, select from the list of departure fixes. More than one fix can be selected at a time. To select all fixes in the list, click on the “Select All” button. See Section 3.1.5.1 for more information about adding constraints.

Select “Inclusion” to include flights matching these criteria in the TMI restriction or “Exclusion” to exclude flights from the TMI restriction. Then select “Apply” to return to the TMI-restriction window or select a different tab to add another constraint.

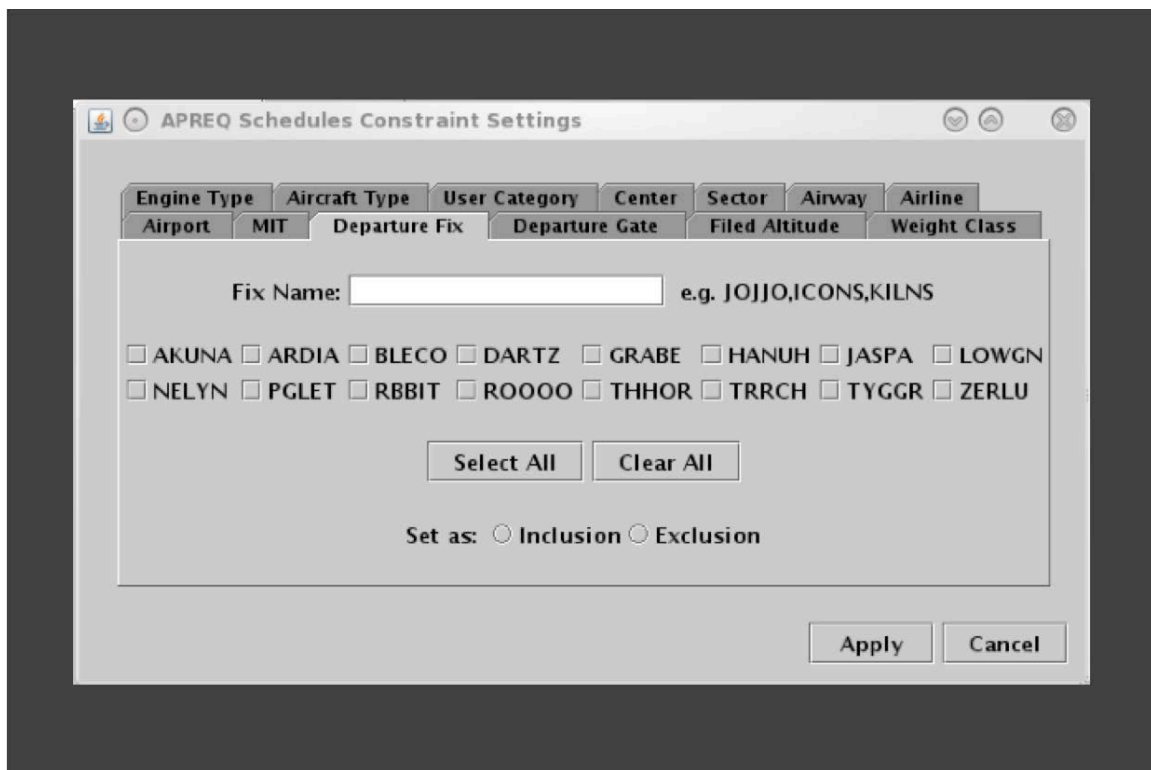


Figure 3.51. Constraint: Departure Fix.

See Section 3.1.5.3 for a description of how to *modify* constraints and Section 3.1.5.4 for a description of how to *remove* constraints.

3.1.5.5.13 Constraint: Departure Gate

The following TMI restrictions can be constrained by Departure Gate.

- APREQ Schedule
- Ground Stop

To apply a Departure Gate constraint, select from the list of Departure Gates: East, North, South, or West (Figure 3.52). More than one gate can be selected at a time. To select all gates in the list, click on the “Select All” button. See Section 3.1.5.1 for more information about adding constraints.

Select “Inclusion” to include flights matching these criteria in the TMI restriction or “Exclusion” to exclude flights from the TMI restriction. Then select “Apply” to return to the TMI-restriction window or select a different tab to add another constraint.

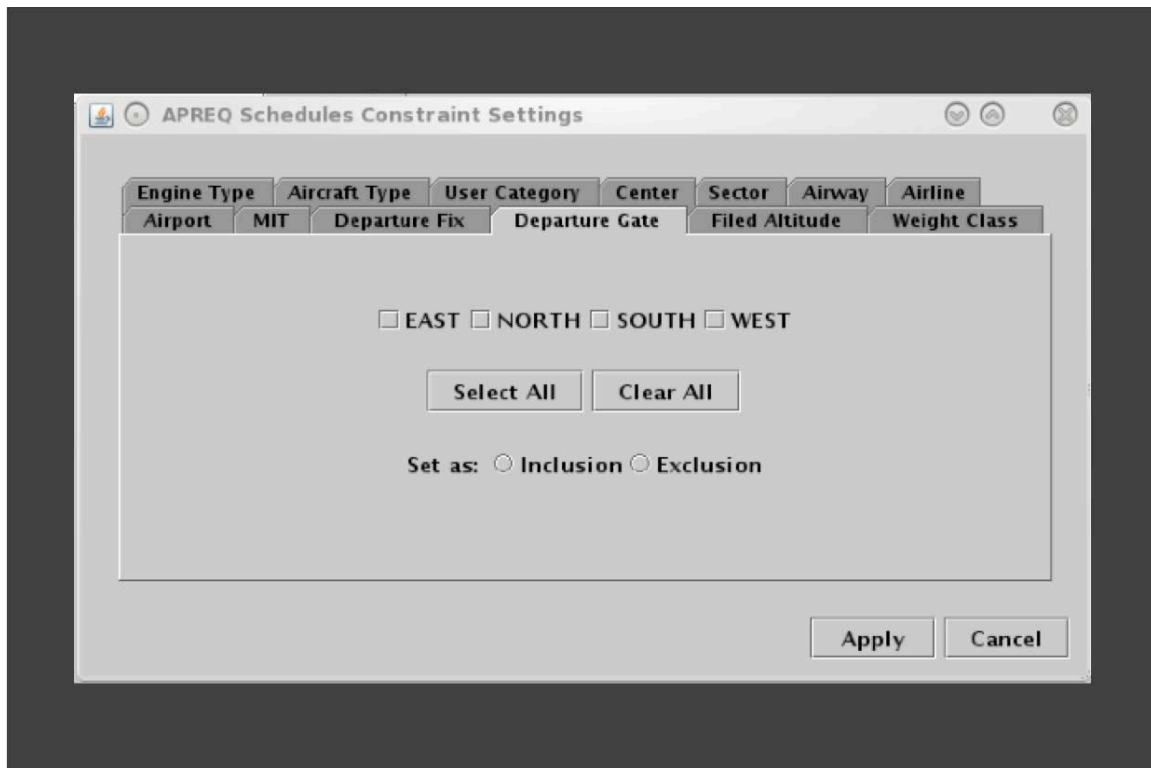


Figure 3.52. Constraint: Departure Gate.

See Section 3.1.5.3 for a description of how to *modify* constraints and Section 3.1.5.4 for a description of how to *remove* constraints.

3.1.5.5.14 Constraint: APREQ

The following TMI restrictions can be constrained by APREQ.

- MIT Restriction
- Departure Fix Closure
- Ground Stop

To apply an APREQ constraint, select “APREQ” (Figure 3.53). See Section 3.1.5.1 for more information about adding constraints.

Select “Inclusion” to include flights matching these criteria in the TMI restriction or “Exclusion” to exclude flights from the TMI restriction. Then select “Apply” to return to the TMI-restriction window or select a different tab to add another constraint.

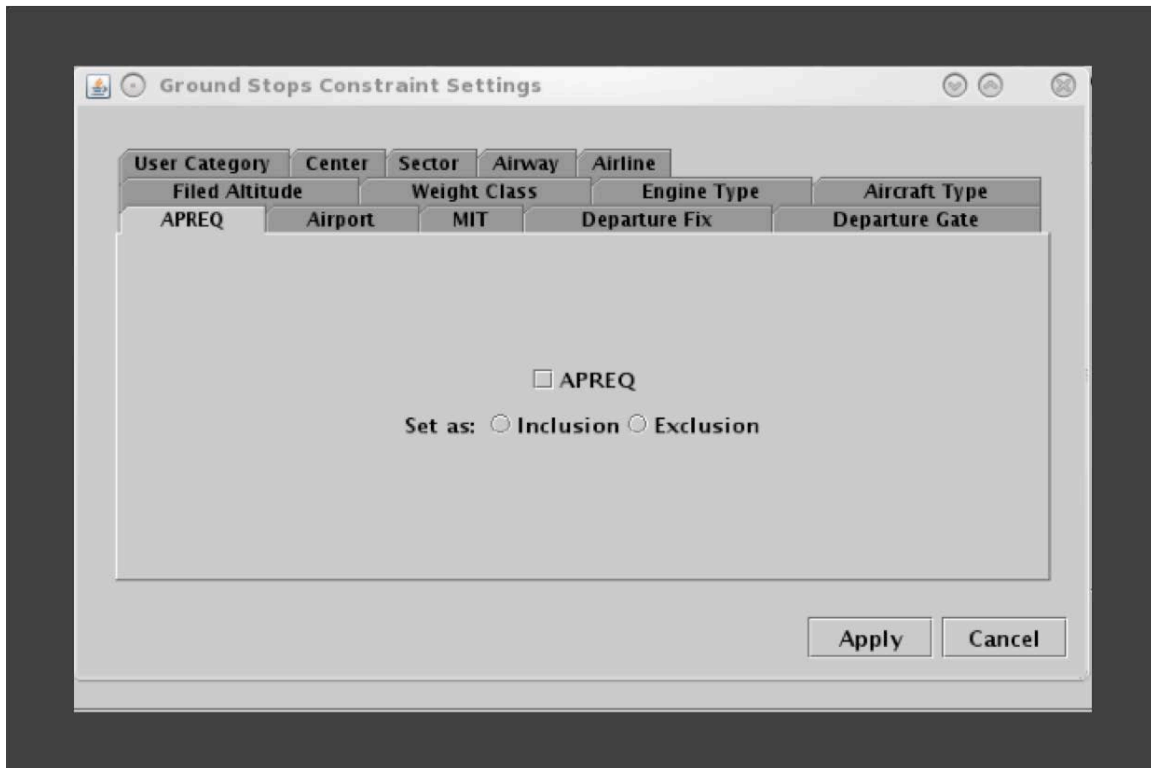


Figure 3.53. Constraint: APREQ.

See Section 3.1.5.3 for a description of how to *modify* constraints and Section 3.1.5.4 for a description of how to *remove* constraints.

3.1.5.5.15 Constraint: Destination

The following TMI restrictions can be constrained by the Destination airport.

- MIT Restriction
- Departure Fix Closure

To apply a destination airport constraint, enter the 3-letter destination code (Figure 3.54). To enter more than one airport, separate airport codes with a comma, but no space (e.g., “DFW,LGA,BOS” in Figure 3.54). Alternatively, select from the list of destination airports. More than one airport can be selected at a time. To select all airports in the list, click on the “Select All” button. See Section 3.1.5.1 for more information about adding constraints.

Select “Inclusion” to include flights matching these criteria in the TMI restriction or “Exclusion” to exclude flights from the TMI restriction. Then select “Apply” to return to the TMI-restriction window or select a different tab to add another constraint.

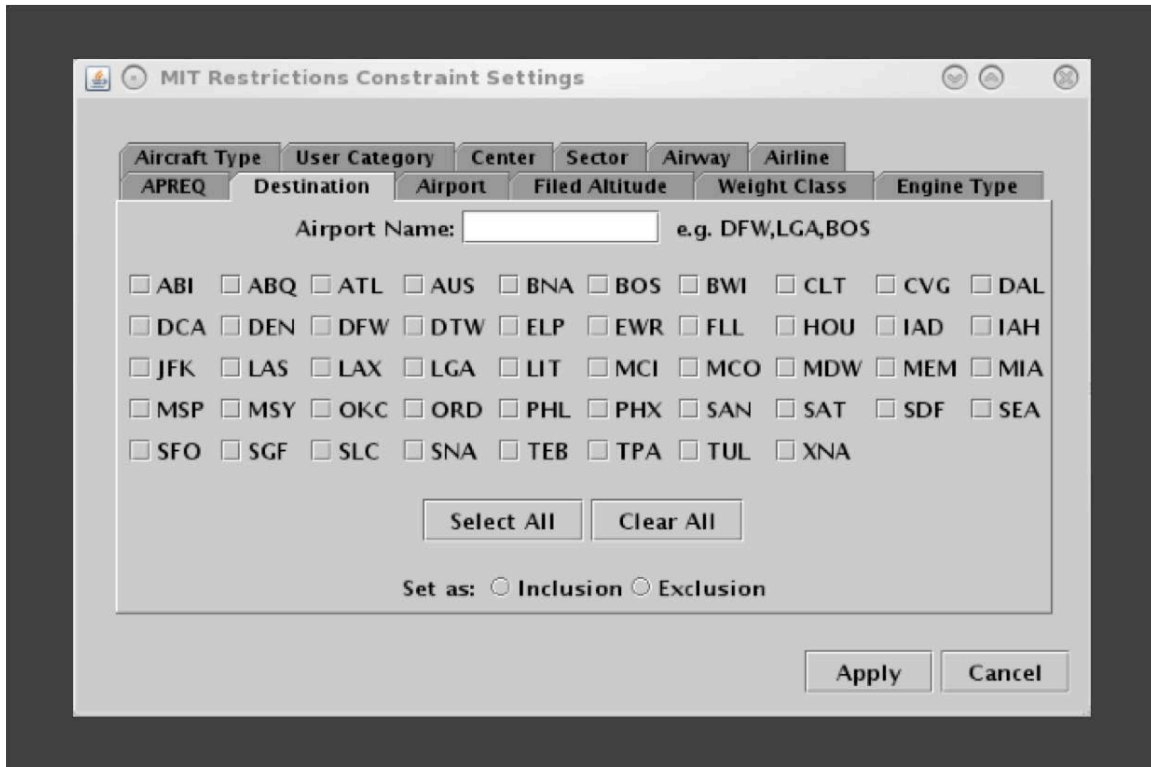


Figure 3.54. Constraint: Destination.

See Section 3.1.5.3 for a description of how to *modify* constraints and Section 3.1.5.4 for a description of how to *remove* constraints.

3.1.6 TM Actions: Runway Utilization Tab

Note: Available only in ATC versions of the Metroplex Planner.

Use the TM Actions panel to select an airport configuration and runway utilization.

To change the current Runway Utilization or schedule a future change:

Step 1: Select “Change Runway Utilization” from the TM Actions dropdown menu (Figure 3.2) to open the Runway Utilization tab (Figure 3.55).

Step 2 (If Applicable): Select an airport from the “Airport” dropdown menu.
**Airport selection is not required in all ATC versions of the Metroplex Planner.*

Step 3: Select an airport configuration from the “Configuration” dropdown menu (e.g., “D_35L_35C_36R_36L_31L ...” in Figure 3.56). **Options vary by airport.*

Step 4: Select a runway scenario from the “Runway Utilization” dropdown menu (e.g., “N_Normal” in Figure 3.56). **Options vary by airport.*

Step 5: Select a meteorological condition: VMC or IMC (e.g., “VMC” in Figure 3.56).

Step 6: If the restriction begins in the future, uncheck “Start Now” and enter a time in the “Start Time” text box in “hhmm” format (e.g., “1530” in Figure 3.56).

Alternatively: To make an immediate change, check the “Start Now” box.

Step 7: Select the “Add” button (Figure 3.56).

Note: *Airport configurations/scenarios are displayed in the Runway Utilization table with the Start time (Figure 3.57).*

Note: *If “Start Now” has been selected, the Runway Utilization scenario changes immediately.*

Alternatively: Select the “Clear All” button to clear and cancel all entries.

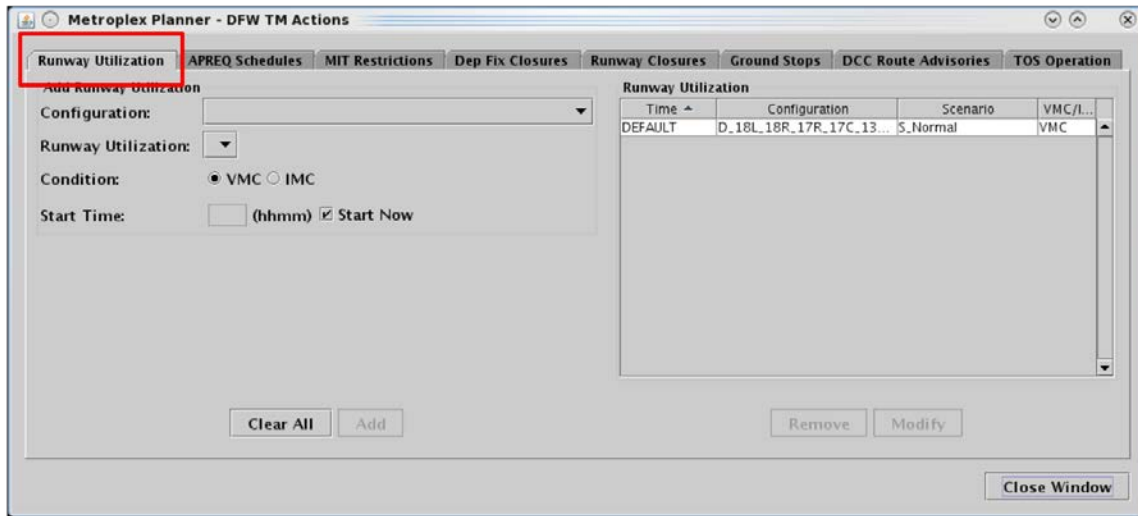


Figure 3.55. TM Actions panel: Runway Utilization tab.

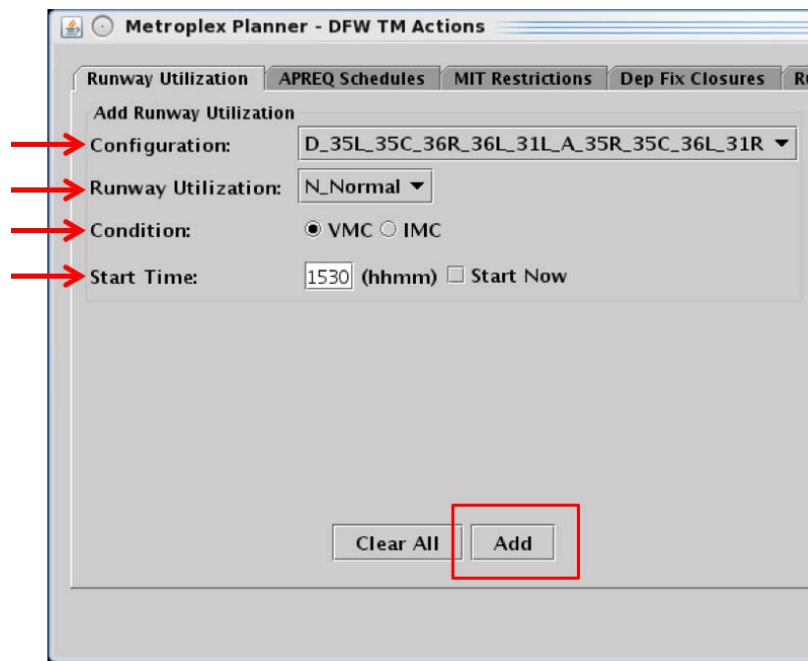


Figure 3.56. Runway Utilization tab: Enter criteria.

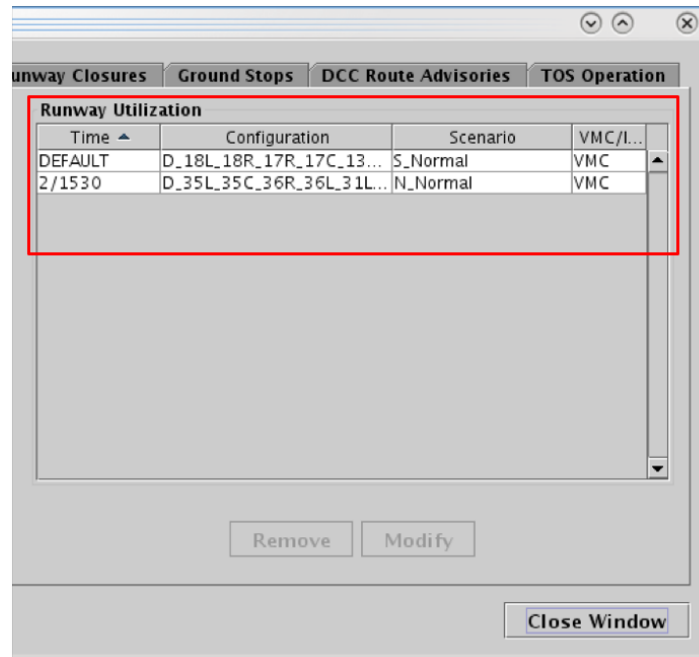


Figure 3.57. Runway Utilization table: Current and planned Runway Utilization scenarios.

When the configuration is changed, “CC” (i.e., Configuration Change) is displayed, in red, at the scheduled start time on the Timeline (see Section 6.6). Airport Configuration and Runway Utilization scenario changes are indicated in the Notification Banner (see Section 3.8 for a description of Notifications).

To modify a Runway Utilization that is scheduled to start in the future:

Note: *The Runway Utilization currently in effect cannot be modified. However, a scenario scheduled to take effect in the future can be modified using the following steps.*

Step 1: Select the scheduled Runway Utilization from the Runway Utilization table (Figure 3.58).

Step 2: Select “Modify” (Figure 3.58) to change:

- Runway Utilization
- Meteorological Condition (VMC/IMC)
- Start Time

Note: *The Airport Configuration cannot be changed.*

Step 3: When changes are complete, select the “Update” button (Figure 3.59).

Alternatively: Select “Clear All” to cancel the update and retain the original settings.

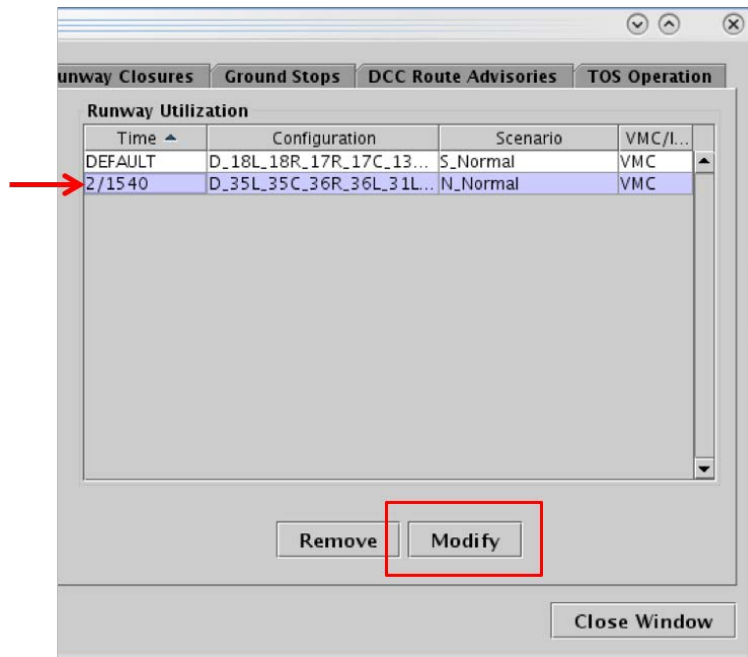


Figure 3.58. Modify a scheduled Runway Utilization.

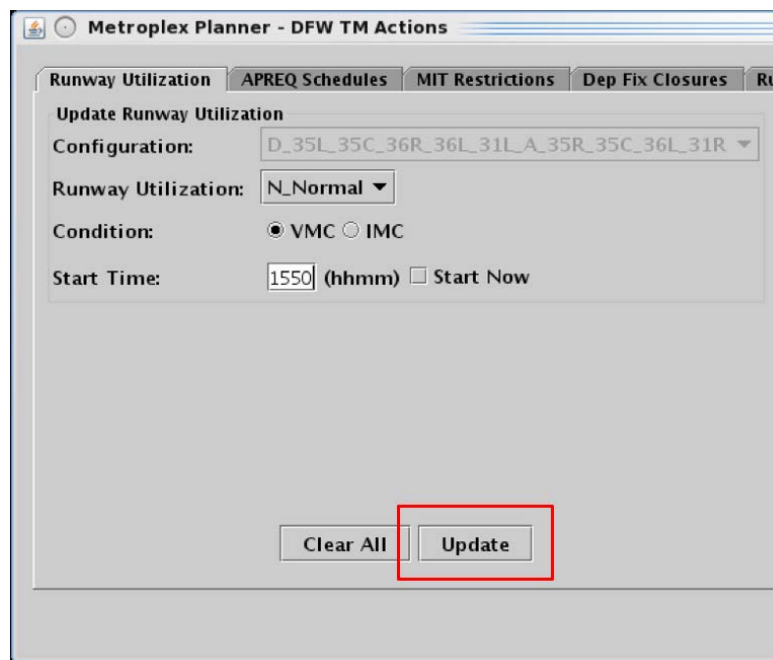


Figure 3.59. Select "Update" to apply changes.

To remove a Runway Utilization that is scheduled to start in the future:

Note: The current Runway Utilization cannot be removed using the “Remove” button. However, a Runway Utilization scheduled to take effect in the future can be removed using the following steps.

Step 1: Select the Runway Utilization from the Runway Utilization table (Figure 3.60).

Step 2: Select “Remove” (Figure 3.60).

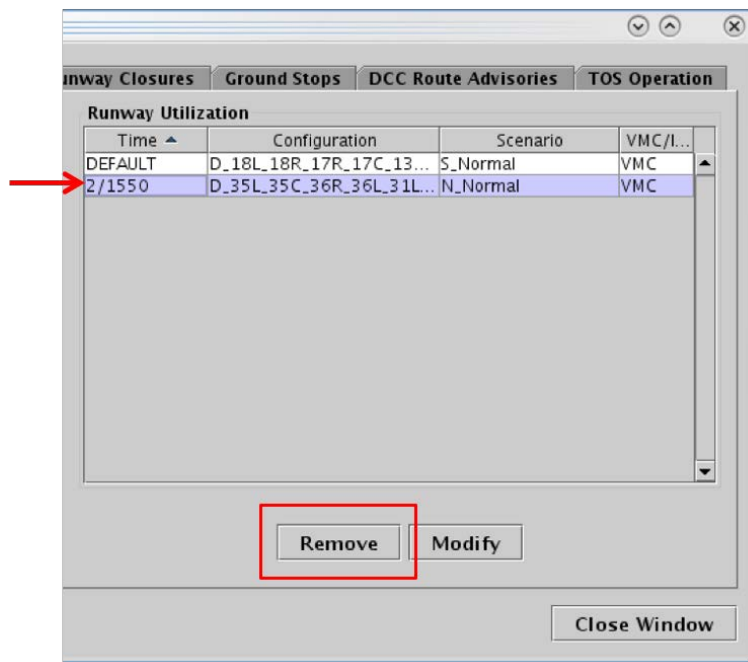


Figure 3.60. Remove a scheduled Runway Utilization scenario.

Runway utilization cancellations are indicated in the “Details” column in the Notifications Panel.

3.1.7 TM Actions: Runway Closures Tab

Note: Available only in ATC versions of the Metroplex Planner.

Use the TM Actions panel to enter a Runway Closure at an airport.

To add a Runway Closure:

Step 1: Select “Runway Closure” from the TM Actions dropdown menu (Figure 3.2) to open the Runway Closures tab (Figure 3.61).

Step 2 (if Applicable): Select an airport from the “Airport” dropdown menu.
**Airport selection is not required in all ATC versions of the Metroplex Planner.*

Step 3: Select a Runway from the dropdown menu (e.g., “18L/36R” in Figure 3.62).

Step 4: If the restriction begins in the future, uncheck “Start Now” and enter a time in the “Start Time” text box in “hhmm” format (e.g., “2000” in Figure 3.62).

Step 5: If the “End Time” is within the next 24 hours, uncheck “No End Time” and enter a time in the “End Time” text box in “hhmm” format.

Alternatively: If the runway closure is expected to last more than 24 hours, check “No End Time” (Figure 3.62). The long-term runway closure will remain in place until removed by the user.

Step 6: Select the “Add” button (Figure 3.62).

Note: Runway Closures are displayed in the Runway Closures table with Start/End times and Source (e.g., “User” or “TFM”) (Figure 3.63).

Alternatively: Select the “Clear All” button to clear and cancel all entries.

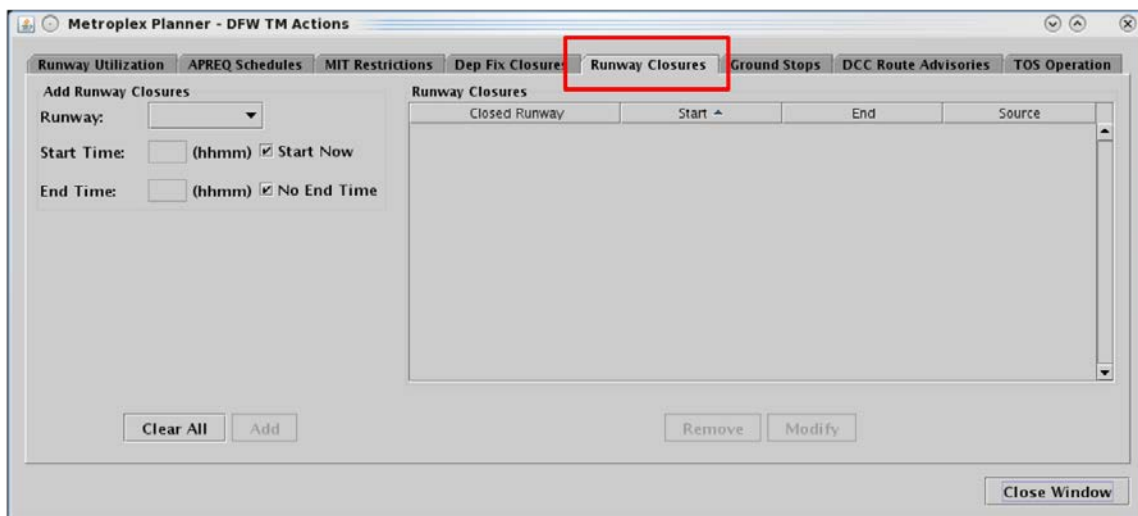


Figure 3.61. TM Actions panel: Runway Closures tab.

Metroplex Planner - DFW TM Actions

Runway Utilization | APREQ Schedules | MIT Restrict

Add Runway Closures

Runway: 18L/36R

Start Time: 2000 (hhmm) ☐ Start Now

End Time: (hhmm) ☒ No End Time

Clear All Add

Figure 3.62. Runway Closures tab: Enter criteria.

Runway Closures

Closed Runway	Start	End	Source
18L	2/2000	No End Time	USER
36R	2/2000	No End Time	USER

Remove Modify

Close Window

Figure 3.63. Runway Closures table.

Runway closures are indicated in Notification Banner (e.g., “18L CLOSED”, “36R CLOSED”). A new notification will be displayed for each runway closure.

To modify a Runway Closure:

Step 1: Select the Runway Closure from the Runway Closures table (e.g., “18L/36R” in Figure 3.64).

Step 2: Select “Modify” (Figure 3.64) to change:

- Start Time*
- End Time

Note: **If the Start Time has already passed, and the Runway Closure is already in effect, the “Start Time” cannot be modified.*

Step 3: When changes are complete, select “Update” (Figure 3.65).

Note: *Changes apply to both directions of a single runway.*

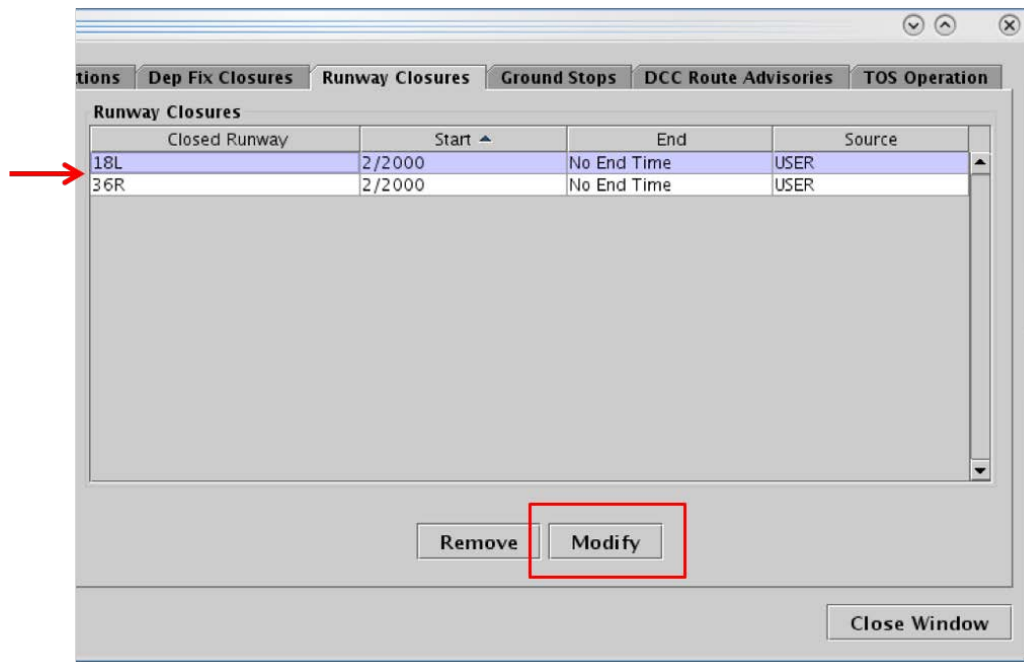


Figure 3.64. Modify a Runway Closure.

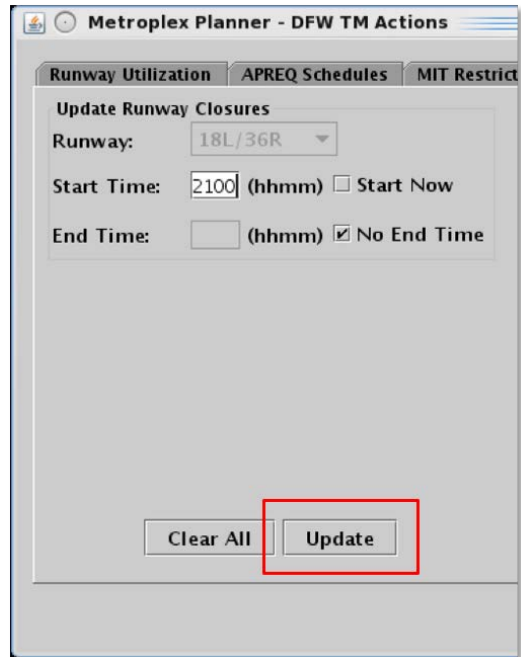


Figure 3.65. Select “Update” to apply changes.

To remove a Runway Closure:

Step 1: Select the Runway Closure from the Runway Closures table (e.g., “18L/36R” in Figure 3.66).

Step 2: Select “Remove” (Figure 3.66).

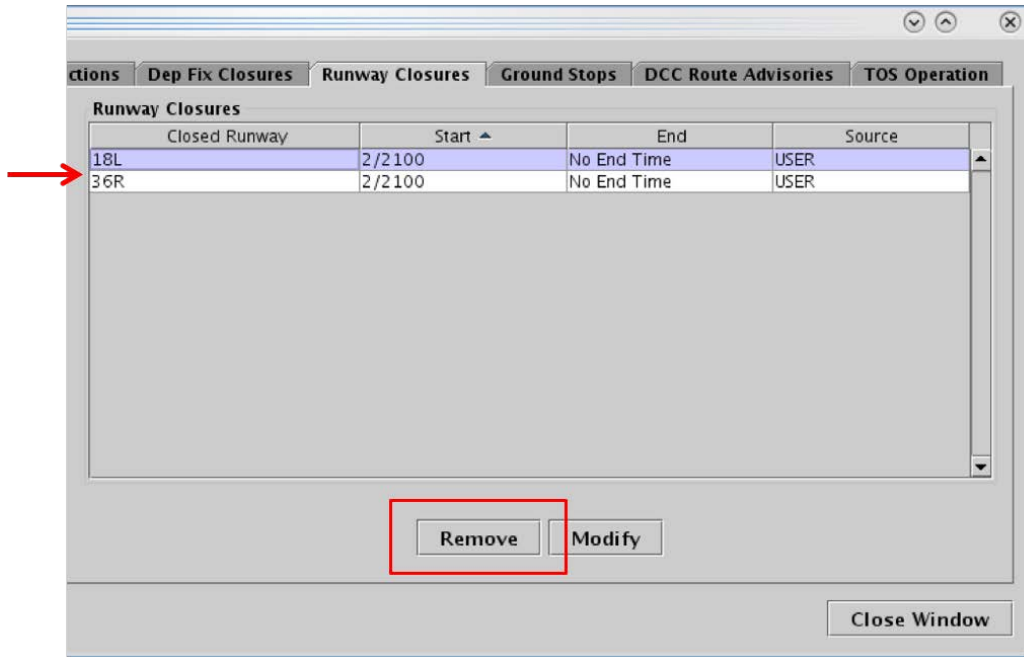


Figure 3.66. Remove a Runway Closure.

Runway Closure expirations/cancellations are indicated in the Notification Banner (e.g., “18L OPENED”, “36R OPENED”).

3.1.8 TM Actions: DCC Route Advisories Tab

Use the DCC Route Advisories tab to view Route Advisories issued by the FAA Air Traffic Control System Command Center (ATCSCC; or “DCC”) (Figure 3.67).

DCC Route Advisories with an origin center matching ZFW, ZHU, ZME, ZAB, or ZKC are displayed on this tab.

Adv Num	Advisory Name	Reroute Action	Constrained Area	Start dd/hh:mm	End dd/hh:mm	Origin	Dest	Route	Protected Segment	Matching CDR
090	NO_J42_2_PARTIAL	EAST/COAST		13/1730	13/2200	ZME	KLGA	MEM Q29 CREEP Q29 WWSHR TEES...	> MEM Q29 CREEP Q29 WWSHR TEES...	
090	NO_J42_2_PARTIAL	EAST/COAST		13/1730	13/2200	ZME	KEWR	MEM Q29 CREEP Q29 DORET JS84 SL...	> MEM Q29 CREEP Q29 DORET JS84...	
090	NO_J42_2_PARTIAL	EAST/COAST		13/1730	13/2200	ZHU	KJFK	SUTTN J29 MEM Q29 CREEP Q29 JHW...	> SUTTN J29 MEM Q29 CREEP Q29 JH...	
090	NO_J42_2_PARTIAL	EAST/COAST		13/1730	13/2200	ZFW	KBOS	LOOSE MEM Q29 CREEP Q29 JHW Q8...	> LOOSE MEM Q29 CREEP Q29 JHW Q...	
090	NO_J42_2_PARTIAL	EAST/COAST		13/1730	13/2200	ZFW	KLGA	LOOSE MEM Q29 CREEP Q29 WWSHR...	> LOOSE MEM Q29 CREEP Q29 WWSHR...	
090	NO_J42_2_PARTIAL	EAST/COAST		13/1730	13/2200	ZHU	KEWR	SUTTN J29 MEM Q29 CREEP Q29 DO...	> SUTTN J29 MEM Q29 CREEP Q29 D...	
090	NO_J42_2_PARTIAL	EAST/COAST		13/1730	13/2200	ZME	KJFK	MEM Q29 CREEP Q29 JHW J70 LV2 L...	> MEM Q29 CREEP Q29 JHW J70 LV2<	
090	NO_J42_2_PARTIAL	EAST/COAST		13/1730	13/2200	ZHU	KBOS	SUTTN J29 MEM Q29 CREEP Q29 JHW...	> SUTTN J29 MEM Q29 CREEP Q29 JH...	
090	NO_J42_2_PARTIAL	EAST/COAST		13/1730	13/2200	ZHU	KLGA	SUTTN J29 MEM Q29 CREEP Q29 WWS...	> SUTTN J29 MEM Q29 CREEP Q29 W...	
090	NO_J42_2_PARTIAL	EAST/COAST		13/1730	13/2200	ZFW	KJFK	LOOSE MEM Q29 CREEP Q29 JHW J70...	> LOOSE MEM Q29 CREEP Q29 JHW J...	
090	NO_J42_2_PARTIAL	EAST/COAST		13/1730	13/2200	ZFW	KEWR	LOOSE MEM Q29 CREEP Q29 DORET...	> LOOSE MEM Q29 CREEP Q29 DORE...	
090	NO_J42_2_PARTIAL	EAST/COAST		13/1730	13/2200	ZME	KBOS	MEM Q29 CREEP Q29 JHW Q82 PONI...	> MEM Q29 CREEP Q29 JHW Q82 PONI...	
091	BNA_PARTIAL	EAST/COAST		13/1710	13/2200	ZFW	KIAD	LOOSE MEM J42 BNA HVQ GBB23	> LOOSE MEM J42 BNA HVQ<	
091	BNA_PARTIAL	EAST/COAST		13/1710	13/2200	ZHU	KDCA	SUTTN J29 MEM BNA J42 BKW TRUP54	> SUTTN J29 MEM BNA J42 BKW<	
091	BNA_PARTIAL	EAST/COAST		13/1710	13/2200	ZME	KEWI	BNA J42 BKW RAVN6	> BNA J42 BKW<	
091	BNA_PARTIAL	EAST/COAST		13/1710	13/2200	ZME	KDCA	BNA J42 BKW TRUP54	> BNA J42 BKW<	
091	BNA_PARTIAL	EAST/COAST		13/1710	13/2200	ZFW	KEWI	LOOSE MEM J42 BNA J42 BKW RAVN...	> LOOSE MEM J42 BNA J42 BKW<	
091	BNA_PARTIAL	EAST/COAST		13/1710	13/2200	ZME	KIAD	BNA HVQ GBB23	> BNA HVQ<	
091	BNA_PARTIAL	EAST/COAST		13/1710	13/2200	ZHU	KEWI	SUTTN J29 MEM BNA J42 BKW RAVN...	> SUTTN J29 MEM BNA J42 BKW<	

Figure 3.67. DCC Route Advisory tab.

3.1.8.1 DCC Route Advisory: Toolbar

Two icons are available on the DCC Route Advisory toolbar (Figure 3.68):

- Show/Hide Columns (Section 3.1.8.1.1)
- Table Color Settings (Section 3.1.8.1.2)

Two filter options are also available on the Toolbar (Section 3.1.8.1.3):

- Origin Includes ZFW
- Matching ZFW CDR

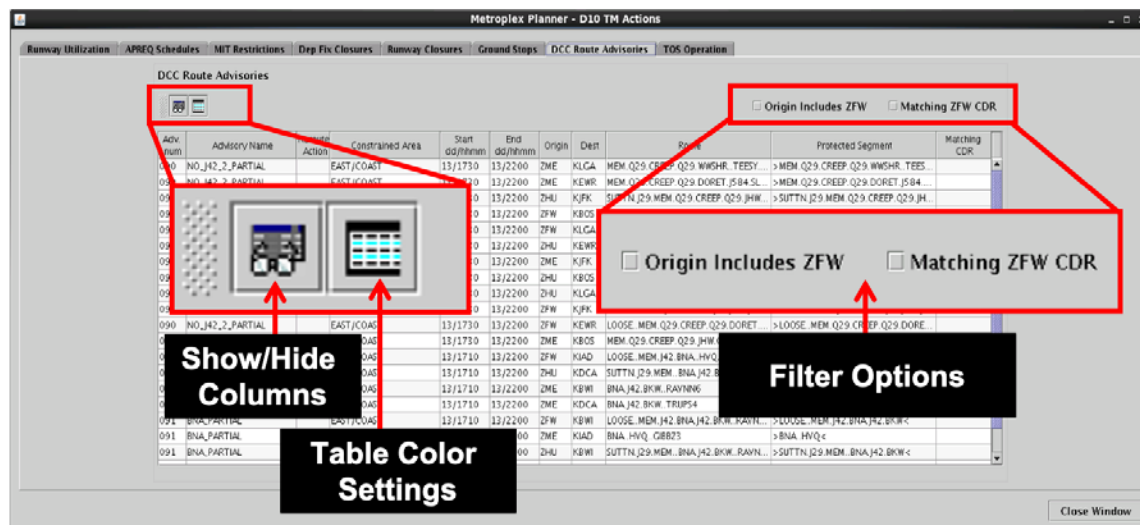


Figure 3.68. DCC Route Advisory: Toolbar.

3.1.8.1.1 Show/Hide Columns

Use “Show/Hide Columns” (Figure 3.68) to select which columns of information will be included, and the order in which they will be shown, in the DCC Route Advisory table.

The information columns that can be included in the DCC Route Advisory table are listed in Table 3.3.

Table 3.3. DCC Route Advisories : Show/Hide Columns

Column Header	Description
Adv. Num	Advisory number (issued by DCC).
Advisory Name	Advisory name (issued by DCC).
Reroute Action	Required (RQD)
Constrained Area	Centers/area.
Start dd/hhmm	Advisory start date and time.
End dd/hhmm	Advisory end date and time.
Origin	Origin center (e.g., ZFW)
Dest	Destination airport.
Route	Route defined by the Advisory.
Protected Segment	Protected segment defined by the Advisory.
Matching CDR	Protected segment matches a CDR used in ATD-2 TOS operations.

Follow the same steps described for the CDR List to modify/remove columns (see Section 3.1.9.3.4.2).

3.1.8.1.2 Table Color Settings

Use “Table Color Settings” (Figure 3.68) to set an alternate row color and field color alerts for variables in the DCC Route Advisory table.

3.1.8.1.2.1 Set Row Colors

Use the “Set Row Colors” tab in the DCC Route Advisories Color Settings window to set an alternate row color in the DCC Route Advisory table. Follow the same steps described for the CDR List (see Section 3.1.9.3.4.3.1).

3.1.8.1.2.2 Set Field Color Alerts

Use the “Set Field Color Alerts” tab in the DCC Route Advisories Color Settings window to set cell colors for selected fields.

Fields to which color alerts can be applied are listed in Table 3.4.

Table 3.4. DCC Route Advisories: Set Field Color Alerts

Field	Description	Options
Origin	Origin Center (e.g., ZFW)	<i>3-digit Center Code</i>
Dest	Destination Airport (e.g., PHL)	<i>3-digit Airport code</i>

Follow the same steps described for the CDR List (see Section 3.1.9.3.4.3.2).

3.1.8.1.3 Table Filter Options

Use filters (Figure 3.68) to select which DCC Route Advisories are displayed in the table.

- Select “**Origin Includes ZFW**” to display only Route Advisories that include ZFW as an origin Center.
- Select “**Matching ZFW CDR**” to display only those Route Advisories that have a protected segment that matches a CDR used in ATD-2 TOS Operations.

3.1.9 TM Actions: TOS Operation Tab

Note: TOS Submissions and CDR Restrictions can only be edited in ATC versions of the Metroplex Planner.

The Trajectory Option Set (TOS) Operation tab is used to activate/deactivate TOS submissions and manage CDR restrictions (Figure 3.69). The TOS Operation tab is available whether TOS Submissions are active or not.

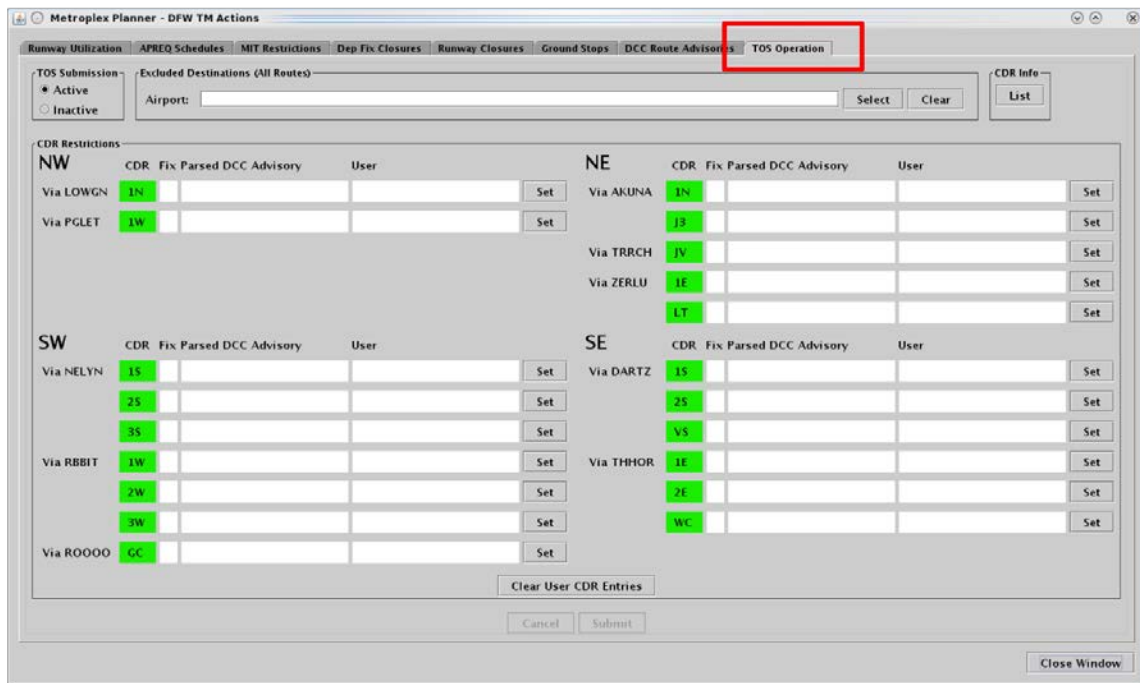


Figure 3.69. TOS Operation tab on the TM Actions Panel.

The TOS Operation tab includes four sections:

- TOS Submissions (Section 3.1.9.1)
- Excluded Destinations (Section 3.1.9.2)
- CDR Info (Section 3.1.9.3)
- CDR Restrictions (Section 3.1.9.4)

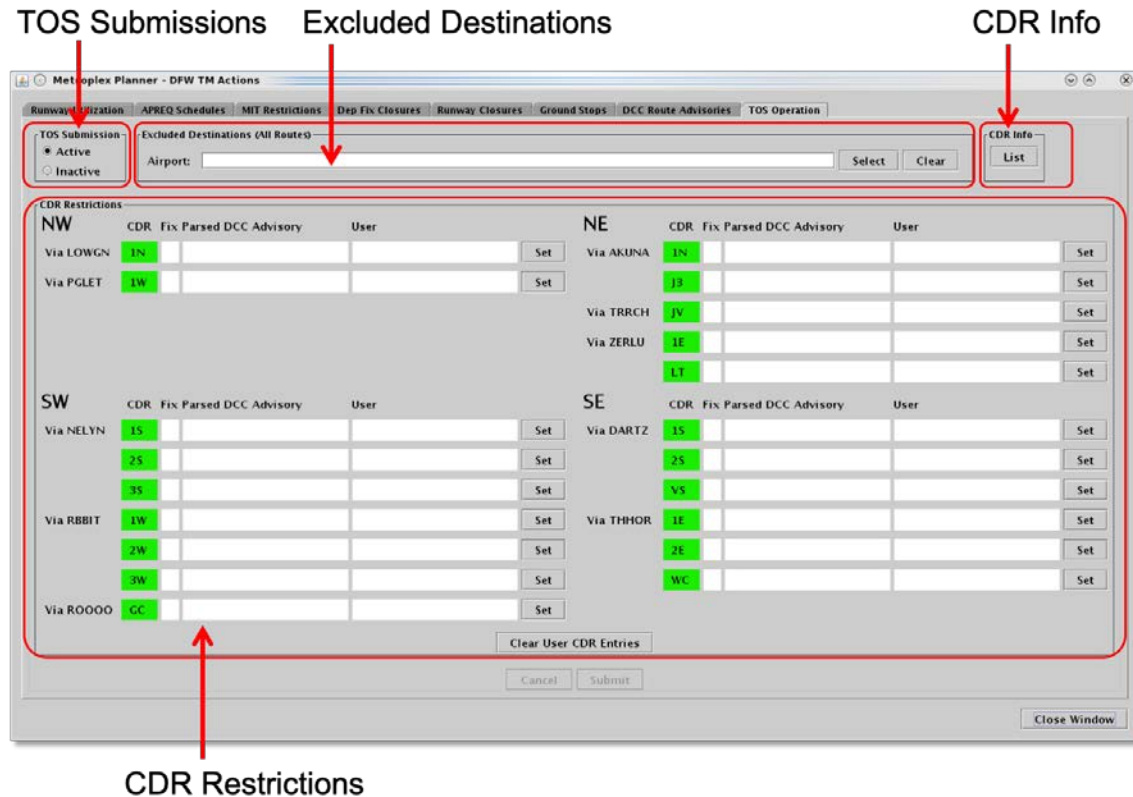


Figure 3.70. TOS Operation tab: Overview

3.1.9.1 TOS Submissions

Use the TOS Operation tab to activate/inactivate TOS submissions.

3.1.9.1.1 Activate TOS Submissions

When TOS submissions are active, Flight Operators can *submit* TOS routes, ATC can *approve* TOS routes, and a *TOS Flight Menu* is available for each flight in the TOS Departure Table.

To Activate TOS Submissions:

Note: TOS Submissions can only be activated/inactivated in ATC versions of the Metroplex Planner.

Step 1: Select “TOS Operation” from the TM Actions dropdown menu (Figure 3.2).

Step 2: In the “TOS Submission” section of the TOS Operation tab, select “Active” (Figure 3.71).

Step 3: Select “Submit” at the bottom of the tab to apply the change (Figure 3.71).

Note: *Changes on the TOS Operation tab are not applied until “Submit” is selected.*

Note: *When TOS Submissions are changed from inactive to active, “TOS ACTIVE hhmm” is indicated on the Notification Banner and the TOS icon turns from gray to yellow (Figure 3.72).*

Alternatively: Select “Cancel” at the bottom of the TOS Operation tab to clear any pending changes.

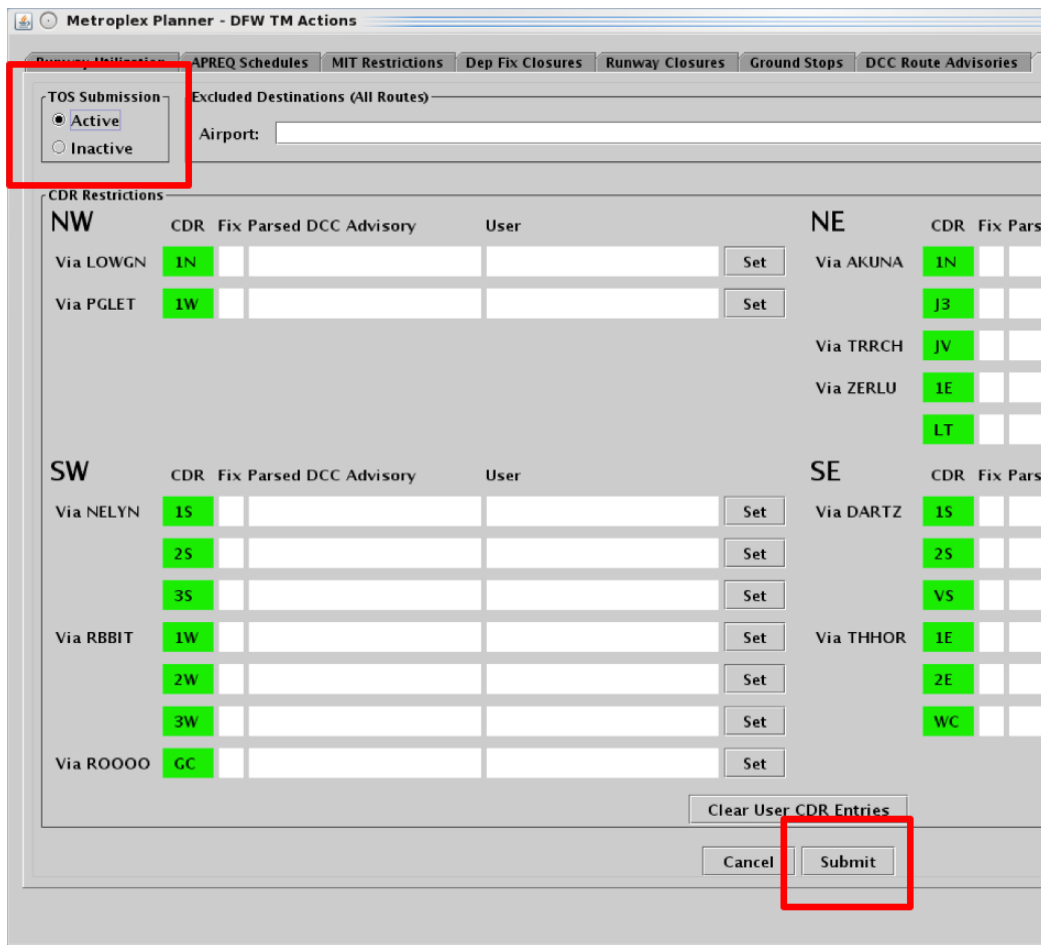


Figure 3.71. TOS Operation tab: Activate TOS Submissions.

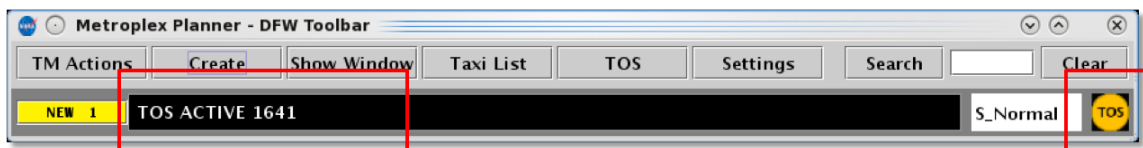


Figure 3.72. Notification: TOS Submissions are active (hmm).

3.1.9.1.2 Inactivate TOS Submissions

When TOS submissions are inactive, Flight Operators cannot *submit* TOS routes, ATC cannot *approve* TOS routes, and *TOS Flight Menus* are not available for flights in the TOS Departure Table.

To Inactivate TOS Submissions:

Note: TOS Submissions can only be activated/inactivated in ATC versions of the Metroplex Planner.

Step 1: Select “TOS Operation” from the TM Actions dropdown menu (Figure 3.2).

Step 2: In the “TOS Submission” section of the TOS Operation tab, select “Inactive” (Figure 3.73).

Step 3: Select the “Submit” button at the bottom of the tab to apply the change (Figure 3.73).

Note: Changes on the TOS Operation tab are not applied until “Submit” is selected.

Note: When TOS Submissions are change from active to inactive, “TOS INACTIVE hhmm” is indicated on the Notification Banner and the TOS icon turns from yellow to gray (Figure 3.74).

Alternatively: Select “Cancel” at the bottom of the TOS Operation tab to clear any pending changes.

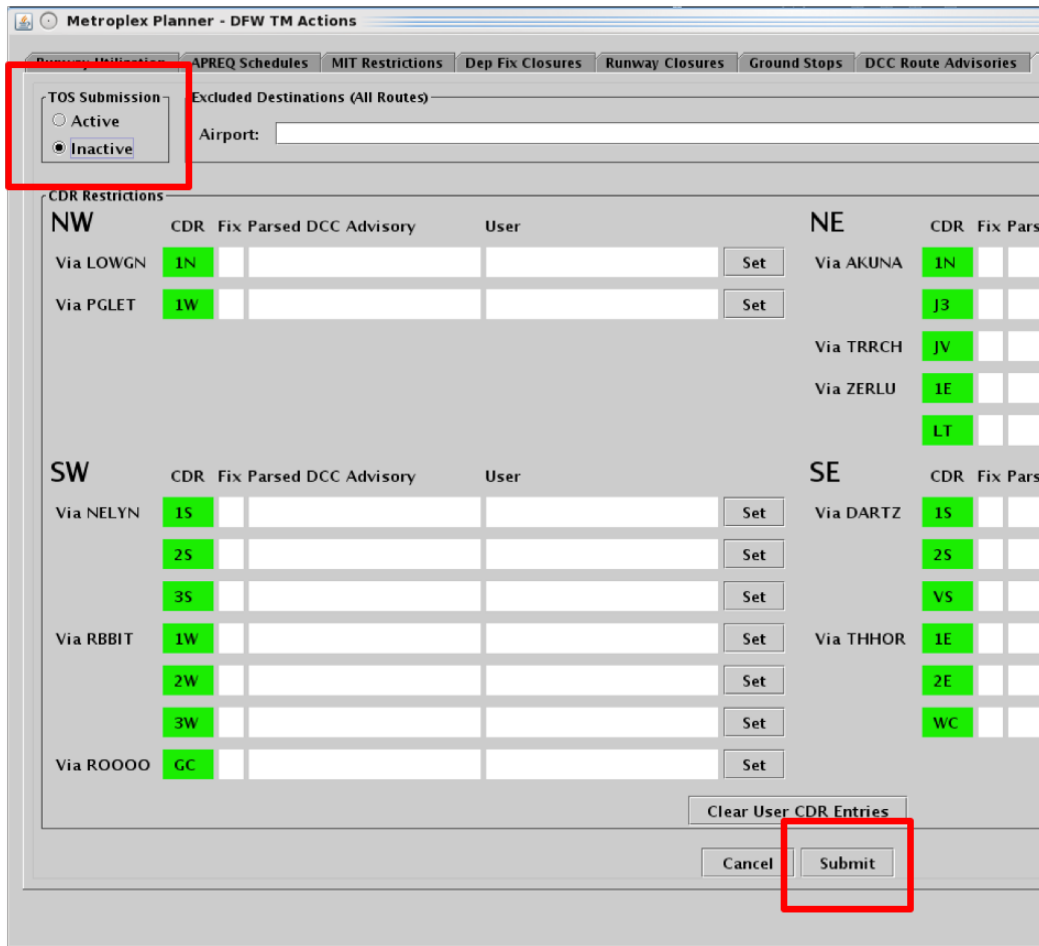


Figure 3.73. TOS Operation tab: Inactivate TOS Submissions.

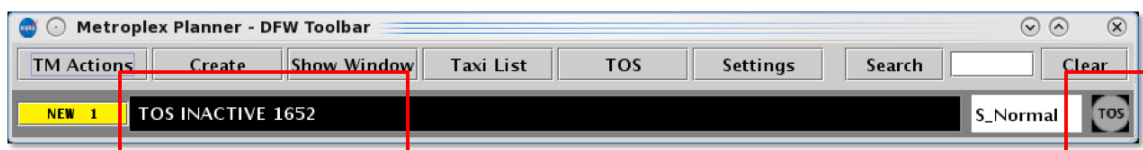


Figure 3.74. Notification: TOS Submissions are inactive (hmm).

3.1.9.2 Excluded Destinations (All Routes)

Use the “Excluded Destinations (All Routes)” field to inform the ATD-2 Metroplex Planner that a destination is ineligible for TOS rerouting (Figure 3.75).

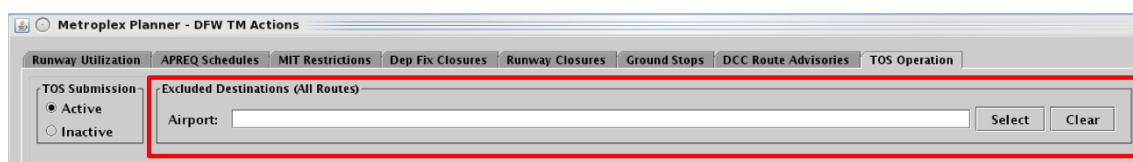


Figure 3.75. TOS Operation tab: Excluded Destinations.

For example, if LaGuardia-bound flights are ineligible for TOS rerouting because of an advisory – that the ATD-2 system is *not currently* parsing – enter “LGA” in the “Excluded Destinations” field. LGA-bound flights will not be considered for TOS rerouting.

When a destination is excluded, flights bound for that destination are displayed in the TOS Departure Table, but their Eligibility and Coordination States are “Excluded” and “ATC Excluded”, respectively. See Section 5.4 for more information about the TOS Departure Table.

To Exclude a Destination from TOS Operations:

Note: The “Excluded Destinations” field can only be modified in ATC versions of the Metroplex Planner.

Step 1: Select “TOS Operation” from the TM Actions dropdown menu.

Step 2: In the “Excluded Destinations (All Routes)” section, click on the “Select” button to open the “Select Airport” window (Figure 3.76).

Step 3: Select the destination(s) to be excluded from TOS rerouting (e.g., “LGA” in Figure 3.77).

Step 4: Click on the “Select” button to confirm the selection and close the “Select Airport” window (Figure 3.77).

Alternatively: Type the 3-letter airport code directly in the text box. Separate multiple airport codes with a comma.

Step 5: On the TOS Operation tab, select “Submit” to apply changes (Figure 3.78).

Note: Changes on the TOS Operation tab are not applied until “Submit” is selected.

Alternatively: Select “Cancel” at the bottom of the TOS Operation tab to clear any pending changes.

Step 6 (Optional): Select “Close Window” to close the TM Actions panel.

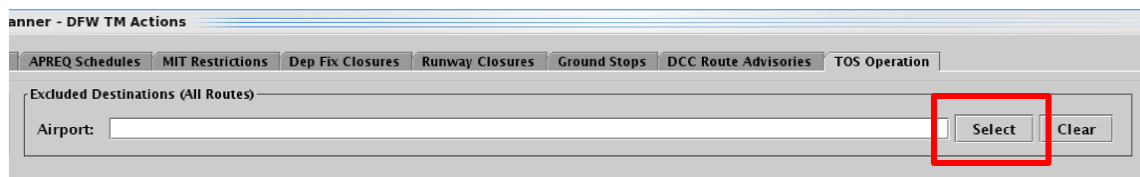


Figure 3.76. TOS Operation tab: Excluded Destinations. Use the “Select” button to open airport list.

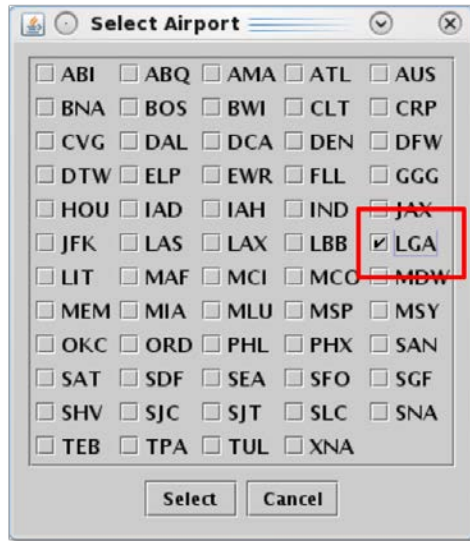


Figure 3.77. TOS Operations tab: Select excluded destinations (in this example, “LGA”).

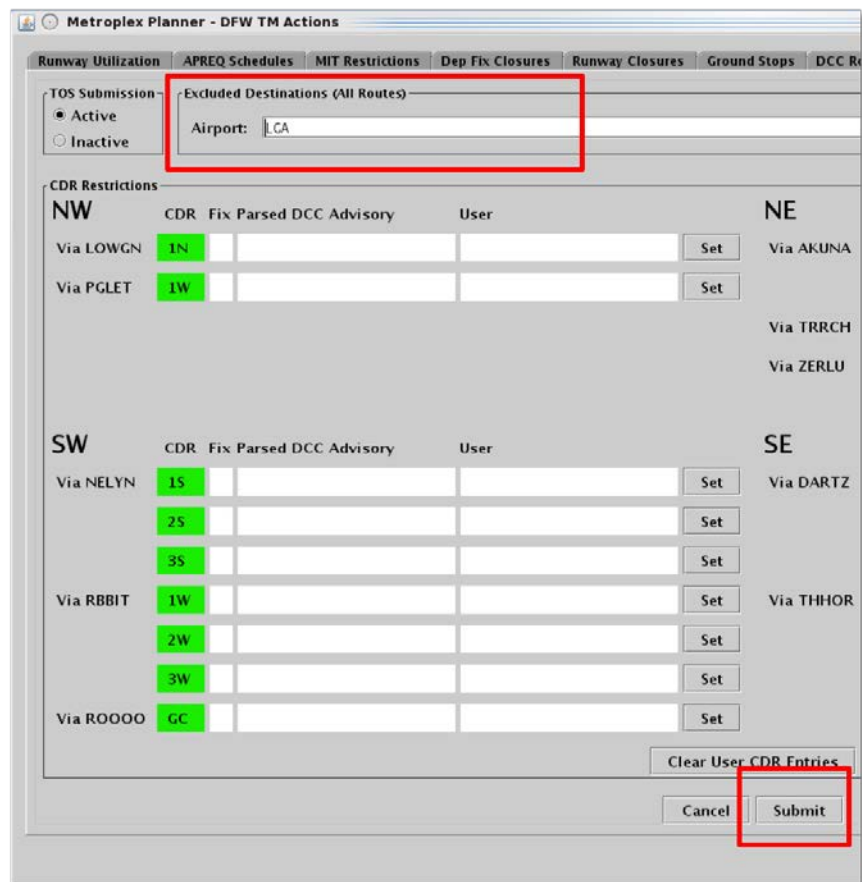


Figure 3.78. TOS Operation tab: After selecting or entering Excluded Destinations (in this example, “LGA”), use the “Submit” button to apply changes.

In the **TOS Departure Table**, flights to an “excluded” destination are shown with an “Excluded” Eligibility State and an “ATC Excluded” Coordination State because they are not available for TOS rerouting. In this example LGA-bound flights have been excluded from TOS rerouting (Figure 3.79).

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	Eligibility State	Coord State
AAL2223	E18L	ORD	KDFW.BLECO8.TUL...	NORTH	Candidate	Not Submitted
AAL1888	17R	LGA	KDFW.FORCK2.FOR...	EAST	Excluded	ATC Excluded
ENY3355	E18L	MCI	KDFW.BLECO8.TUL...	NORTH	Potential	Not Submitted
AAL1469	E17R	RSW	KDFW.MRSSH2.ZAL...	EAST	Potential	Not Submitted
AAL2014	E18L	PHX	KDFW.WSTEX2.CIK...	WEST	Potential	Not Submitted

Figure 3.79. TOS Departure Table: When a destination is excluded from TOS rerouting, it is shown with an “Excluded” Eligibility State and an “ATC Excluded” Coordination State (in this example, the LGA-bound flights have been excluded from TOS rerouting).

When the Excluded Destinations field is populated, a Notification is generated, “TOS DEST_EXCL []”. In this example, “LGA” is excluded (Figure 3.80).

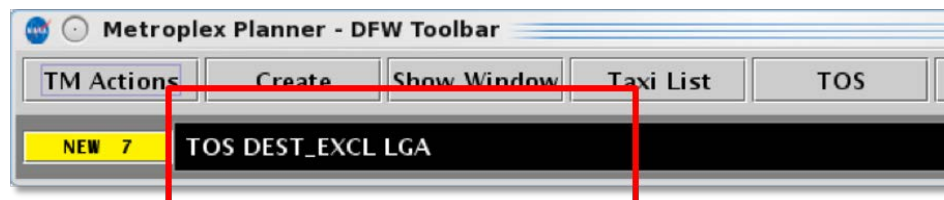


Figure 3.80. Notification: Destinations Excluded from TOS (in this example, “LGA”).

To Modify Excluded Destinations:

Note: The “Excluded Destinations” field can only be modified in ATC versions of the Metroplex Planner.

Step 1: Select “TOS Operation” from the TM Actions dropdown menu.

Step 2: In the “Excluded Destinations (All Routes)” section, click the “Select” button (Figure 3.81).

Step 3: Check additional destinations or uncheck previous selections (e.g., “LGA” and “JFK” are both selected in Figure 3.82). Click the “Select” button to confirm and close the selection window.

Alternatively: Type the 3-letter airport code directly in the text box or delete a previous entry. Separate multiple airport codes with a comma.

Step 4: On the TOS Operation tab, select “Submit” to apply changes (Figure 3.83).

Note: Changes on the TOS Operation tab are not applied until “Submit” is selected.

Alternatively: Select “Cancel” at the bottom of the TOS Operation tab to clear any pending changes.

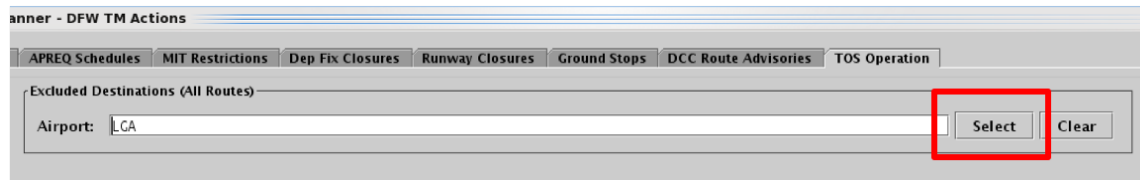


Figure 3.81. TOS Operation tab: Excluded Destinations. Use the “Select” button to open airport list.

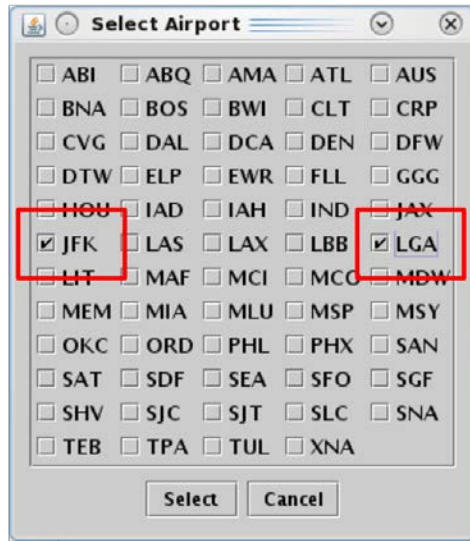


Figure 3.82. TOS Operations tab: Select excluded destinations (in this example, “LGA” and “JFK”).

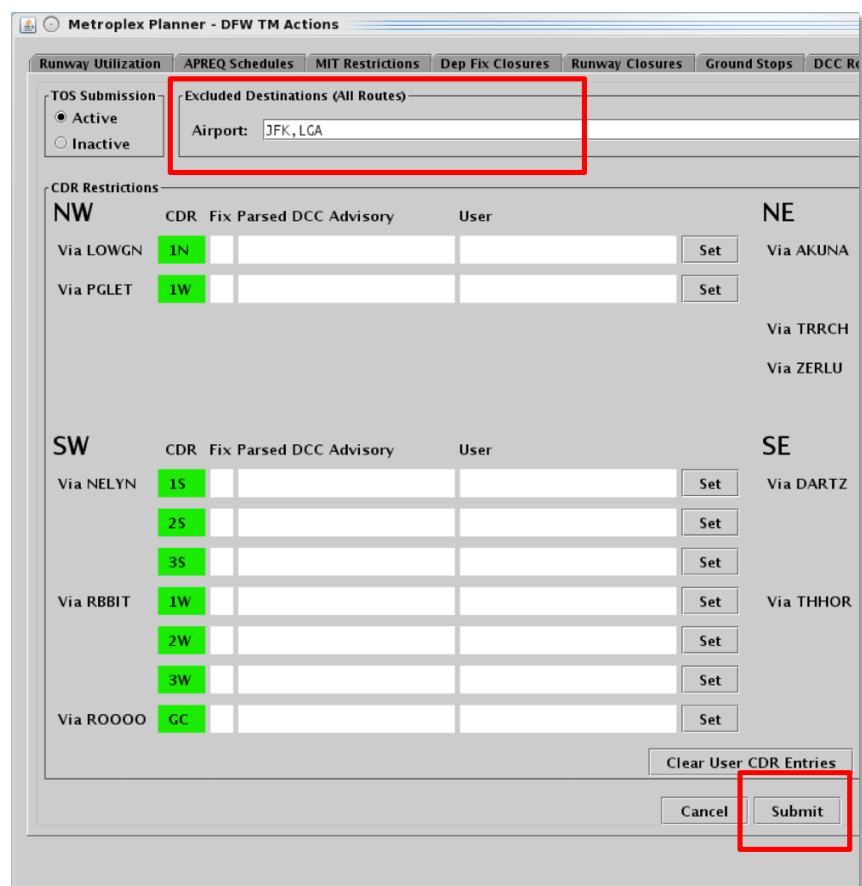


Figure 3.83. TOS Operation tab: After modifying Excluded Destinations (in this example, “JFK” and “LGA”), use the “Submit” button to apply changes.

When the Excluded Destinations field is modified, a Notification is generated, “TOS DEST_EXCL []”. In this example, “JFK” and “LGA” are excluded (Figure 3.84).



Figure 3.84. Notification: Updated Destinations Excluded from TOS (in this example, “JFK” and “LGA”).

To Clear “Excluded Destinations”:

Note: The “Excluded Destinations” field can only be modified in ATC versions of the Metroplex Planner.

Step 1: Select “TOS Operation” from the TM Actions dropdown menu.

Step 2: In the “Excluded Destinations (All Routes)” section, select the “Clear” button to clear all destinations from the text box (Figure 3.85).

Alternatively: Use the keyboard to clear the field by deleting each destination.

Step 3: On the TOS Operation tab, select “Submit” to apply changes (Figure 3.86).

Note: Changes on the TOS Operation tab are not applied until “Submit” is selected.

Alternatively: Select “Cancel” at the bottom of the TOS Operation tab to clear any pending changes.

Step 4 (Optional): Select “Close Window” to close the TM Actions panel.

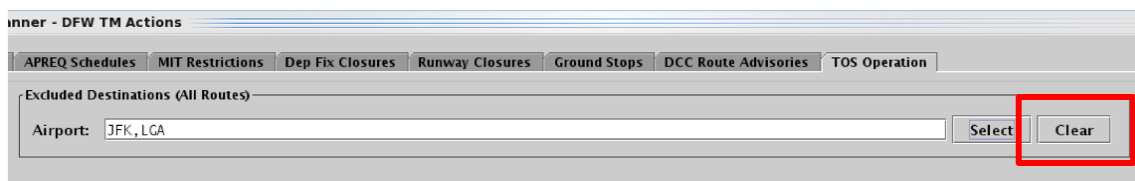


Figure 3.85. TOS Operation tab: Excluded Destinations. Use “Clear” to clear all destinations.

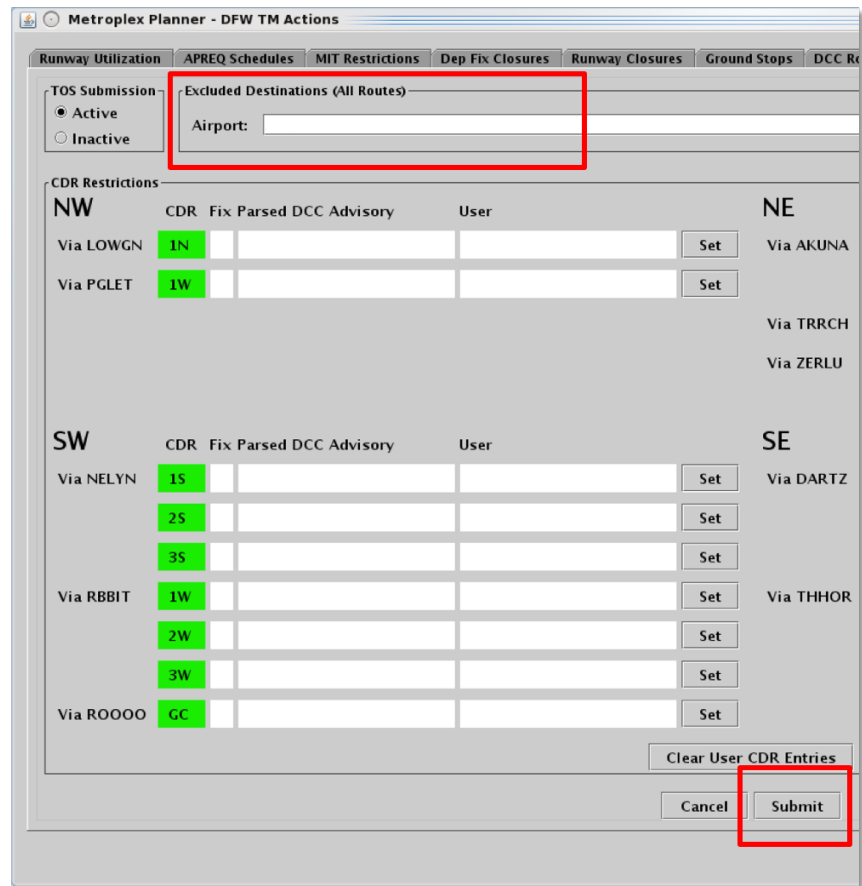


Figure 3.86. TOS Operation tab: After clearing the “Excluded Destinations” field, use the “Submit” button to apply changes.

When the Excluded Destinations field is cleared, a Notification is generated, “TOS DEST_EXCL cleared” (Figure 3.87).

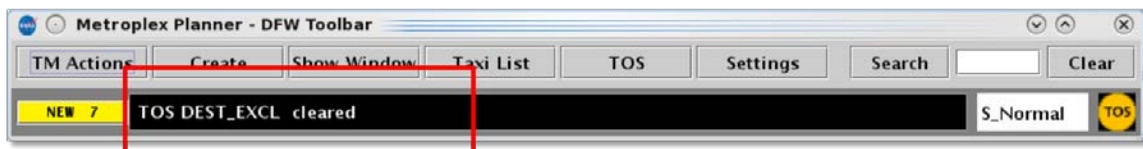


Figure 3.87. Notification: Excluded Destinations are cleared.

3.1.9.3 CDR List

Note: CDRs included in the CDR List may vary by version of the Metroplex Planner.

Use the CDR List to view a list of each unique CDR/city-pair used in ATD-2 TOS operations. In the “CDR Info” section of the TOS Operation tab, select the “List” button (Figure 3.88) to open the CDR List window (Figure 3.89).

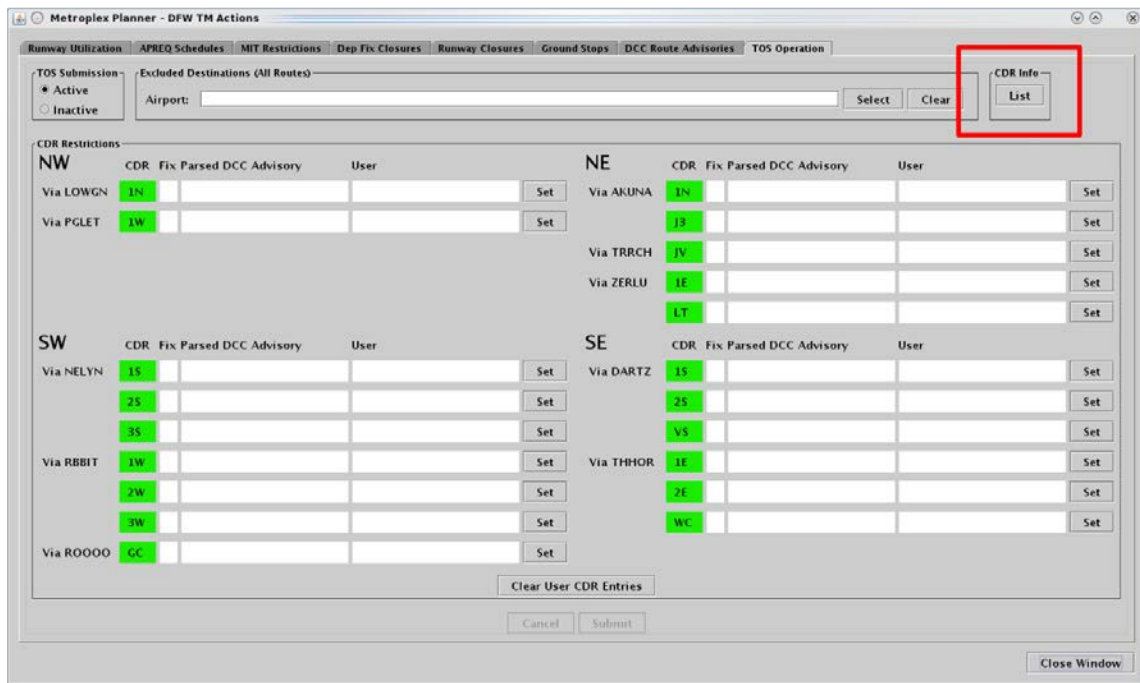


Figure 3.88. CDR Info: Select “List” to view the CDR List.

CDR List						
All						
Available	CDR	Origin	Dest	Dep Fix	Dep Gate	Procedures
Y	DFWJAN0P	KDFW	KJAN	THHOR	EAST	KDFW.MRSSH2.MRSSH..KJAN
Y	DFWDCAWM	KDFW	KDCA	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..MEI.J4.MGM..KBLER.Q
Y	DFWJAN1N	KDFW	KJAN	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..MEM..SQS..KJAN
Y	DFWICT1W	KDFW	KICT	PGLET	WEST	KDFW.HUDAD2.HUDAD..PNH.J26.ICT..KICT
Y	DFWDCAWV	KDFW	KDCA	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..SQS.J52.VUZ..ATL..KBI
Y	DFWNMG1S	KDFW	MNMG	DARTZ	SOUTH	KDFW.DARTZ8.BILEE.J87.IAH..SBI.A766.KEHLI..UA7
Y	DFWRNOOP	KDFW	KRNO	TYGGR	WEST	KDFW.HRPER3.HULZE..TXO..TCC.J76.FTI.J58.RSK..
Y	DFWDTW0P	KDFW	KDTW	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT.J131.PXV..WWODD.HAN
Y	DFWHDNAB	KDFW	KHDN	TYGGR	WEST	KDFW.HRPER3.HULZE..TXO..TCC..FTI..DRO..EKR..C
Y	DFWNMG0P	KDFW	MNMG	THHOR	EAST	KDFW.MRSSH2.ZALEA..SWB..LEV.A770.KEHLI..UA7
Y	DFWXNA0P	KDFW	KXNA	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..KXNA
Y	DFWSHV1S	KDFW	KSHV	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LFC..EMG..KSHV
Y	DFWSHV1N	KDFW	KSHV	AKUNA	NORTH	KDFW.AKUNA7.MLC..FSM..TXK..EIC..KSHV
Y	DFWGSOP	KDFW	KGSP	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..SQS.J52.ATL..AHN.V2
Y	DFWMAF0P	KDFW	KMAF	RBBIT	WEST	KDFW.WSTEX2.CIKAN..KMAF
Y	DFWMKE0P	KDFW	KMKE	AKUNA	NORTH	KDFW.AKUNA7.MLC..SGF.J105.BAYLI..JOT..LEEDN..C
Y	DFWIADWV	KDFW	KIAD	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..SQS.J52.ATL..TWOUP..C
Y	DFWDTW1S	KDFW	KDTW	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH.J22.MCB.J35.MEM..J
Y	DFWDTW1N	KDFW	KDTW	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..PXV..WWODD.HAN
Y	DFWIADWM	KDFW	KIAD	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..MEI.J4.MGM..TWOUP..C
Y	DFWCSG0P	KDFW	KCSG	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..MEI.J4.MGM..KCSG
Y	DFWPHLRD	KDFW	KPHL	TRRCH	EAST	KDFW.TRYTN3.LOOSE..MEM.Q29.CREEP..BLISS.J15
Y	DFWLGA0P	KDFW	KLGA	TRRCH	EAST	KDFW.TRYTN3.LOOSE..MEM.J42.GVE.KORRY4.KLG

Figure 3.89. CDR List.

3.1.9.3.1 CDR List: Availability

The availability status of each CDR/city-pair is displayed in the CDR List (Table 3.5). A CDR is *unavailable* when restrictions are entered by the user, detected by parsing DCC Advisories, or caused by Departure Fix closures that make the CDR unavailable for TOS rerouting.

Table 3.5. CDR List: Availability

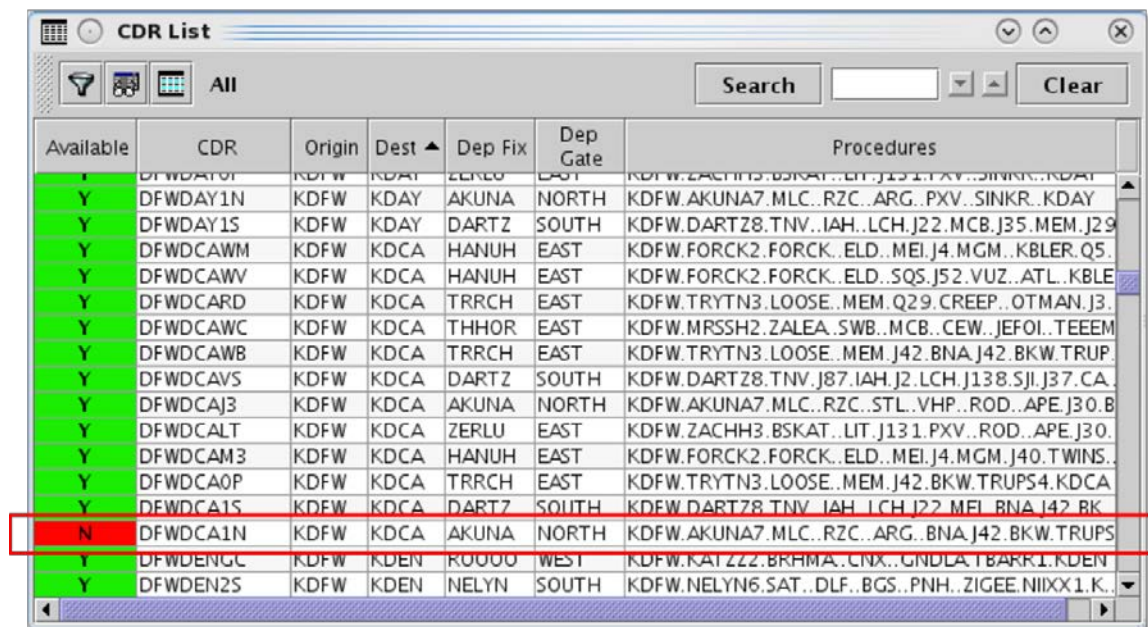
Available	Description
Y	Yes, the CDR is available for TOS operations.
N	No, the CDR is currently unavailable for TOS operations due to route restrictions or Departure Fix closures (see TOS Operation tab).

CDR restrictions and Departure Fix closures are indicated on the TOS Operation Tab. In this example, DCA-bound flights are restricted from using the AKUNA “1N” CDR as a TOS reroute option because of a restriction entered by the user. This restriction is indicated on the TOS Operation tab (Figure 3.90).

NE							
	CDR	Fix	Parsed	DCC	Advisory	User	
Via AKUNA	1N					DCA	Set
	J3						Set
Via TRRCH	JV						Set
Via ZERLU	1E						Set
	LT						Set
SE							
Via DARTZ	1S						Set
	2S						Set
	VS						Set

Figure 3.90. User-entered CDR Restriction on the TOS Operation tab. In this example, DCA-bound flights are restricted from using the AKUNA “1N” CDR as a TOS reroute option.

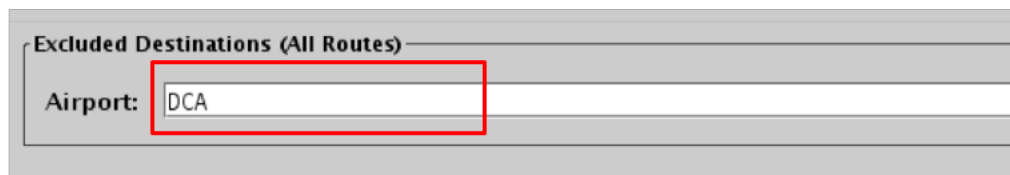
As a result of this restriction, the AKUNA “1N” CDR for DCA (DFWDCA1N) is shown as *unavailable* for TOS rerouting by the red “N” (No) in the “Available” column.



Available	CDR	Origin	Dest	Dep Fix	Dep Gate	Procedures
Y	DFWDAT01	KDFW	KDAY	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT.J131.PXV..ROD..APE.J30.B
Y	DFWDAY1N	KDFW	KDAY	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..PXV..SINKR..KDAY
Y	DFWDAY1S	KDFW	KDAY	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH.J22.MCB.J35.MEM.J29
Y	DFWDCAWM	KDFW	KDCA	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..MEI.J4.MGM..KBLER.Q5.
Y	DFWDCAWV	KDFW	KDCA	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..SQS.J52.VUZ..ATL..KBLE
Y	DFWDCARD	KDFW	KDCA	TRRCH	EAST	KDFW.TRYTN3.LOOSE..MEM.Q29.CREEP..OTMAN.J3.
Y	DFWDCAWC	KDFW	KDCA	THHOR	EAST	KDFW.MRSSH2.ZALEA.SWB..MCB..CEW..JEFOI..TEEM
Y	DFWDCAWB	KDFW	KDCA	TRRCH	EAST	KDFW.TRYTN3.LOOSE..MEM.J42.BNA.J42.BKW.TRUP
Y	DFWDCAVS	KDFW	KDCA	DARTZ	SOUTH	KDFW.DARTZ8.TNV.J87.IAH.J2.LCH.J138.SJI.J37.CA.
Y	DFWDCAJ3	KDFW	KDCA	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..STL..VHP..ROD..APE.J30.B
Y	DFWDCAIT	KDFW	KDCA	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT.J131.PXV..ROD..APE.J30.
Y	DFWDCAM3	KDFW	KDCA	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..MEI.J4.MGM..J40.TWINS.
Y	DFWDCA0P	KDFW	KDCA	TRRCH	EAST	KDFW.TRYTN3.LOOSE..MEM.J42.BKW.TRUP54.KDCA
Y	DFWDCA1S	KDFW	KDCA	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH.J22.MEI..BNA.J42.BK
N	DFWDCA1N	KDFW	KDCA	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..BNA.J42.BKW.TRUP5
Y	DFWDENGL	KDFW	KDEN	ROUOO	WEST	KDFW.KAT.ZZ2.BRHMA..CNX..GNDLA.TBARR1.KDEN
Y	DFWDEN2S	KDFW	KDEN	NELYN	SOUTH	KDFW.NELYN6.SAT..DLF..BGS..PNH..ZIGEE.NIIX1.K.

Figure 3.91. CDR List: In this example, the DFWDCA1N CDR is unavailable.

Exclusions entered in the “Excluded Destinations” field are also reflected in the CDR List. In this example, DCA-bound flights are excluded from TOS operations.



Excluded Destinations (All Routes)

Airport:

Figure 3.92. Excluded Destinations: In this example, all DCA-bound flights are excluded from TOS operations.

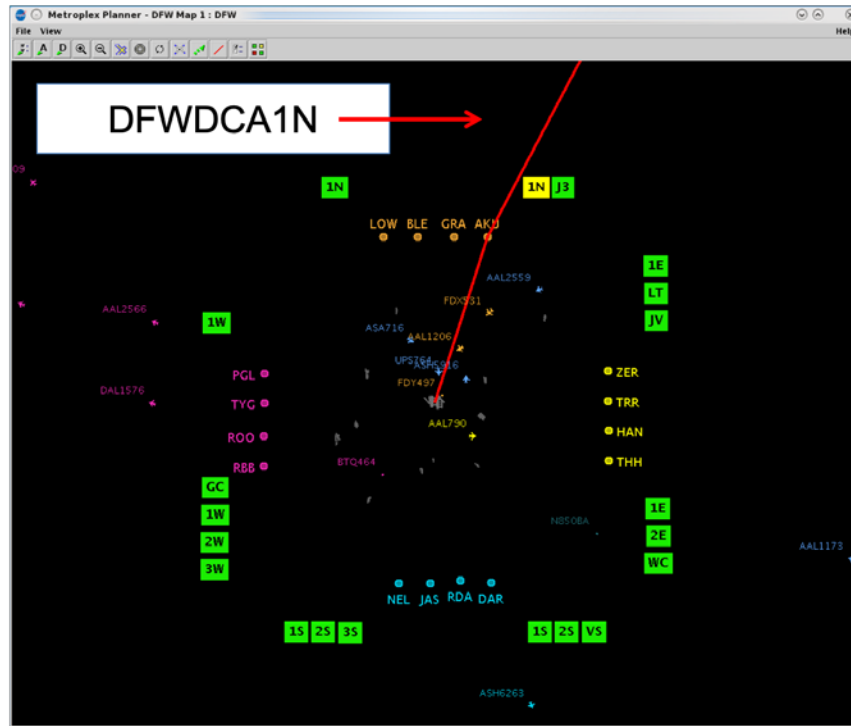
As a result, all CDRs associated with the destination entered in the Excluded Destination field (DCA, in this example) are shown as *unavailable* in the CDR List (Figure 3.93).

Available	CDR	Origin	Dest	Dep Fix	Dep Gate	Procedures
Y	DFWCVG1S	KDFW	KCVG	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH.J22.MCB.J35.MEM.J29
Y	DFWDAY0P	KDFW	KDAY	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT.J131.PXV..SINKR..KDAY
Y	DFWDAY1N	KDFW	KDAY	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..PXV..SINKR..KDAY
Y	DFWDAY1S	KDFW	KDAY	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH.J22.MCB.J35.MEM.J29
N	DFWDCAWM	KDFW	KDCA	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..MEI.J4.MGM..KBLE.Q5.
N	DFWDCAWV	KDFW	KDCA	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..SQS.J52.VUZ..ATL..KBLE
N	DFWDCARD	KDFW	KDCA	TRRCH	EAST	KDFW.TRYTN3.LOOSE..MEM.Q29.CREEP..OTMAN.J3.
N	DFWDCAWC	KDFW	KDCA	THHOR	EAST	KDFW.MRSSH2.ZALEA.SWB..MCB..CEW..JEFOI..TEEM
N	DFWDCAWB	KDFW	KDCA	TRRCH	EAST	KDFW.TRYTN3.LOOSE..MEM.J42.BNA.J42.BKW.TRUP
N	DFWDCAVS	KDFW	KDCA	DARTZ	SOUTH	KDFW.DARTZ8.TNV.J87.IAH.J2.LCH.J138.SJI.J37.CA
N	DFWDCAJ3	KDFW	KDCA	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..STL..VHP..ROD..APE.J30.B
N	DFWDCA1T	KDFW	KDCA	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT.J131.PXV..ROD..APE.J30.
N	DFWDCA13	KDFW	KDCA	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..MEI.J4.MGM.J40.TWINS.
N	DFWDCA0P	KDFW	KDCA	TRRCH	EAST	KDFW.TRYTN3.LOOSE..MEM.J42.BKW.TRUPS4.KDCA
N	DFWDCA1S	KDFW	KDCA	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH.J22.MEI..BNA.J42.BK.
N	DFWDCA1N	KDFW	KDCA	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..BNA.J42.BKW.TRUPS
Y	DFWDENG1	KDFW	KDEN	ROOOO	WEST	KDFW.KATZZ2.BRHMA..CNX..GNDLA.TBARR1.KDEN
Y	DFWDEN2S	KDFW	KDEN	NELYN	SOUTH	KDFW.NELYN6.SAT..DLF..BGS..PNH..ZIGEE.NIIX1.K.
Y	DFWDEN3S	KDFW	KDEN	NELYN	SOUTH	KDFW.NELYN6.SAT..FST..PEQ..CME..CNX..GNDLA.TB
Y	DFWDEN0P	KDFW	KDEN	LOWGN	NORTH	KDFW.LOWGN8.ROLLS..LBL..HALEN.NIIX1.KDEN
Y	DFWDEN1S	KDFW	KDEN	NELYN	SOUTH	KDFW.NELYN6.HOARY..ICT..BGS..PNH..ZIGEE.NIIX1

Figure 3.93. Excluded Destinations in the CDR List. In this example, all DCA CDRs are unavailable.

3.1.9.3.2 CDR Display on the Map

Select a CDR/city-pair in the CDR List to view the route on the Map. In Figure 3.94, the DFWDCA1N CDR via AKUNA is displayed in red on the map because it is currently restricted and unavailable as a TOS reroute option for DCA-bound flights.



Routes available for TOS rerouting are displayed in green on the Map. In this example, the DARTZ “1S” CDR is available to be considered in TOS operations.

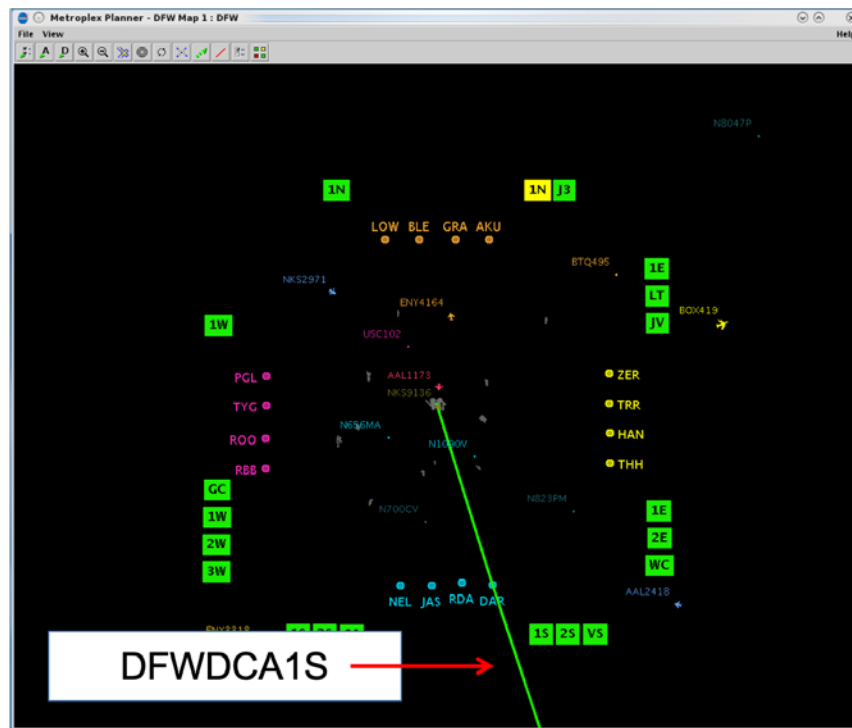


Figure 3.96. CDR route displayed on the map. In this example, DFWDCA1S is displayed in green because it is currently *available* for TOS rerouting for DCA-bound flights.

See Section 4.2.2.3 for a description of how to display TOS routes on the map and Section 4.3.11 for a description of TOS route Availability Labels on the map.

3.1.9.3.3 CDR List: Sort

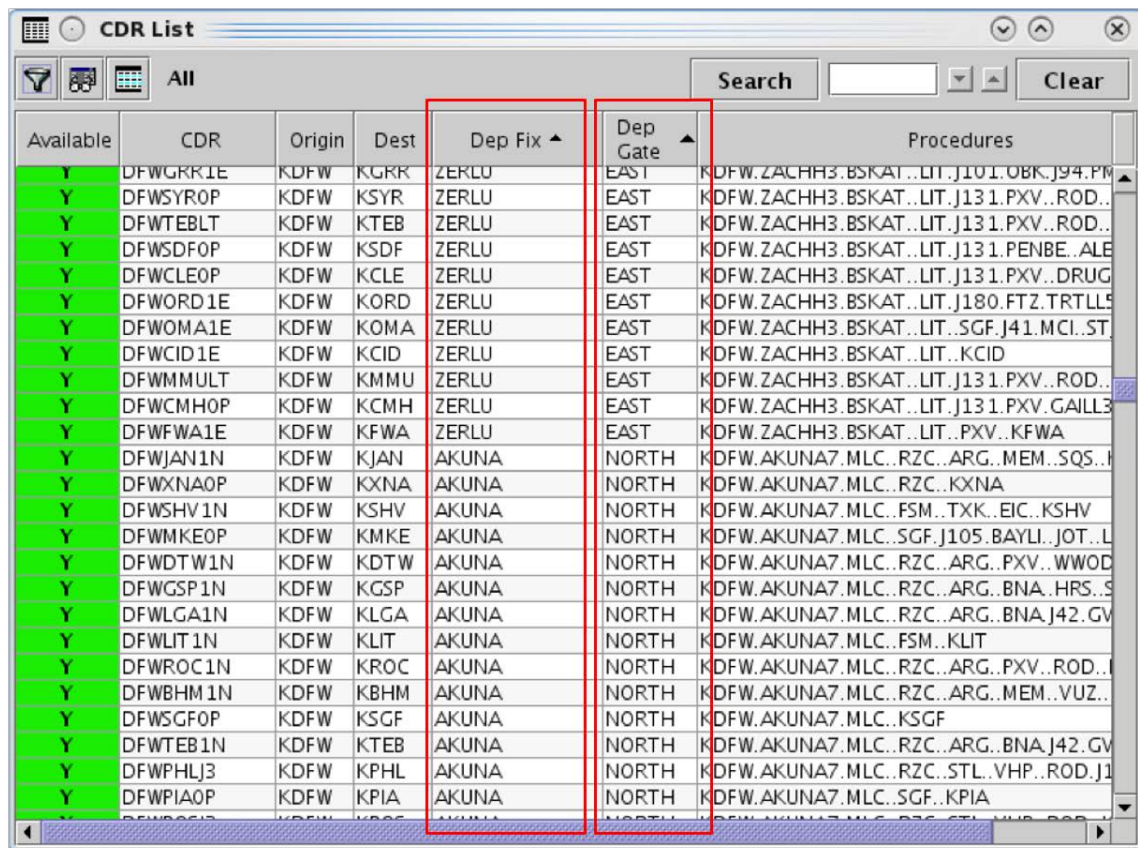
The CDR List can be sorted by selecting column headers.

To Sort the CDR List:

Step 1: Select a column header to sort by the data in that column.

- Click *once* in the column header to sort in *ascending* order. An up-arrow is displayed (e.g., “Departure Gate” in Figure 3.97).
- Click *twice* in the column header to sort in *descending* order. A down-arrow is displayed.
- Click a *third* time to cancel the sort.

Step 2 (Optional): Use the “Ctrl” key to add a secondary sort. While holding the “Ctrl” key, click on another column header. A *smaller* arrow is displayed in the second column (e.g., “Departure Fix” Figure 3.97).



The screenshot shows the 'CDR List' window with a table of flight data. The table has columns: Available, CDR, Origin, Dest, Dep Fix, Dep Gate, and Procedures. The 'Dep Gate' and 'Dep Fix' columns are highlighted with red boxes, indicating they are the primary and secondary sort keys. The 'Dep Gate' column has an upward arrow, and the 'Dep Fix' column has a smaller upward arrow. The table is sorted by Departure Gate (East) and then by Departure Fix (Zerlu).

Available	CDR	Origin	Dest	Dep Fix	Dep Gate	Procedures
Y	DFWGRR1E	KDFW	KGRK	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT..J101.OBK..J94.PM
Y	DFWSYR0P	KDFW	KSyr	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT..J131.PXV..ROD..
Y	DFWTEBLT	KDFW	KTEB	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT..J131.PXV..ROD..
Y	DFWSDF0P	KDFW	KSDF	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT..J131.PENBE..ALE
Y	DFWCLE0P	KDFW	KCLE	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT..J131.PXV..DRUG
Y	DFWORD1E	KDFW	KORD	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT..J180.FTZ..TRTLLS
Y	DFWOMA1E	KDFW	KOMA	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT..SGF..J41.MCI..ST
Y	DFWCID1E	KDFW	KCID	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT..KCID
Y	DFWMMULT	KDFW	KMMU	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT..J131.PXV..ROD..
Y	DFWCMHOP	KDFW	KCMH	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT..J131.PXV..GAILL3
Y	DFWFWA1E	KDFW	KFWA	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT..PXV..KFWA
Y	DFWJAN1N	KDFW	KJAN	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..MEM..SQS..M
Y	DFWXNA0P	KDFW	KXNA	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..KXNA
Y	DFWSHV1N	KDFW	KSHV	AKUNA	NORTH	KDFW.AKUNA7.MLC..FSM..TXK..EIC..KSHV
Y	DFWMKE0P	KDFW	KMKE	AKUNA	NORTH	KDFW.AKUNA7.MLC..SGF..J105.BAYLI..JOT..L
Y	DFWDTW1N	KDFW	KDTW	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..PXV..WWOD
Y	DFWGSP1N	KDFW	KGSP	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..BNA..HRS..S
Y	DFWLGA1N	KDFW	KLGA	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..BNA..J42.GV
Y	DFWLIT1N	KDFW	KLIT	AKUNA	NORTH	KDFW.AKUNA7.MLC..FSM..KLIT
Y	DFWROC1N	KDFW	KROC	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..PXV..ROD..
Y	DFWBHM1N	KDFW	KBHM	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..MEM..VUZ..
Y	DFWSGF0P	KDFW	KSGF	AKUNA	NORTH	KDFW.AKUNA7.MLC..KSGF
Y	DFWTEB1N	KDFW	KTEB	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..BNA..J42.GV
Y	DFWPHLJ3	KDFW	KPHL	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..STL..VHP..ROD..J1
Y	DFWPJA0P	KDFW	KPIA	AKUNA	NORTH	KDFW.AKUNA7.MLC..SGF..KPIA

Figure 3.97. CDR List: Sort. In this example, the table is first sorted alphabetically by Departure Gate, and then sorted alphabetically by Departure Fix.

3.1.9.3.4 CDR List: Toolbar

Three icons are available on the CDR List toolbar (Figure 3.98):

- Edit Filters (Section 3.1.9.3.4.1)

- Show/Hide Columns (Section 3.1.9.3.4.2)
- Table Color Settings (Section 3.1.9.3.4.3)

When filters are applied to the CDR List, the filter criteria are displayed on the toolbar next to the icons. When no filters are being applied, “All” is displayed (Figure 3.98).

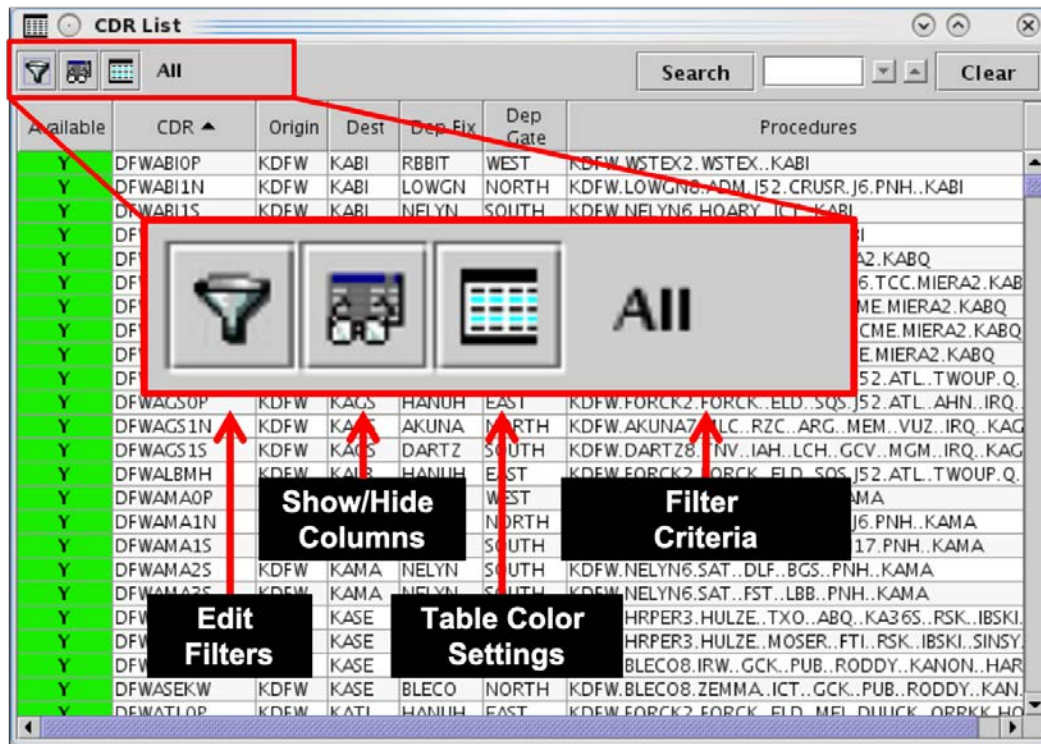


Figure 3.98. CDR List: Toolbar.

3.1.9.3.4.1 Edit Filters

Use “Edit Filters” (Figure 3.98) to include/exclude CDR/city-pairs in the CDR List. Fields that can be used as filters are listed in Table 3.6.

Fields are associated with one of two *operators*:

- equal “=”
- not equal “!=”

Multiple fields can be used in combination by selecting “AND” or “OR” as a *qualifier*.

Table 3.6. CDR List: Filter Fields

Field	Description	Options
Available	Indicator of CDR Availability Status: • “Yes” if the CDR is available for TOS operations.	Select: - Yes - No

	• “No” if the CDR is currently restricted and being excluded from TOS operations.	
CDR	Coded Departure Route (CDR): Standard procedures for alternative routes. Each unique CDR name is made up of three elements. For example, “DFWDCA1N”: • Origin Airport (e.g., DFW) • Destination Airport (e.g., DCA) • Two-digit CDR code (e.g., 1N)	Enter: [Full CDR name] [Origin Airport] [Destination Airport] [Two-digit CDR code]
Dest	Destination airport for departures	Enter or select from dropdown list.
Dep Fix	Departure Fix	Enter or select from dropdown list.
Dep Gate	Terminal-area Departure Gate	Enter or select from dropdown list.
Origin	Origin airport for arrivals and departures.	Enter or select from dropdown list.

To Filter the CDR List:

Step 1: Select the “Edit Filters” icon (Figure 3.98) in the toolbar to open the Filter window.

Step 2: Select a variable from the dropdown menu in the “Field” column (e.g., “Dest” in Figure 3.99).

Step 3: Select a modifier from the dropdown list in the “Operator” column (e.g., “=” in Figure 3.99).

Step 4: Enter a destination airport in the “Values” field. Separate multiple entries with a comma (e.g., “DCA,IAD” in Figure 3.99).

Step 5 (Optional): Additional filters can be applied by making entries on a new row. Select “Add Fields” (Figure 3.99) if more rows are not visible. Begin additional rows by selecting a qualifier (i.e., “AND” or “OR”).

Note: Select “Show Query” to view a list of selected filter criteria.

Step 6: When complete, select “OK” to apply the filter(s) and close the Filter window.

Note: An existing filter can be modified by changing the selections in the Field, Operator, or Values columns. Select “Clear” (Figure 3.99) to clear entries from the “Values” field -- “Operator” and “Field” selections remain populated.

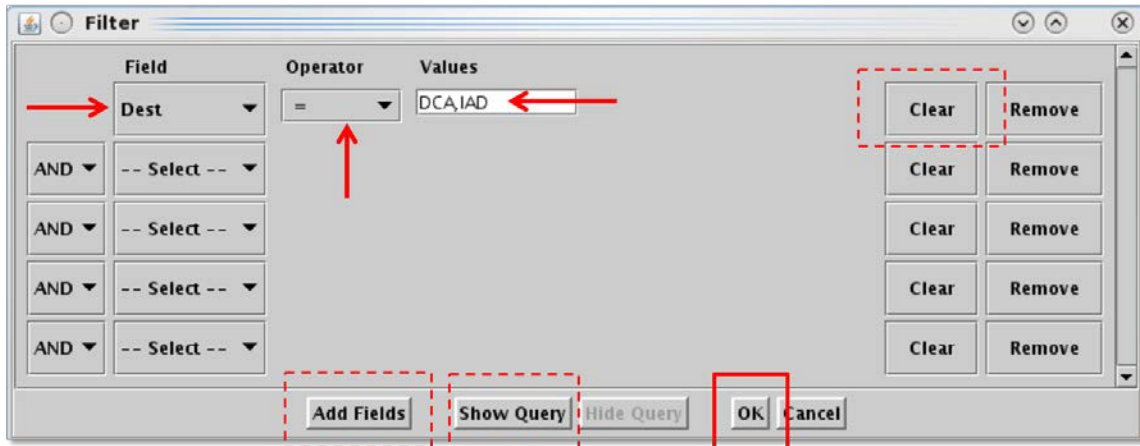


Figure 3.99. CDR List: Filter.

Filter criteria (e.g., “Dest = DCA,IAD”) are displayed in the Toolbar (Figure 3.100).

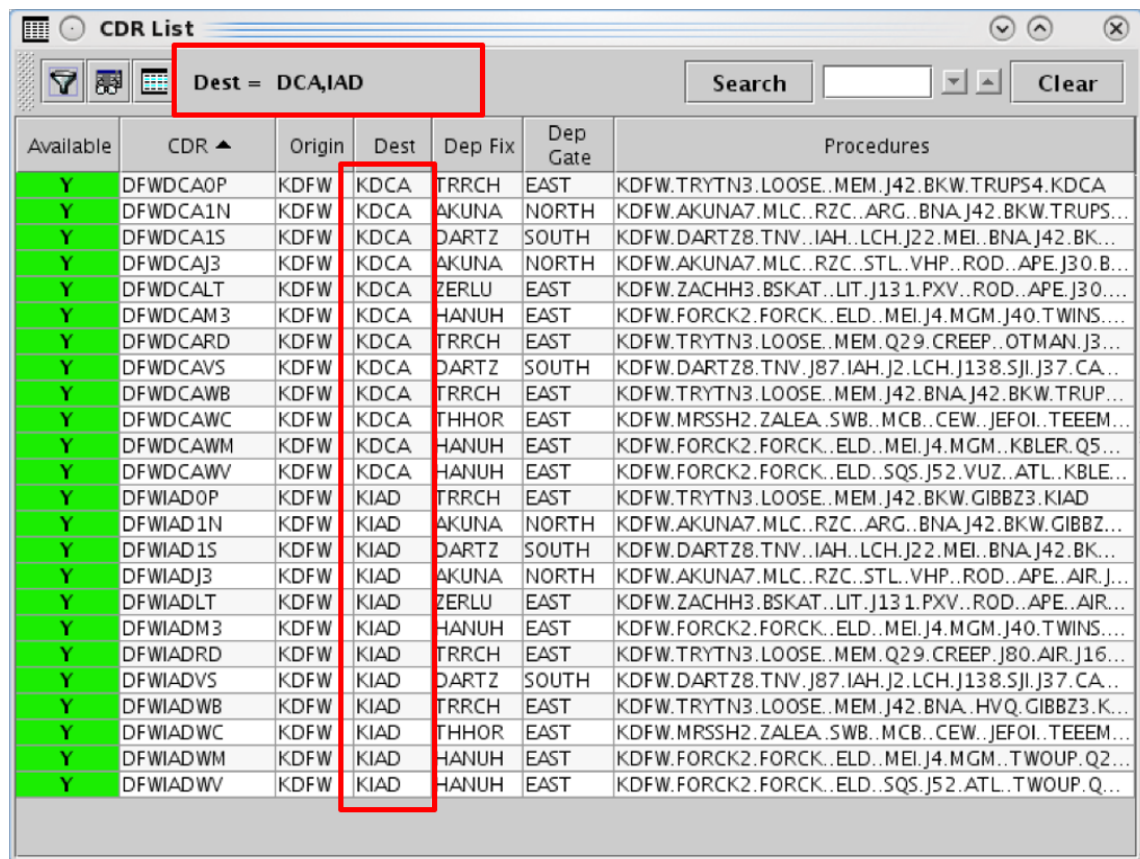


Figure 3.100. Filtered CDR List: Filter criteria (in this example, Dest = DCA, IAD) are displayed in the toolbar.

To remove a Filter in the CDR List:

Step 1: Select the “Edit Filters” icon (Figure 3.98) in the toolbar to open the Filter window.

Step 2: In the dropdown menu in the “Field” column, select “-- Select --” to clear selections from that row (Figure 3.101).

Alternatively: Select “Remove” to delete that row entirely (Figure 3.101).

Step 4: When complete, select “OK” to close the Filter window.

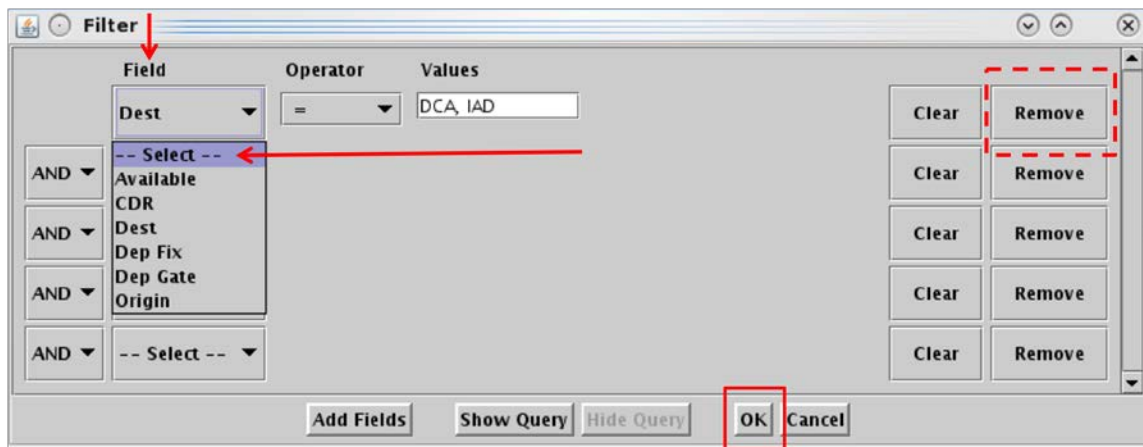


Figure 3.101. CDR List: Remove filters.

3.1.9.3.4.2 Show/Hide Columns

Use “Show/Hide Columns” (Figure 3.98) to select which columns of information will be included, and the order in which they will be shown, in the CDR List.

The information columns that can be included in the CDR List are listed in Table 3.7.

Table 3.7. CDR List: Show/Hide Columns

Column Header	Description
Available	Indicator of CDR Availability Status: • “Yes” if the CDR is available for TOS Operations. • “No” if the CDR is currently restricted and being excluded from TOS Operations. CDR Availability corresponds to the restrictions displayed on the TOS Operation Tab.
CDR	Coded Departure Route (CDR): Standard procedures for alternative routes. Each unique CDR name is made up of three elements. For example, “DFWDCA1N”: • Origin Airport (e.g., DFW)

	• Destination Airport (e.g., DCA) • Two-digit CDR code (e.g., 1N)
Dest	Destination airport for departures
Dep Fix	Departure Fix
Dep Gate	Terminal-area Departure Gate
Origin	Origin airport for departures

To Modify Columns in the CDR List:

Step 1: Select the “Show/Hide Columns” icon (Figure 3.98) in the toolbar to open the “Column Settings” window.

Note: Two lists are shown in the Column Settings window, Available and Shown. By default, all columns are in the “Shown” column (Figure 3.102).

Step 2: Select an item from the “Shown” list (e.g., “Dep Fix” in Figure 3.102).

Step 3: Use the “Move Up” and “Move Down” buttons to reorder the columns in the list (Figure 3.102).

Step 4: When complete, select “OK” to close the Column Settings window.

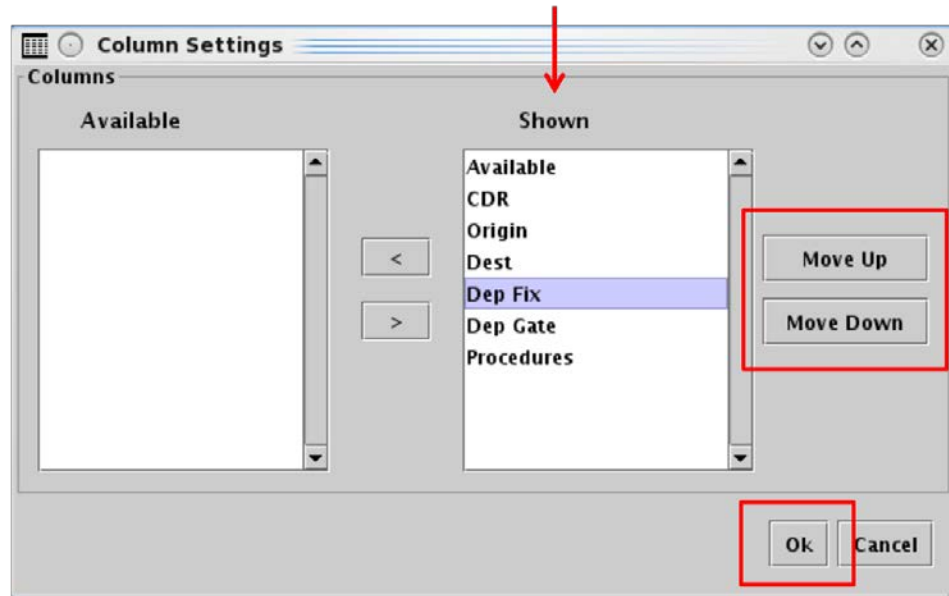


Figure 3.102. CDR List: Column Settings. Use Move Up/Down buttons to reorder columns.

To remove a column from the CDR List:

Step 1: Select the “Show/Hide Columns” icon (Figure 3.98) in the toolbar to open the “Column Settings” window.

Note: Two lists are shown in the Column Settings window, Available and Shown. By default, all columns are in the “Shown” column (Figure 3.103).

Step 2: Select an item from the “Shown” list (e.g., “Dep Fix” in Figure 3.103).

Step 3: To remove that column from the CDR List, click on the left arrow to move it to the “Available” list (Figure 3.103).

Step 4: When complete, select “OK” to close the Column Settings window.

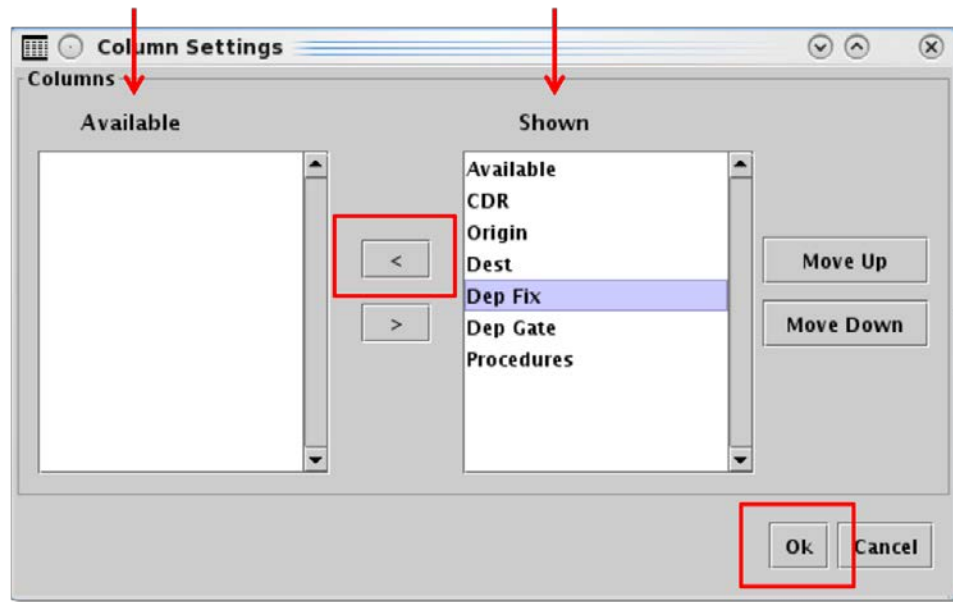


Figure 3.103. CDR List: Column Settings. Use the left arrow to remove a column.

3.1.9.3.4.3 Table Color Settings

Use “Table Color Settings” (Figure 3.98) to set an alternate row color and field color alerts for variables in the CDR List.

3.1.9.3.4.3.1 Set Row Colors

Use the “Set Row Colors” tab in the CDR List Color Settings window to set an alternate row color in the CDR List.

To Set Row Colors in the CDR List:

Step 1: Select the “Table Color Settings” icon (Figure 3.98) in the toolbar to open the “CDR List Color Settings” window.

Step 2: Select the “Set Row Colors” tab (Figure 3.104).

Note: *The default for both odd and even rows in the CDR List is white (Figure 3.104).*

Step 3: Select either the “Odd Row” or “Even Row” color box to open the “Choose Row Color” window (e.g., “Odd Row Color” in Figure 3.104).

Step 4: On the “Swatches” tab, use the mouse to select a color (e.g., light purple in Figure 3.105).

Step 5 (Optional): If necessary, use the other four color-palette tabs (HSV, HSL, RGB, CMYK) to refine the color selection.

Note: *In the “Preview” section below the color chart, the previous color (white in Figure 3.105) and a preview of the newly selected color (light purple in Figure 3.105) are displayed.*

Step 6: Select “OK” to return to the “Set Row Colors” tab to see a preview of the selected color (Figure 3.105).

Note: *If preferred, follow the same steps to select a second color for the alternating odd/even row.*

Step 7: When finished modifying colors, select “OK” to close the Color Settings window and apply the color change(s) (Figure 3.106). Updated color selections are shown in the CDR List (Figure 3.107).

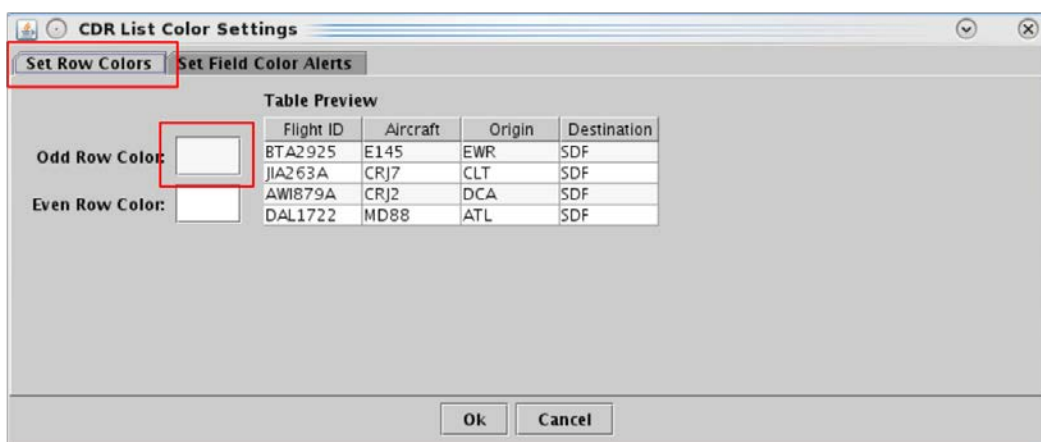


Figure 3.104. CDR List Color Settings: Set Row Colors tab.

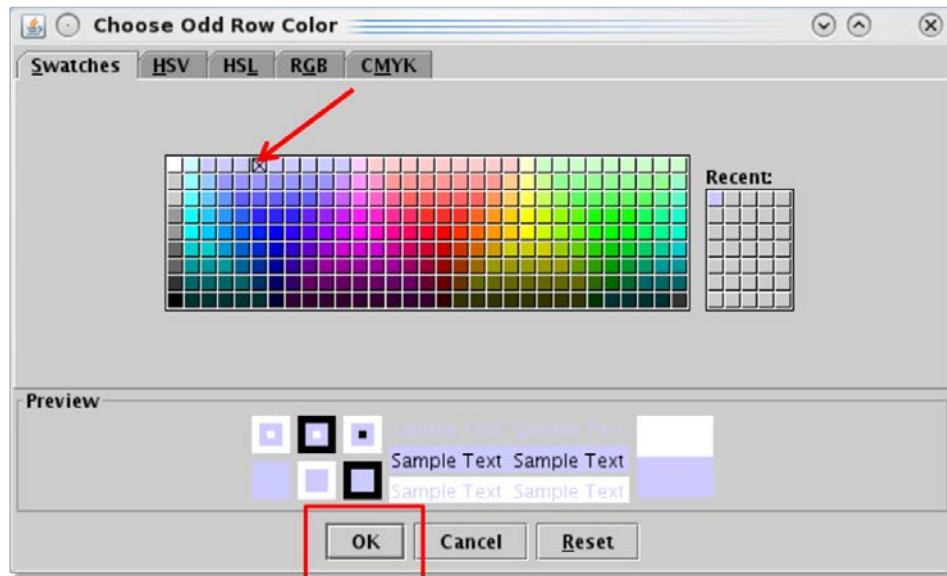


Figure 3.105. Use the “Swatches” tab to select a color. Use the HSV, HSL, RGB, or CMYK color palettes to refine the color selection.

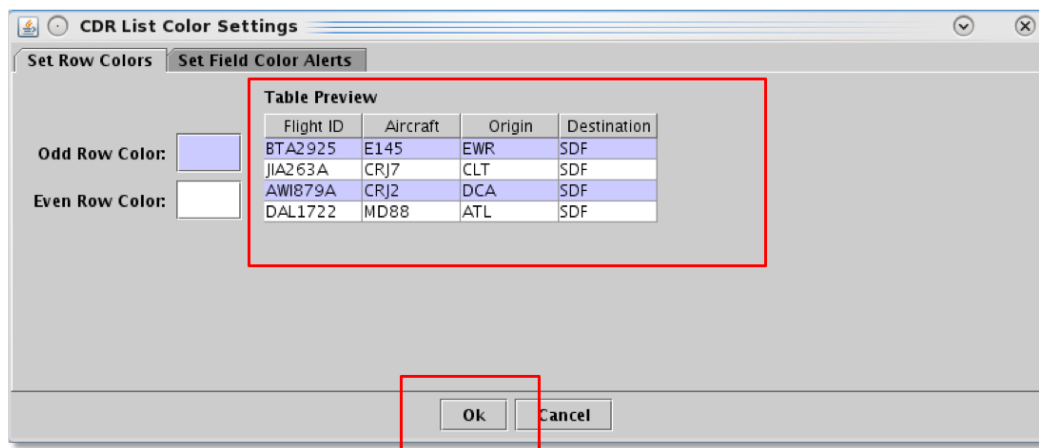


Figure 3.106. Set Row Colors: Alternating row color preview.

Available	CDR	Origin	Dest	Dep Fix	Dep Gate	Procedures
Y	DFWCVG15	KDFW	KCVG	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH.J22.MCB.J35.MEM.J29
Y	DFWDAY0P	KDFW	KDAY	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT.J131.PXV..SINKR..KDAY
Y	DFWDAY1N	KDFW	KDAY	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..PXV..SINKR..KDAY
Y	DFWDAY1S	KDFW	KDAY	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH.J22.MCB.J35.MEM.J29
Y	DFWDCAWM	KDFW	KDCA	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..MEI.J4.MGM..KBLER.Q5.
Y	DFWDCAVV	KDFW	KDCA	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..SQS.J52.VUZ..ATL..KBLE
Y	DFWDCARD	KDFW	KDCA	TRRCH	EAST	KDFW.TRYTN3.LOOSE..MEM.Q29.CREEP..OTMAN.J3.
Y	DFWDCAWC	KDFW	KDCA	THHOR	EAST	KDFW.MRSSH2.ZALEA.SWB..MCB..CEW..JEFOI..TEEEM
Y	DFWDCAWB	KDFW	KDCA	TRRCH	EAST	KDFW.TRYTN3.LOOSE..MEM.J42.BNA.J42.BKW.TRUP.
Y	DFWDCAVS	KDFW	KDCA	DARTZ	SOUTH	KDFW.DARTZ8.TNV.J87.IAH.J2.LCH.J138.SJI.J37.CA.
Y	DFWDCAJ3	KDFW	KDCA	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..STL..VHP..ROD..APE.J30.B
Y	DFWDCAIT	KDFW	KDCA	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT.J131.PXV..ROD..APE.J30.
Y	DFWDCAM3	KDFW	KDCA	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..MEI.J4.MGM.J40.TWINS.
Y	DFWDCAOP	KDFW	KDCA	TRRCH	EAST	KDFW.TRYTN3.LOOSE..MEM.J42.BKW.TRUPS4.KDCA
Y	DFWDCA1S	KDFW	KDCA	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH.J22.MEI..BNA.J42.BK..
Y	DFWDCA1N	KDFW	KDCA	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..BNA.J42.BKW.TRUPS
Y	DFWDENG	KDFW	KDEN	ROOOO	WEST	KDFW.KATZZ2.BRHMA..CNX..GNDLA.TBARR1.KDEN
Y	DFWDEN2S	KDFW	KDEN	NELYN	SOUTH	KDFW.NELYN6.SAT..DLF..BGS..PNH..ZIGEE.NIIX1.K.
Y	DFWDEN3S	KDFW	KDEN	NELYN	SOUTH	KDFW.NELYN6.SAT..FST..PEQ..CME..CNX..GNDLA.TB.
Y	DFWDEN0P	KDFW	KDEN	LOWGN	NORTH	KDFW.LOWGN8.ROLLS..LBL..HALEN.NIIX1.KDEN
Y	DFWDEN1S	KDFW	KDEN	NELYN	SOUTH	KDFW.NELYN6.HOARY..JCT..BGS..PNH..ZIGEE.NIIX1.
Y	DFWDEN1W	KDFW	KDEN	PGLT	WEST	KDFW.HUDAD2.HUDAD..PNH..ZIGEE.NIIX1.KDEN
Y	DFWDSM1E	KDFW	KDSM	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT..SGF..MCI.J25.DSM..KDSM
Y	DFWDSM0P	KDFW	KDSM	BLECO	NORTH	KDFW.BLECO8.TUL.J25.DSM..KDSM
Y	DFWDSM1W	KDFW	KDSM	PGLT	WEST	KDFW.HUDAD2.HUDAD..PNH.J26.ICT..PWE..KDSM
Y	DFWDTWOP	KDFW	KDTW	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT.J131.PXV..WWODD.HANB
Y	DFWDTW1S	KDFW	KDTW	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH.J22.MCB.J35.MEM.J29

Figure 3.107. CDR List: Alternating row colors.

3.1.9.3.4.3.2 Set Field Color Alerts

Use the “Set Field Color Alerts” tab in the CDR List Color Settings window to set cell colors for selected fields.

Fields to which color alerts can be applied are listed in Table 3.8.

Table 3.8. CDR List: Set Field Color Alerts

Field	Description	Options
Available	Indicator of CDR Availability Status: “Yes” if the CDR is available for TOS operations. “No” if the CDR is currently restricted and being excluded from TOS operations.	Select: - Yes - No

To Set Field Color Alerts in the CDR List:

Step 1: Select the “Table Color Settings” icon (Figure 3.98) in the toolbar to open the “CDR List Color Settings” window.

Step 2: Select the “Set Field Color Alerts” tab (Figure 3.108).

Note: *Color selections for the “Available” field are preset but can be modified (Figure 3.108).*

Step 3: To change the color selection for Available = No, select the color box to open the “Choose Color” window (Figure 3.108).

Step 4: On the “Swatches” tab in the “Choose Color” window, use the mouse to select a color (e.g., orange in Figure 3.109).

Step 5 (Optional): If necessary, use the other four color-palette tabs (HSV, HSL, RGB, CMYK) to refine the color selection.

Note: *In the “Preview” section below the color chart, the previous color (red in Figure 3.109) and a preview of the newly selected color (orange in Figure 3.109) are displayed.*

Step 9: Select “OK” to return to the “Set Field Color Alerts” tab (Figure 3.109).

Note: *The selected color is shown on the Set Field Color Alerts tab (orange in Figure 3.110).*

Note: *If preferred, follow the same steps to modify the other field color alert.*

Step 10: Select “OK” to close the CDR List Color Settings window and apply the color change(s) (Figure 3.110). Updated color selections are shown in the CDR List (Figure 3.111).

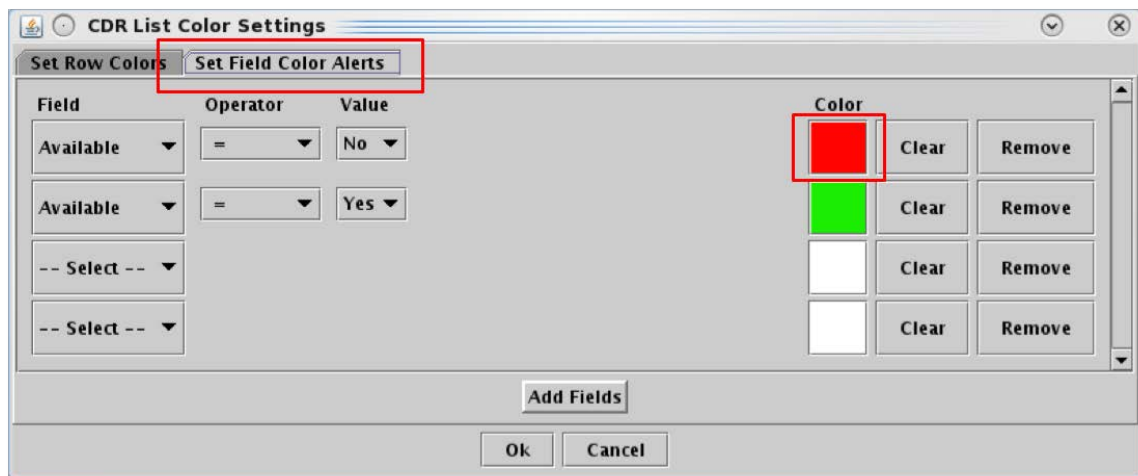


Figure 3.108. CDR List Color Settings: Set Field Color Alerts tab.

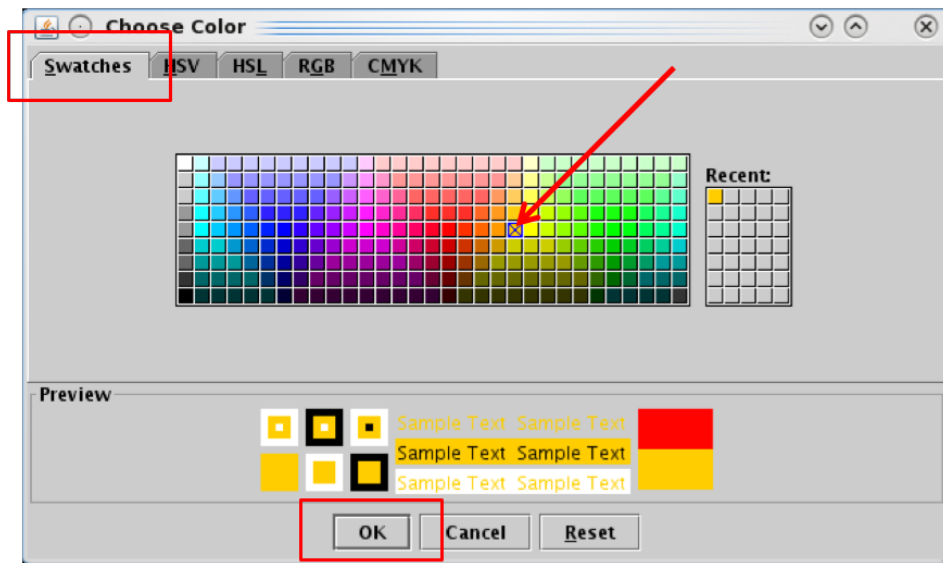


Figure 3.109. Use the “Swatches” tab to select a color. Use the HSV, HSL, RGB, or CMYK color palettes to refine the color selection.

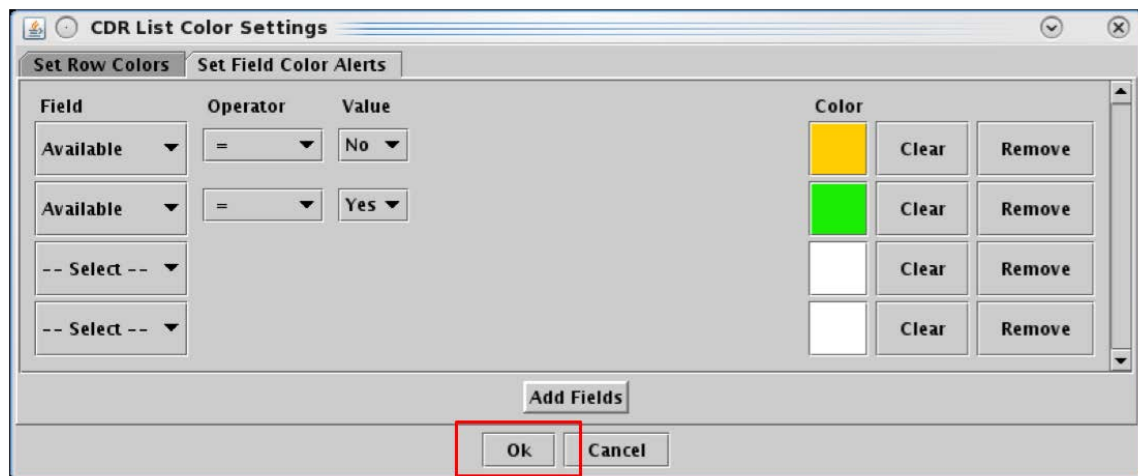


Figure 3.110. Set Field color Alerts: Newly selected color is displayed (in this example, orange).

Available	CDR	Origin	Dest	Dep Fix	Dep Gate	Procedures
N	DFWLN1N	KDFW	KILN	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..PXV..FLM..KILN
Y	DFWLN1S	KDFW	KILN	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH.J22.MEI..BNA..IU..FLM...
N	DFWIND1N	KDFW	KIND	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..TERGE.SMUKE2.KIND
Y	DFWIND1S	KDFW	KIND	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH.J22.MCB.J35.MEM..TE...
Y	DFWIND0P	KDFW	KIND	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT..TERGE.SMUKE2.KIND
Y	DFWJAN0P	KDFW	KJAN	THHOR	EAST	KDFW.MRSSH2.MRSSH..KJAN
N	DFWJAN1N	KDFW	KJAN	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..MEM..SQS..KJAN
Y	DFWJAN1S	KDFW	KJAN	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH.J22.MCB..KJAN
N	DFWJAX1N	KDFW	KJAX	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..MEM..J41.MGM..CAB...
Y	DFWJAX1S	KDFW	KJAX	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH.J2.DEFUN..CABLO..CA...
Y	DFWJAX0P	KDFW	KJAX	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..MEI..MGM..CABLO..CAP...
Y	DFWJFKRD	KDFW	KJFK	TRRCH	EAST	KDFW.TRYTN3.LOOSE..MEM..Q29.JHW..J70.LVZ.LEND...
Y	DFWJFKWC	KDFW	KJFK	THHOR	EAST	KDFW.MRSSH2.ZALEA..SWB..MCB..CEW..JEFOI..TEEM...
Y	DFWJFKWV	KDFW	KJFK	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..SQS.J52.VUZ..J14.ATL..FI...
Y	DFWJFKWM	KDFW	KJFK	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..MEI..J4.MGM..FIGEY.Q64...
Y	DFWJFKVS	KDFW	KJFK	DARTZ	SOUTH	KDFW.DARTZ8.TNV..J87.IAH..J2.LCH..J138.SJI..J37.CA...

Figure 3.111. CDR List Color Settings: Field Color Alerts (in this example, Available = No is highlighted orange).

3.1.9.3.5 CDR List: Search

Use the “Search” function to search for CDR/city-pairs in the CDR List. Search criteria are listed in Table 3.9.

Table 3.9. CDR List: Search Criteria

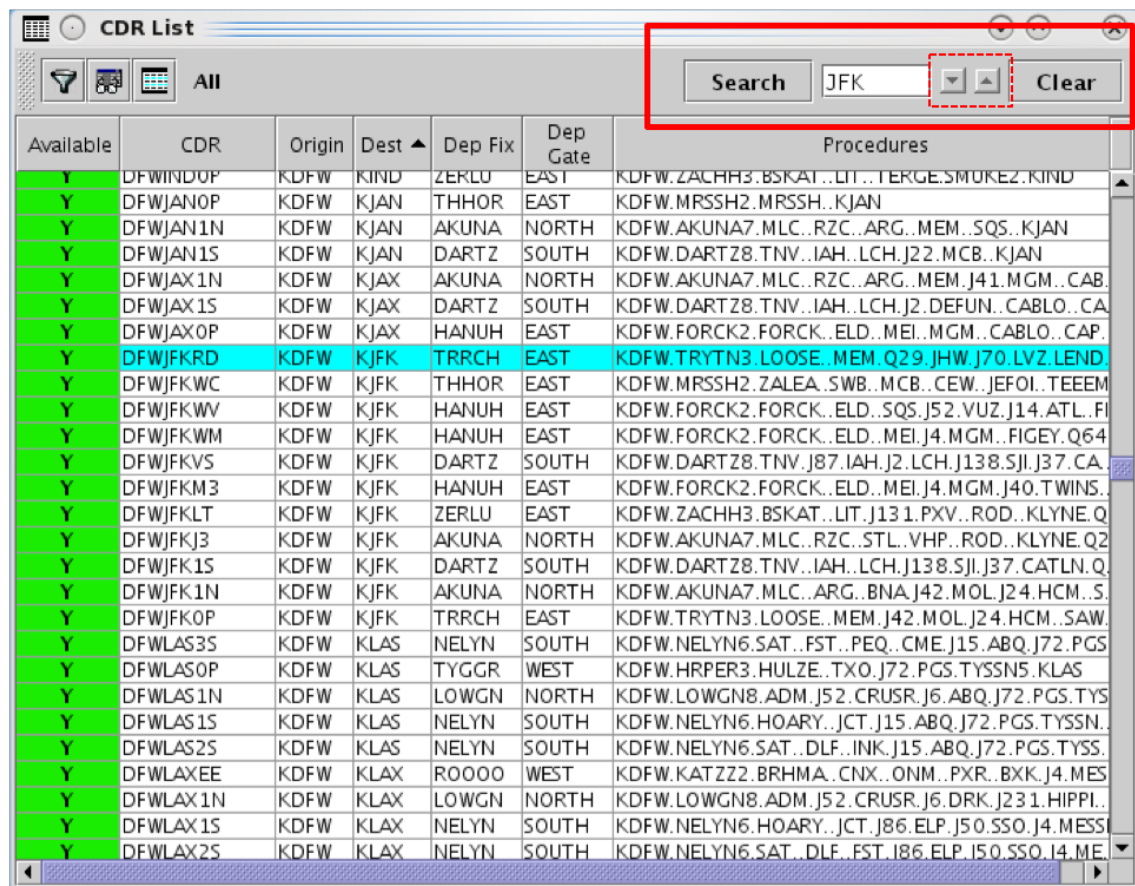
Search Criteria	Example
3-letter Destination Airport	BOS
3-letter Origin Airport	DFW
Departure Fix <i>*Procedure Names cannot be used for Search.</i>	TRRCH
CDR	DFWBOS1N
Partial CDR	DFW BOS 1N

To Search for CDRs in the CDR List:

Step 1: Enter search criteria in the “Search” field on the toolbar (e.g., “JFK” in Figure 3.106). Rows matching the search criteria are highlighted in the CDR List.

Note: As text/digits are entered in the search field, rows matching that criteria (full or partial) will be highlighted in cyan.

Alternatively: Select “Clear” to clear the Search field.



Available	CDR	Origin	Dest	Dep Fix	Dep Gate	Procedures
Y	DFWINDUP	KDFW	KIND	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT..TERGE.SMOKE2.KIND
Y	DFWJAN0P	KDFW	KJAN	THHOR	EAST	KDFW.MRSSH2.MRSSH..KJAN
Y	DFWJAN1N	KDFW	KJAN	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..MEM..SQS..KJAN
Y	DFWJAN1S	KDFW	KJAN	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH.J22.MCB..KJAN
Y	DFWJAX1N	KDFW	KJAX	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..ARG..MEM..J41.MGM..CAB
Y	DFWJAX1S	KDFW	KJAX	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH.J2.DEFUN..CABLO..CA
Y	DFWJAX0P	KDFW	KJAX	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..MEI..MGM..CABLO..CAP
Y	DFWJFKRD	KDFW	KJFK	TRRCH	EAST	KDFW.TRYTN3.LOOSE..MEM.Q29.JHW.J70.LVZ.LEND
Y	DFWJFKWC	KDFW	KJFK	THHOR	EAST	KDFW.MRSSH2.ZALEA..SWB..MCB..CEW..JEF01..TEEM
Y	DFWJFKWV	KDFW	KJFK	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..SQS.J52.VUZ.J14.ATL..FI
Y	DFWJFKWM	KDFW	KJFK	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..MEI.J4.MGM..FIGEY.Q64
Y	DFWJFKVS	KDFW	KJFK	DARTZ	SOUTH	KDFW.DARTZ8.TNV..J87..IAH.J2.LCH.J138.SJI.J37.CA
Y	DFWJFKM3	KDFW	KJFK	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..MEI.J4.MGM..J40.TWINS
Y	DFWJFKLT	KDFW	KJFK	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT.J131.PXV..ROD..KLYNE.Q
Y	DFWJFKJ3	KDFW	KJFK	AKUNA	NORTH	KDFW.AKUNA7.MLC..RZC..STL..VHP..ROD..KLYNE.Q2
Y	DFWJFK1S	KDFW	KJFK	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH.J138.SJI.J37.CATLN.Q
Y	DFWJFK1N	KDFW	KJFK	AKUNA	NORTH	KDFW.AKUNA7.MLC..ARG..BNA.J42.MOL.J24.HCM..S
Y	DFWJFK0P	KDFW	KJFK	TRRCH	EAST	KDFW.TRYTN3.LOOSE..MEM.J42.MOL.J24.HCM..SAW
Y	DFWLAS3S	KDFW	KLAS	NELYN	SOUTH	KDFW.NELYN6.SAT..FST..PEQ..CME.J15.ABQ.J72.PGS
Y	DFWLAS0P	KDFW	KLAS	TYGGR	WEST	KDFW.HRPER3.HULZE..TXO.J72.PGS.TYSSN5.KLAS
Y	DFWLAS1N	KDFW	KLAS	LOWGN	NORTH	KDFW.LOWGN8.ADM.J52.CRUSR.J6.ABQ.J72.PGS.TYS
Y	DFWLAS1S	KDFW	KLAS	NELYN	SOUTH	KDFW.NELYN6.HOARY..JCT.J15.ABQ.J72.PGS.TYSSN
Y	DFWLAS2S	KDFW	KLAS	NELYN	SOUTH	KDFW.NELYN6.SAT..DLF..INK.J15.ABQ.J72.PGS.TYSS
Y	DFWLAXEE	KDFW	KLAX	ROOOO	WEST	KDFW.KATZ22.BRHMA..CNX..ONM..PXR..BXK.J4.MES
Y	DFWLAX1N	KDFW	KLAX	LOWGN	NORTH	KDFW.LOWGN8.ADM.J52.CRUSR.J6.DRK.J231.HIPPI
Y	DFWLAX1S	KDFW	KLAX	NELYN	SOUTH	KDFW.NELYN6.HOARY..JCT.J86.ELP.J50.SSO.J4.MESS
Y	DFWLAX2S	KDFW	KLAX	NELYN	SOUTH	KDFW.NELYN6.SAT..DLF..FST.I86.ELP.I50.SSO.J4.ME

Figure 3.112. CDR List: Search. The first row with a matching result is highlighted in cyan (in this example, the first CDR containing “JFK” is highlighted).

3.1.9.4 CDR Restrictions

TOS Operations use Coded Departure Routes (CDRs) to reroute flights on alternative routes. Use the “CDR Restrictions” portion of the TOS Operation tab to view and manage CDR restrictions (Figure 3.113).

Figure 3.113. TOS Operation tab: CDR Restrictions.

On the TOS Operation tab, CDRs are grouped by terminal area quadrants NW, NE, SW, and SE and Departure Fixes. For example, in Figure 3.114, the Northeast (NE) quadrant includes three Departure Fixes, AKUNA, TRRCH, and ZERLU.

Each row represents an individual CDR identified by its CDR Code (e.g., AKUNA “1N” in Figure 3.114).

Figure 3.114. CDR Restrictions: Each row in the list represents an individual CDR (for example, the AKUNA “1N” CDR in the Northeast quadrant of the terminal area.)

Note that only *active* restrictions are displayed on the TOS Operation tab, once a restriction ends or is removed by a user, it is no longer displayed.

3.1.9.4.1 CDR Color-Coding

CDR codes are color-coded green, yellow, or red based on current restrictions. The color-coding indicates the availability of the CDR for TOS rerouting (Figure 3.115).

NE	CDR	Fix Parsed DCC Advisory	User	
Via AKUNA	1N		All	Set
	J3		All	Set
Via TRRCH	JV			Set
Via ZERLU	1E	DCA BWI IAD		Set
	LT	DCA BWI IAD		Set

Figure 3.115. CDR Code Color-Coding examples (green, yellow, and red).

Color-code definitions are described in Table 3.10.

Table 3.10. CDR Restrictions: CDR Color-Coding

Color	Description
Green	Open. The CDR is available and can be used for TOS rerouting.
Yellow	Partially-Restricted. The CDR is unavailable to <i>one or more</i> destinations for TOS rerouting. The CDR is <i>partially-restricted</i> .
Red	Closed. The CDR is unavailable to <i>all</i> destinations for TOS rerouting. The CDR is <i>fully-restricted</i> .

The same CDRs listed on the TOS Operation tab are also depicted on the map. See Section 4.3.11 for a description of TOS Route Availability Labels on the map.

For example, in Figure 3.116, AKUNA “1N” and “J3” are red because they are *closed* and ZERLU “1E” and “LT” are yellow because they are only *partially-restricted*. The remaining CDRs are green because they are open (unrestricted) and available for TOS rerouting.

Click on a yellow label to view restricted destinations. For example, in Figure 3.116, DCA, BWI, and IAD flights are restricted from being rerouted to the ZERLU “1E” CDR in TOS Operations.

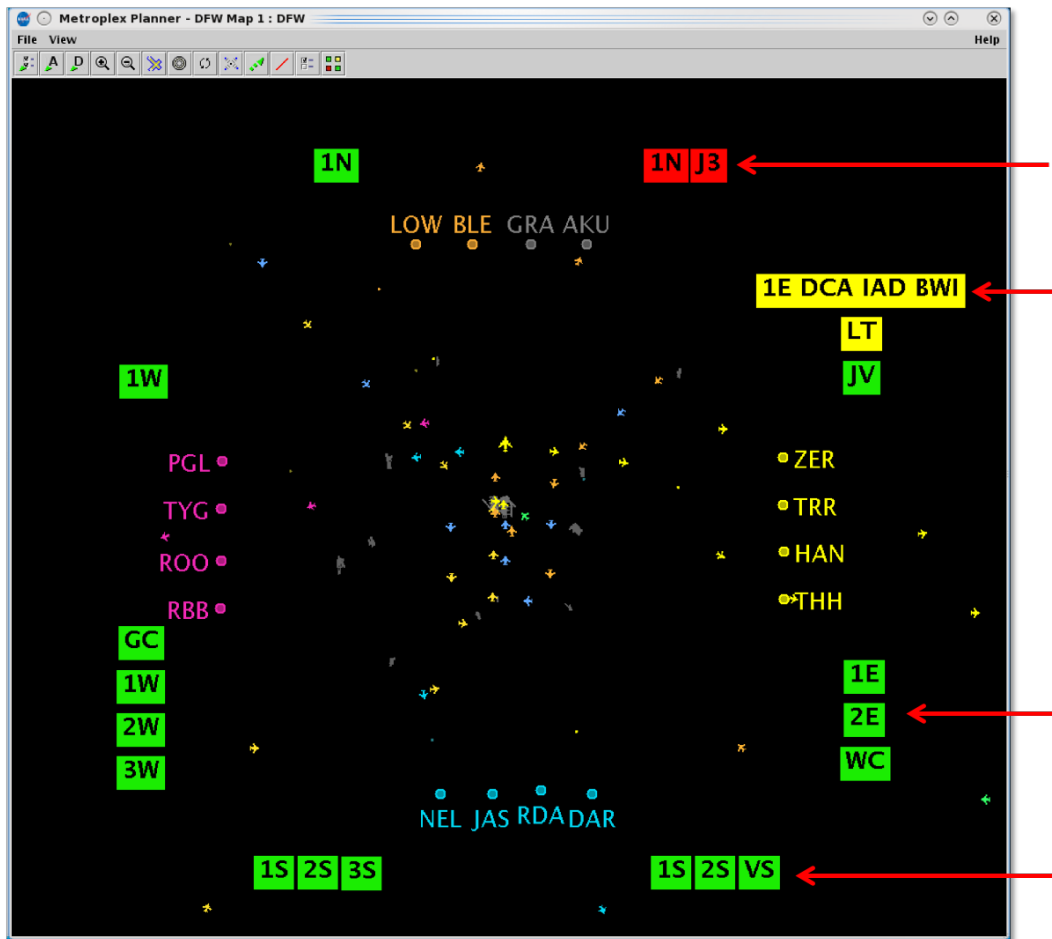


Figure 3.116. TOS Route Availability Labels on the Map. In this example, AKUNA “1N” and “J3” are closed (red) and ZERLU “1E” and “LT” are partially-restricted (yellow). Remaining CDRs, shown in green, are open (unrestricted).

3.1.9.4.2 Types of Restrictions

Each CDR has three columns: Fix, Parsed DCC Advisories, and User (Figure 3.117). The three columns are described in detail in the following sections.

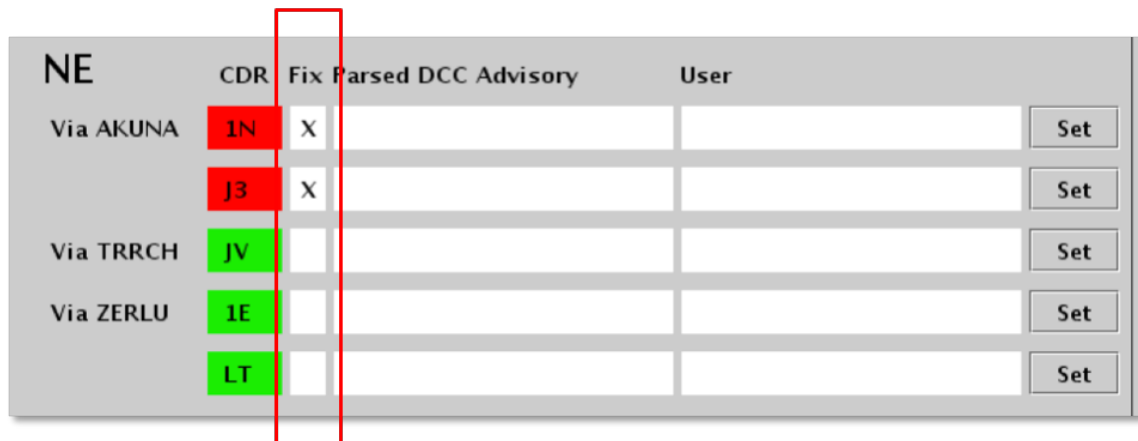
NE		CDR	Fix	Parsed DCC Advisory	User	
Via AKUNA		1N				Set
		J3				Set
Via TRRCH		JV				Set
Via ZERLU		1E				Set
		LT				Set

Figure 3.117. Three columns are shown for each CDR: Fix, Parsed DCC Advisory, and User.

3.1.9.4.2.1 CDR Restrictions: Fix

When Departure Fixes are closed, the CDRs associated with those Fixes are unavailable for TOS rerouting. When Fix closures begin, an “X” is automatically displayed in the “Fix” column to indicate that a restriction is being imposed on the CDR by Fix closures. The CDR is also color-coded red to indicate that it is unavailable for TOS rerouting.

In this example, the AKUNA and GRABE Departure Fixes are closed. As a result, an “X” is displayed next to both AKUNA CDRs (“1N” and “J3”) and they are color-coded red (Figure 3.118).



NE	CDR	Fix	Parsed	DCC Advisory	User	
Via AKUNA	1N	X				Set
	J3	X				Set
Via TRRCH	JV					Set
Via ZERLU	1E					Set
	LT					Set

Figure 3.118. CDRs AKUNA “1N” and “J3” are unavailable for TOS rerouting due to Fix closures, indicated by an “X” in the “Fix” column and red color-coding.

CDR availability status is also represented on the Map (e.g., AKUNA “1N” and “J3” are shown in red in Figure 3.119). Note that the AKUNA and GRABE Departure Fixes are grayed-out on the map because they are currently closed.

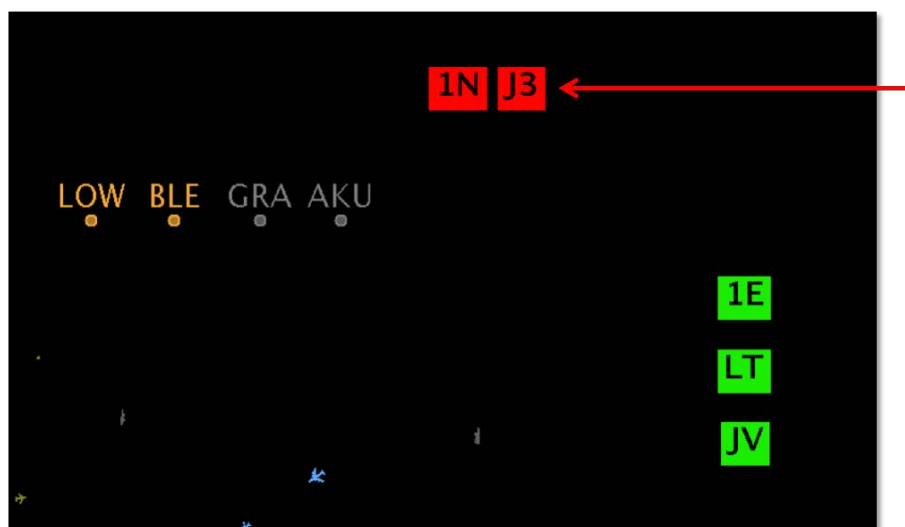


Figure 3.119. CDRs AKUNA “1N” and “J3” are unavailable for TOS rerouting due to Fix closures.

When TOS CDRs are closed because of Departure Fix closures, a Notification is generated for each restricted CDR. In this example, a Notification was generated for each AKUNA CDR, “1N” and “J3”, when the AKUNA and GRABE fixes were closed (Figure 3.120). See Section 3.8 for a description of Notifications.

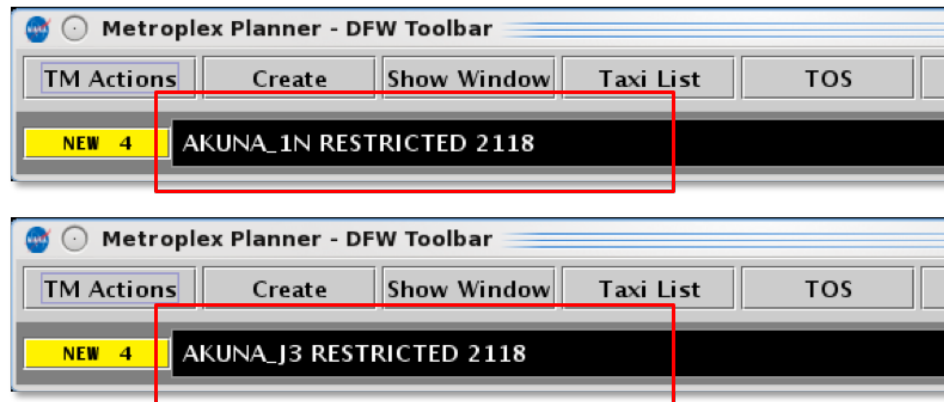


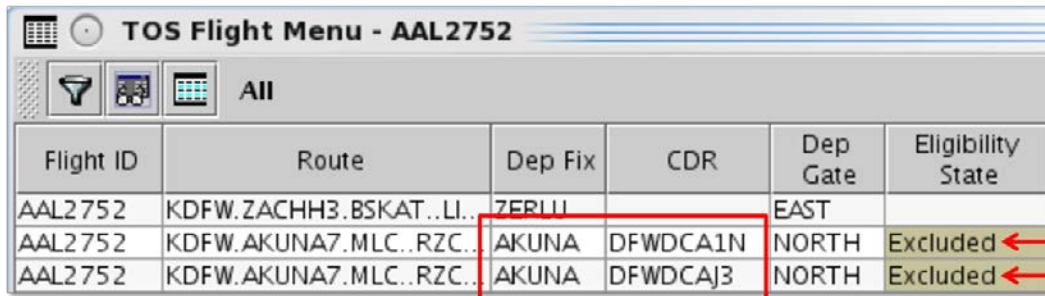
Figure 3.120. Notifications: CDRs AKUNA “1N” and “J3” are unavailable for TOS due to restrictions imposed by Departure Fix closures. Start time is shown in *hhmm* UTC format.

In the **TOS Departure Table**, “FixClsd” is indicated in the “TMI Info” column when a flight is assigned to a closed Departure Fix. In Figure 3.121, the AKUNA Fix is currently closed and “FixClsd” is indicated for AKUNA flights.

TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:							
Flight ID	Rwy	Dest	Route of Flight	Dep Gate	Dep Fix	TMI Info	Eligibility State
AAL2655	E36R	DEN	KDFW.HUDAD2.HUDA...	WEST	PGLET		Potential
AAL2014	E36R	PHX	KDFW.WSTEX2.CIKAN...	WEST	RBBIT		Potential
ENY3454	E36R	ABI	KDFW.WSTEX2.WSTEX...	WEST	RBBIT		Potential
ASH5711	E36R	ELP	KDFW.WSTEX2.CIKAN...	WEST	RBBIT		Potential
AAL2659	E36R	SNA	KDFW.KATZZ2.BRHMA...	WEST	RO000		Potential
AAL2609	E36R	LAS	KDFW.HRPER3.HULZE...	WEST	TYGGR		Potential
AAL1565	E36R	ABQ	KDFW.HRPER3.HULZE...	WEST	TYGGR		Potential
AAL2276	E35L	IAH	KDFW.DARTZ8.TORN...	SOUTH	DARTZ		Potential
ENY3665	E35L	XNA	KDFW.AKUNA7.MLC...	NORTH	AKUNA	FixClsd	Potential
ENY3323	E35L	FSM	KDFW.AKUNA7.MLC...	NORTH	AKUNA	FixClsd	Potential
AAL2406	E36R	MSP	KDFW.BLECO8.IRW.J2...	NORTH	BLECO		Potential
SKW2985	E36R	OKC	KDFW.BLECO8.ZEMMA...	NORTH	BLECO		Potential
ENY3300	E35L	CHS	KDFW.FORCK2.FORCK...	EAST	HANUH		Potential
AAL268	E35L	CLT	KDFW.FORCK2.FORCK...	EAST	HANUH		Potential

Figure 3.121. TOS Departure Table: “FixClsd” is indicated in the “TMI Info” column for flights with a closed Departure Fix (in this example, AKUNA is closed).

In the **TOS Flight Menu**, a CDR associated with a *closed* Departure Fix is shown with an “Excluded” Eligibility State. In Figure 3.122, both AKUNA CDRs are “Excluded” because they are not valid TOS options while the Fix is closed.



Flight ID	Route	Dep Fix	CDR	Dep Gate	Eligibility State
AAL2752	KDFW.ZACHH3.BSKAT..LI..	ZERLU		EAST	
AAL2752	KDFW.AKUNA7.MLC..RZC...	AKUNA	DFWCA1N	NORTH	Excluded
AAL2752	KDFW.AKUNA7.MLC..RZC...	AKUNA	DFWCAJ3	NORTH	Excluded

Figure 3.122. TOS Flight Menu: A CDR associated with a closed Departure Fix is shown with an “Excluded” Eligibility State (in this example, the AKUNA Departure Fix is closed).

See Sections 5.4 and 0 for a description of the TOS Departure Table and TOS Flight Menus, respectively.

When the Fix closures end, the “X” is automatically removed from the “Fix” column and, if no other restrictions are in place, the CDR color-coding changes from red to green.

3.1.9.4.2.1.1 Override CDR Fix Closures

Use the “CDR Settings” window to override CDR restrictions imposed by Departure Fix closures.

To Override/Restore CDR Restrictions imposed by Departure Fix Closures:

Note: CDR Restrictions can only be modified in ATC versions of the Metroplex Planner.

Step 1: Only one CDR can be modified at a time. Select the “Set” button that corresponds with the CDR to be modified (e.g., the AKUNA “1N” CDR in Figure 3.123) to open the “CDR Settings” window.

Note: *In the CDR Settings window, the Departure Fix closure is listed in the “Restrictions” table (e.g., “AKUNA Closed” in Figure 3.124). The checkmark in the “Active” column indicates that the restriction is currently applied to this CDR, making it unavailable for TOS Operations.*

Step 2: To override the CDR restriction imposed by the Fix closure, *deselect* the “AKUNA Closed” checkbox. Deselected (unchecked) restrictions are grayed-out (Figure 3.125).

Step 3: Select “Save” to save the changes and close the CDR Settings window (Figure 3.126).

Note: *An “X” is no longer displayed in the Fix column (Figure 3.127). And, if no other restrictions are in place, the CDR is color-coded green.*

Step 4: On the TOS Operation tab, select “Submit” to apply changes (Figure 3.127).

Note: *Changes on the TOS Operation tab are not applied until “Submit” is selected.*

Note: *If no other restrictions are in place, the CDR is again available for TOS rerouting.*

Alternatively: Select “Cancel” at the bottom of the TOS Operation tab to clear any pending changes.

Step 5 (Optional): Select “Close Window” to close the TM Actions panel.

Note: *Follow the same steps to restore the CDR restriction imposed by the Fix closure by reselecting the Fix closure checkbox in the CDR Settings window.*

Note that deselecting a Departure Fix closure in a CDR Settings window removes only the restriction imposed upon the CDR in TOS Operations. It does *not* remove the Departure Fix closure itself from the ATD-2 system. See Section 3.1.3 for a description of how Fix Closures are viewed, entered, and modified on the “Dep Fix Closures” tab.

NE	CDR	Fix	Parsed	DCC	Advisory	User
Via AKUNA	1N	X				Set
	J3	X				Set
Via TRRCH	JV					Set
Via ZERLU	1E					Set
	LT					Set

Figure 3.123. Select “Set” to open the CDR Settings window (in this example, the Settings window for the AKUNA “1N” CDR).

NE Via AKUNA CDR: 1N

Restricted Destinations:

Select

☐ All Destinations Restricted (CDR Closed)

Except:

Select

Clear

Add

Restrictions

Active	Restricted	Advz#	Source
☒	AKUNA Closed		USER

Remove

Modify

Cancel

Save

Figure 3.124. CDR Settings window (for the AKUNA “1N” CDR). In the Restrictions Table: “AKUNA Closed” indicates that this CDR is closed due to the AKUNA Departure Fix closure.

Restrictions

Active	Restricted	Advz#	Source
☐	AKUNA Closed		USER

Figure 3.125. Deselect a Departure Fix closure to *override* the CDR closure.

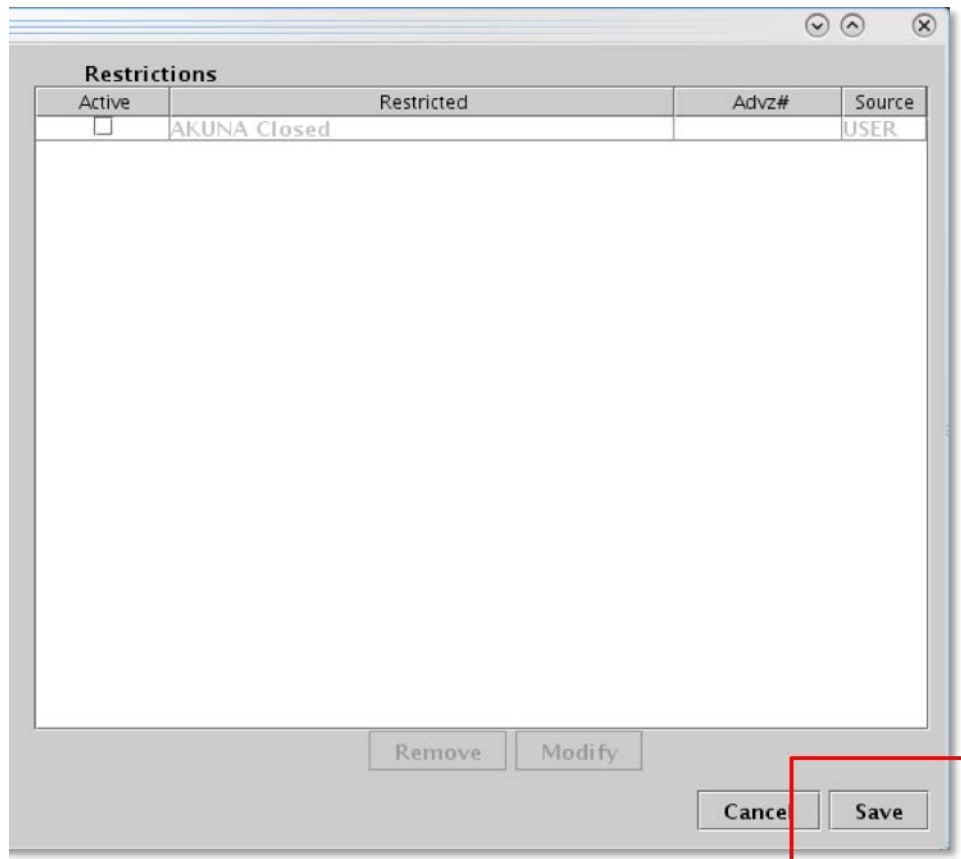


Figure 3.126. CDR Settings window: CDR closure is *deselected* (not active). Select “Save”.

NE		CDR	Fix	Parsed	DCC Advisory	User
Set	Via AKUNA	1N				Set
Set		J3	X			Set
	Via TRRCH	JV				Set
	Via ZERLU	1E				Set
		LT				Set

SE		CDR	Fix	Parsed	DCC Advisory	User
Set	Via DARTZ	1S				Set
Set		2S				Set
Set		VS				Set
Set	Via THHOR	1E				Set
Set		2E				Set
Set		WC				Set

Clear User CDR Entries

Cancel Submit

Close Window

Figure 3.127. CDR Restrictions: In this example, the AKUNA “1N” CDR is color-coded green because it is now open (unrestricted). AKUNA “J3” remains closed. Select “Submit” to apply changes.

3.1.9.4.2.2 CDR Restrictions: Parsed DCC Advisories

The ATD-2 automation reads, or “parses”, Advisories issued by the FAA Air Traffic Control System Command Center (ATCSCC; or “DCC”) to identify those Route Advisories that impact ATD-2 TOS Operations. This advisory information is used to inform TOS algorithms which destinations are currently restricted from rerouting. ATD-2 automation parses Route Advisories, but not FCA advisories or Wind Routes.

When a DCC Advisory impacts one or more of the CDRs used in TOS Operations, restricted destinations are displayed in the “Parsed DCC Advisory” column (Figure 3.128). The restricted destinations populate automatically at the Advisory’s start time. The CDR is also color-coded yellow to indicate its *partial* availability for TOS rerouting.

In this example, a DCC Route Advisory requires ZFW flights bound for DCA, IAD, and BWI to fly a mandatory route. In this case, the DCC-assigned route matches two of the CDRs used in TOS Operations, **DARTZ “1S”** and **DARTZ “VS”**. Because DCA-, IAD-,

and BWI-bound flights are *required* to fly one of these two routes, they are, as a result, *restricted* from using the other CDRs associated with those destinations:

- AKUNA “1N” and “J3”
- ZERLU “LT”
- THHOR “WC”

In the Parsed DCC Advisory column, the destinations (in this example, DCA, IAD, BWI) are displayed next to the CDRs they are restricted from using (Figure 3.128).

NE	CDR	Fix	Parsed DCC Advisory	User
Via AKUNA	1N		DCA IAD BWI	Set
	J3		DCA IAD BWI	Set
	JV			Set
	1E			Set
	LT		DCA IAD BWI	Set
Via THHOR	1S			Set
	2S			Set
	VS			Set
	1E			Set
	2E			Set
	WC		DCA IAD BWI	Set

Figure 3.128. CDR Restrictions: Parsed DCC Advisories. In this example, DCA-, IAD-, and BWI-bound flights are restricted from using the AKUNA “1N”, AKUNA “J3”, ZERLU “LT”, and THHOR “WC” CDRs.

Like the TOS Operation tab, partially-restricted CDRs are also color-coded yellow on the TOS Route Availability Labels on the map.

Click on a yellow label to view restricted destinations. For example, in Figure 3.129, DCA, BWI, and IAD flights are restricted from being rerouted to the ZERLU “LT” CDR while the Advisory is in effect.

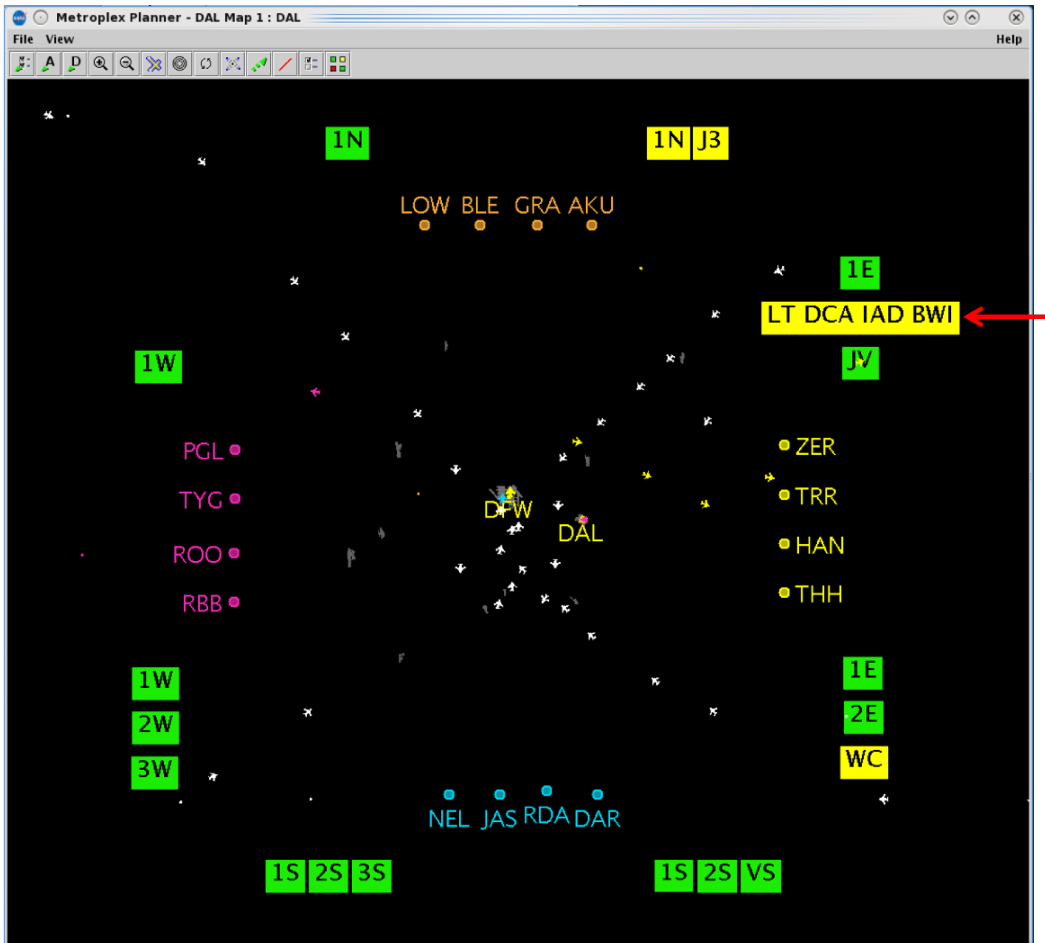


Figure 3.129. TOS Route Availability Labels on the Map. In this example, the AKUNA “1N”, AKUNA “J3”, ZERLU “LT”, and THHOR “WC” CDRs are color-coded yellow because they are partially-restricted. Click on a yellow label to view restricted destinations (in this example, DCA, IAD, and BWI).

When a DCC Route Advisory imposes a restriction on TOS CDRs, a Notification is generated for each restricted CDR. In this example, a Notification was generated for each CDR with restricted destinations: AKUNA “1N”, AKUNA “J3”, ZERLU “LT”, and THHOR “WC” (Figure 3.130). See Section 3.8 for a description of Notifications.

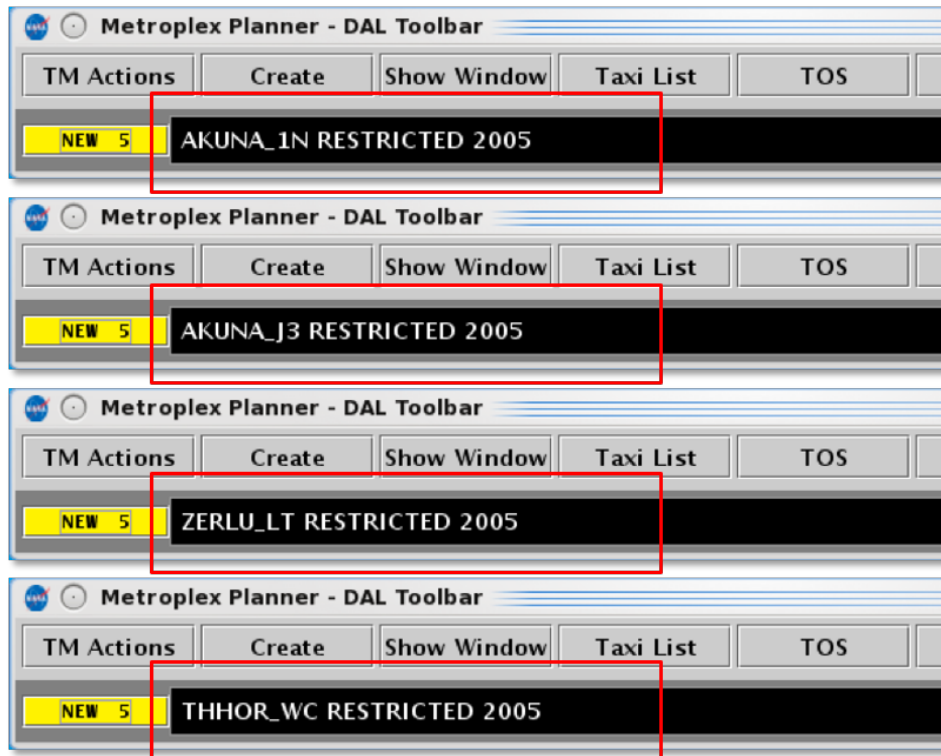


Figure 3.130. Notifications: CDRs AKUNA “1N”, AKUNA “J3”, ZERLU “LT”, and THHOR “WC” are restricted. Start time is shown in *hhmm* UTC format.

In the **TOS Flight Menu**, a restricted CDR is shown with an “Excluded” Eligibility State because it is not available for TOS rerouting.

In the example described above, due to a DCC Route Advisory, DCA-, IAD-, and BWI bound flights are restricted from using several CDRs. The **TOS Flight Menu** of a DCA-bound flight is shown in Figure 3.131.

Two *restricted* CDRs are visible in Figure 3.131: AKUNA “1N” and AKUNA “J3”. Their Eligibility State is “Excluded” because, currently, they are not valid TOS options for a DCA-bound flight.

When the DCC Route Advisory ends, the Eligibility Status of these CDRs will change from “Excluded” to “Potential”.

Flight ID	Route	Dep Fix	CDR	Eligibility State
SWA36	KDAL.EMMTT4.LOOSE....	TRRCH		
SWA36	KDAL.SWTSR4.MLC..RZ...	AKUNA	DALDCA1N	Excluded
SWA36	KDAL.SWTSR4.MLC..RZ...	AKUNA	DALDCAJ3	Excluded
SWA36	KDAL.CURL05.TNV..IA...	DARTZ	DALDCA1S	Potential
SWA36	KDAL.CURL05.TNV.J87...	DARTZ	DALDCAV5	Potential

Figure 3.131. TOS Flight Menu for a DCA-bound flight: Restricted CDRs are shown with an “Excluded” Eligibility State. Two “Excluded” CDRs are visible in this example: AKUNA “1N” and “J3”.

See Section 5.5 for a description of the TOS Flight Menu.

When DCC Advisories end, the restricted destinations are automatically removed from the “Parsed DCC Advisory” column on the TOS Operation tab and, if no other restrictions are in place, the CDR color-coding changes from yellow to green.

3.1.9.4.2.2.1 Override DCC Advisory CDR Restrictions

Use the “CDR Settings” window to override CDR restrictions imposed by parsed DCC Route Advisories.

In this example, the user removes the DCA, IAD, BWI-restriction from the AKUNA “1N” CDR.

To Override/Restore CDR Restrictions imposed by Parsed DCC Route Advisories:

Note: CDR Restrictions can only be modified in ATC versions of the Metroplex Planner.

Step 1: Only one CDR can be modified at a time. Select the “Set” button that corresponds with the CDR to be modified (e.g., the AKUNA “1N” CDR in Figure 3.132) to open the “CDR Settings” window.

Note: *In the CDR Settings window, the restrictions imposed by the DCC Advisory are listed in the “Restrictions” table (e.g., “DCA, IAD, BWI” in Figure 3.133). The checkmark in the “Active” column indicates that this destination is currently restricted for this CDR in TOS operations.*

Step 2: To override the CDR restriction imposed by the DCC Advisory, *deselect* the checkbox next to each destination. Deselected (unchecked) restrictions are grayed-out (Figure 3.134).

Step 3: Select “Save” to save the changes and close the CDR Settings window (Figure 3.135).

Note: *“DCA, IAD, BWI” are no longer displayed in the Parsed DCC Advisory column) of the AKUNA “1N” CDR. And, if no other restrictions are in place, the CDR is color-coded green Figure 3.136).*

Step 4: On the TOS Operation tab, select “Submit” to apply changes (Figure 3.136).

Note: *Changes on the TOS Operation tab are not applied until “Submit” is selected.*

Note: *If no other restrictions are in place, the CDR is available for TOS rerouting.*

Alternatively: Select “Cancel” at the bottom of the TOS Operation tab to clear any pending changes.

Step 5 (Optional): Select “Close Window” to close the TM Actions panel (Figure 3.136).

Note: *Follow the same steps to restore the CDR restriction imposed by the DCC Advisory by reselecting the destination checkboxes in the CDR Settings window.*

NE	CDR	Fix	Parsed DCC Advisory	User
Via AKUNA	1N	☐	DCA IAD BWI	Set
	J3	☐	DCA IAD BWI	Set
Via TRRCH	JV	☐		Set
Via ZERLU	1E	☐		Set
	LT	☐	DCA IAD BWI	Set

Figure 3.132. Select “Set” to open the CDR Settings window (in this example, the Settings window for the AKUNA “1N” CDR).

NE Via AKUNA CDR: 1N

Restricted Destinations:

Select

☐ All Destinations Restricted (CDR Closed)
 Except:

Restrictions

Active	Restricted	Advz#	Source
☒	DCA	177	DCC
☒	IAD	177	DCC
☒	BWI	177	DCC

Figure 3.133. CDR Settings window (for the AKUNA “1N” CDR). Restricted destinations are listed in the Restrictions table (in this example, DCA, IAD, and BWI).

Restrictions

Active	Restricted	Advz#	Source
☐	DCA	177	DCC
☐	IAD	177	DCC
☐	BWI	177	DCC

Figure 3.134. Deselect (uncheck) destinations to override DCC Advisory restrictions.

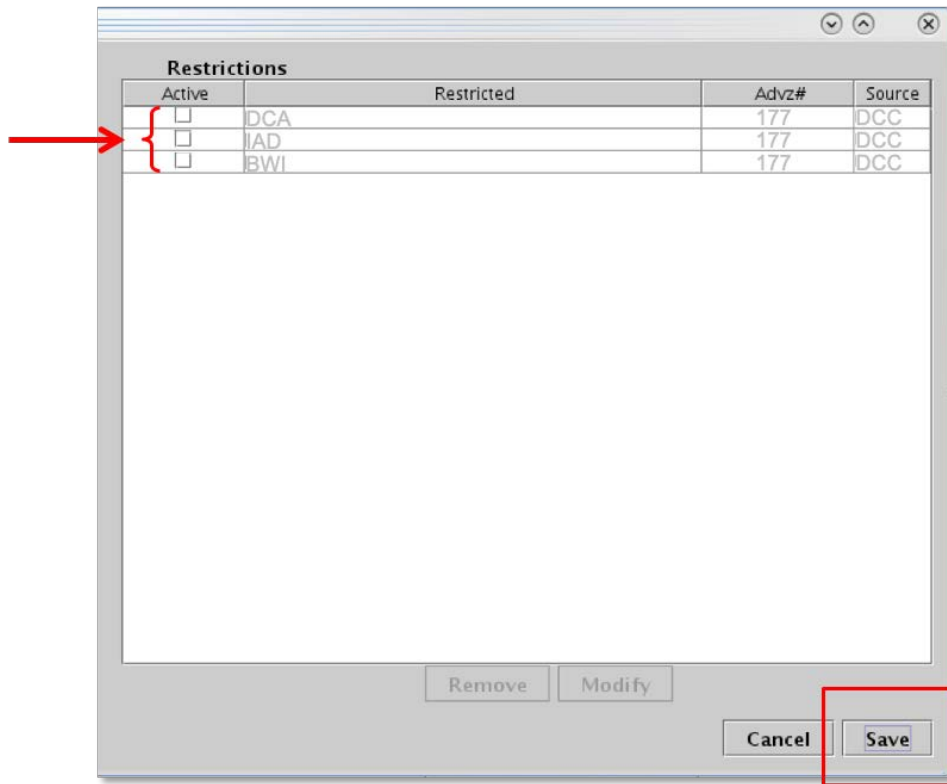


Figure 3.135. CDR Settings window: Restricted destinations are *deselected* (not active). Select “Save”.

NE		CDR	Fix	Parsed	DCC Advisory	User
Set	Via AKUNA	1N				Set
Set		J3			DCA IAD BWI	Set
	Via TRRCH	JV				Set
	Via ZERLU	1E				Set
		LT			DCA IAD BWI	Set
SE		CDR	Fix	Parsed	DCC Advisory	User
Set	Via DARTZ	1S			DCA IAD BWI	Set
Set		2S				Set
Set		VS				Set
Set	Via THHOR	1E				Set
Set		2E				Set
Set		WC			DCA IAD BWI	Set
Set						

Clear User CDR Entries

Figure 3.136. CDR Restrictions: In this example, the AKUNA “1N” CDR is color-coded green because it is now unrestricted. Select “Submit” to apply changes.

3.1.9.4.3 CDR Restrictions: User

In addition to the “Fix” and “Parsed DCC Advisory” fields which populate with CDR restrictions automatically, users can also manually enter CDR restrictions. Like the Fix and Parsed Advisories, user-entries are also used to inform TOS algorithms of which destinations and CDRs are currently restricted from rerouting. Manual entries are displayed in the User column (Figure 3.137).

NE	CDR	Fix	Parsed	DCC	Advisory	User	
Via AKUNA	1N						Set
	J3						Set
Via TRRCH	JV						Set
Via ZERLU	1E						Set
	LT						Set

Figure 3.137. CDR Restrictions: Manual user-entries are displayed in the “User” field.

3.1.9.4.3.1.1 Manually Add a CDR Restriction

Use the “CDR Settings” window to partially-close a CDR by restricting one or more destinations. In this example, the user restricts ATL- and CLT-bound flights from being rerouted on the AKUNA “1N” CDR in TOS Operations.

To Manually Add a CDR restriction:

Note: CDR Restrictions can only be modified in ATC versions of the Metroplex Planner.

Step 1: Select the “Set” button that corresponds with the CDR to be modified (e.g., the AKUNA “1N” CDR in Figure 3.138) to open the “CDR Settings” window.

Note: *No restrictions are currently displayed in the Restrictions table because the CDR is currently open (unrestricted) (Figure 3.139).*

Step 2: In the “Restricted Destinations” section, click on the “Select” button to open the “Select Airport” window (Figure 3.140).

Step 3: Check the destination(s) to be restricted (e.g., ATL and CLT in Figure 3.140).

Step 4: Click on the “Select” button to confirm the selection and close the “Select Airport” window (Figure 3.140).

Alternatively: Type the 3-letter airport code(s) directly in “Restricted Destinations” text box (e.g., “ATL,CLT” in Figure 3.140). Separate multiple airport codes with a comma.

Step 5: Select “Add” to add the new restrictions to the Restrictions Table (Figure 3.140).

Step 6: Select “Save” to save the changes and close the CDR Settings window (Figure 3.141).

Note: *ATL and CLT are displayed in the User column of the AKUNA “1N” CDR. The CDR is color-coded yellow because it is partially-restricted.*

Step 7: On the TOS Operation tab, select “Submit” to apply changes (Figure 3.142).

Note: *Changes on the TOS Operation tab are not applied until “Submit” is selected.*

Alternatively: Select “Cancel” at the bottom of the TOS Operation tab to clear any pending changes.

Step 8 (Optional): Select “Close Window” to close the TM Actions panel.

Note: *Follow the same steps to add more restricted destinations.*

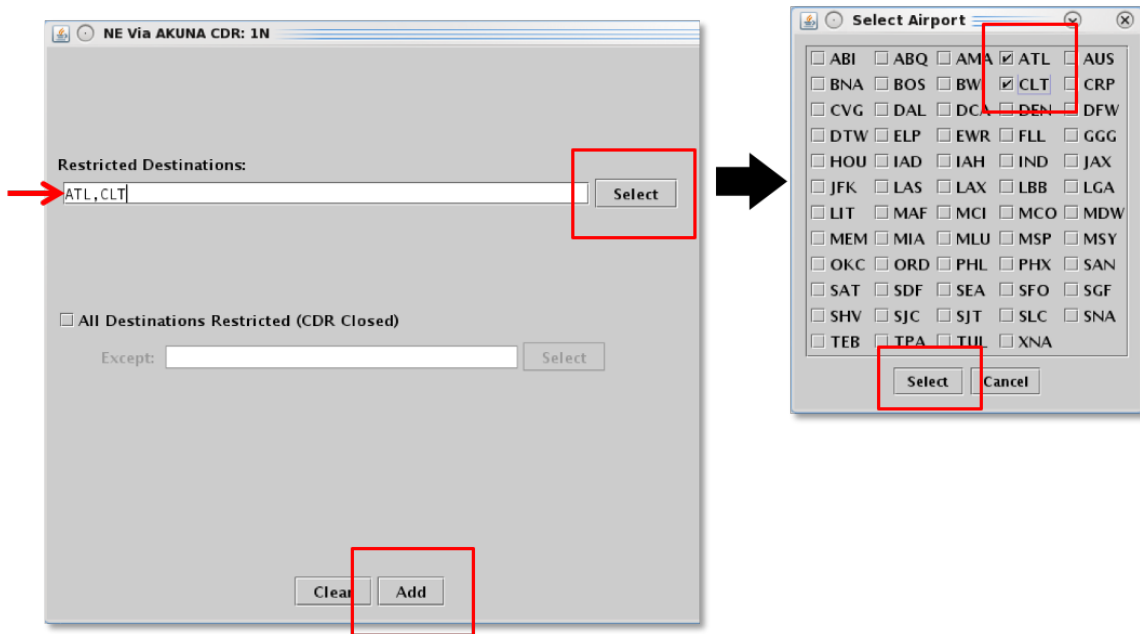


Figure 3.140. CDR Settings window: Enter or select restricted destinations (in this example, ATL and CLT). Select “Add”.

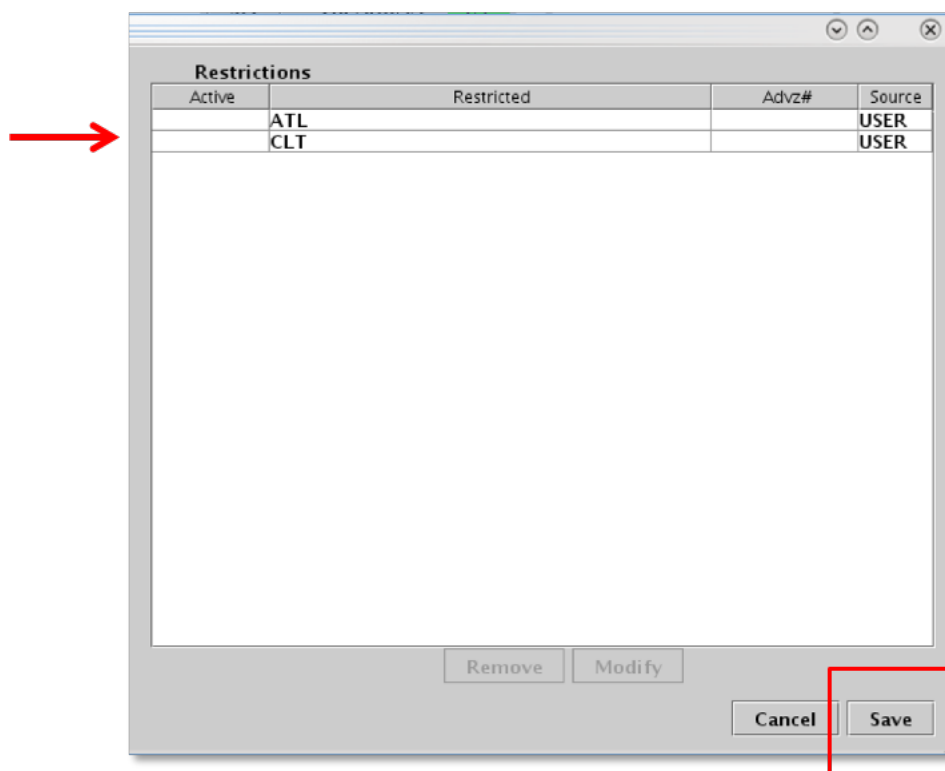


Figure 3.141. CDR Settings window: Restricted Destinations (ATL, CLT). Select “Save”.

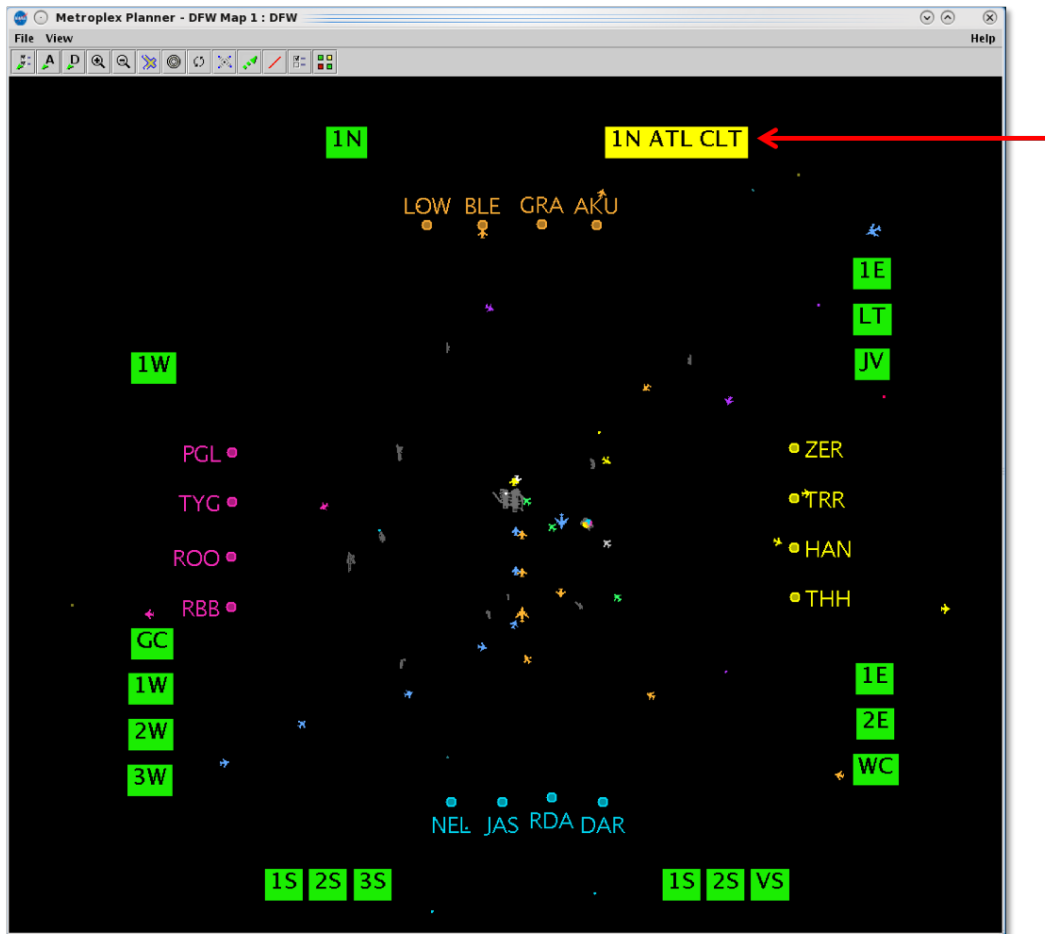


Figure 3.143. TOS Route Availability Labels on the Map. In this example, the AKUNA “1N” CDR is color-coded yellow because it is partially-restricted. Click on a yellow label to view restricted destinations (in this example, ATL and CLT).

When a CDR restriction is manually entered, a Notification is generated for each restricted CDR. In this example, a Notification was generated for the AKUNA “1N” CDR (Figure 3.144). See Section 3.8 for a description of Notifications.

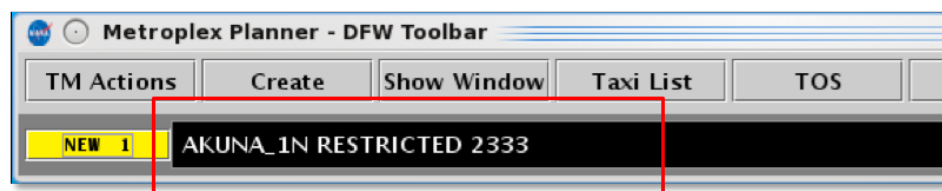


Figure 3.144. Notifications: CDRs AKUNA “1N” is restricted. Start time is shown in *hhmm* UTC format.

In the **TOS Flight Menu**, a restricted CDR is shown with an “Excluded” Eligibility State because it is not available for TOS rerouting.

In the example described above, ATL- and CLT-bound flights are restricted from using the AKUNA “1N” CDR for TOS rerouting. TOS Flight Menus for ATL- and CLT-bound flights are shown in Figure 3.145.

The Eligibility State of the AKUNA “1N” CDR is “Excluded” because, currently, it is not a valid TOS option for ATL- and CLT-bound flights.

TOS Flight Menu - AAL2403

Flight ID	Route	Dep Fix	CDR	Dep Gate	Eligibility State
AAL2403	KDFW.FORCK2.FORCK....	HANUH		EAST	
AAL2403	KDFW.DARTZ8.TNV..IA..	DARTZ	DFWATL1S	SOUTH	Potential
AAL2403	KDFW.AKUNA7.MLC..RZ..	AKUNA	DFWATL1N	NORTH	Excluded

TOS Flight Menu - AAL268

Flight ID	Route	Dep Fix	CDR	Dep Gate	Eligibility State
AAL268	KDFW.FORCK2.FORCK....	HANUH		EAST	
AAL268	KDFW.AKUNA7.MLC..RZ..	AKUNA	DFWCLT1N	NORTH	Excluded
AAL268	KDFW.DARTZ8.TNV..IA..	DARTZ	DFWCLT1S	SOUTH	Potential

Figure 3.145. TOS Flight Menus: Restricted CDRs are shown with an “Excluded” Eligibility State. In this example, ATL- and CLT-bound flights are restricted from using the AKUNA “1N” CDR.

If ATL and CLT are the only destination restrictions currently in place, the AKUNA “1N” CDR will remain available as a TOS reroute option for *other* destinations.

See Section 5.5 for a description of the TOS Flight Menu.

3.1.9.4.3.1.2 Manually Close a CDR

Use the “CDR Settings” window to **close** a CDR. When a CDR is closed, ***all destinations*** associated with that CDR are restricted from using that CDR as an alternative route in TOS Operations. A closed CDR is color-coded red to indicate it is unavailable for TOS rerouting.

In this example, the user closes the PGLET “1W” CDR.

To Manually Close a CDR:

Note: CDR Restrictions can only be modified in ATC versions of the Metroplex Planner.

Step 1: Select the “Set” button that corresponds with the CDR to be modified (e.g., the PGLET “1W” CDR in Figure 3.146) to open the “CDR Settings” window.

Note: *No restrictions are currently displayed in the Restrictions table because the CDR is currently open (unrestricted) (Figure 3.147).*

Step 2: Check “All Destinations Restricted (CDR Closed)” (Figure 3.148).

Step 3: Select “Add” to add the new closure to the Restrictions Table (Figure 3.148).

Note: *“All” is displayed in the Restrictions table to indicate that all destinations are restricted from using this CDR as an alternative route in TOS Operations (Figure 3.149).*

Step 4: Select “Save” to save the changes and close the CDR Settings window (Figure 3.149).

Note: *“All” is displayed in the User column of the PGLET “1W” CDR. The CDR is color-coded red because it is closed (Figure 3.150).*

Step 5: On the TOS Operation tab, select “Submit” to apply changes (Figure 3.150).

Note: *Changes on the TOS Operation tab are not applied until “Submit” is selected.*

Alternatively: Select “Cancel” at the bottom of the TOS Operation tab to clear any pending changes.

Step 6 (Optional): Select “Close Window” to close the TM Actions panel (*not pictured* in Figure 3.150).

Note: *Follow the same steps to close other CDRs.*

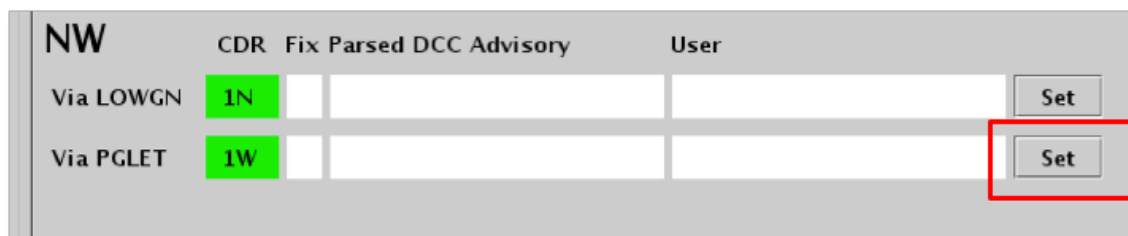


Figure 3.146. Select “Set” to open the CDR Settings window (in this example, the Settings window for the PGLET “1W” CDR).

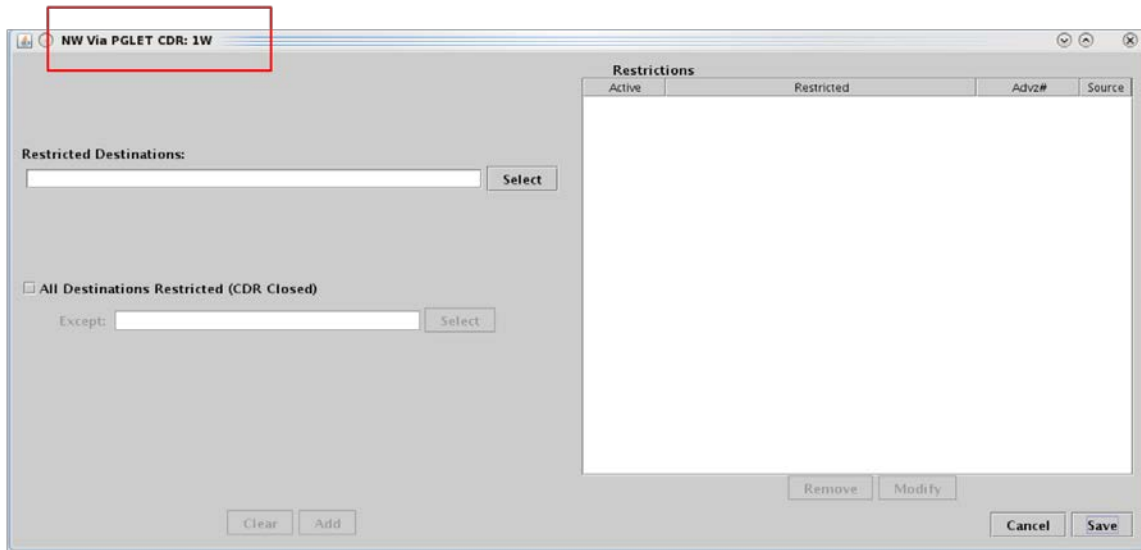


Figure 3.147. CDR Settings window (for the PGLET “1W” CDR). The Restrictions table is empty because the CDR is currently open (unrestricted).

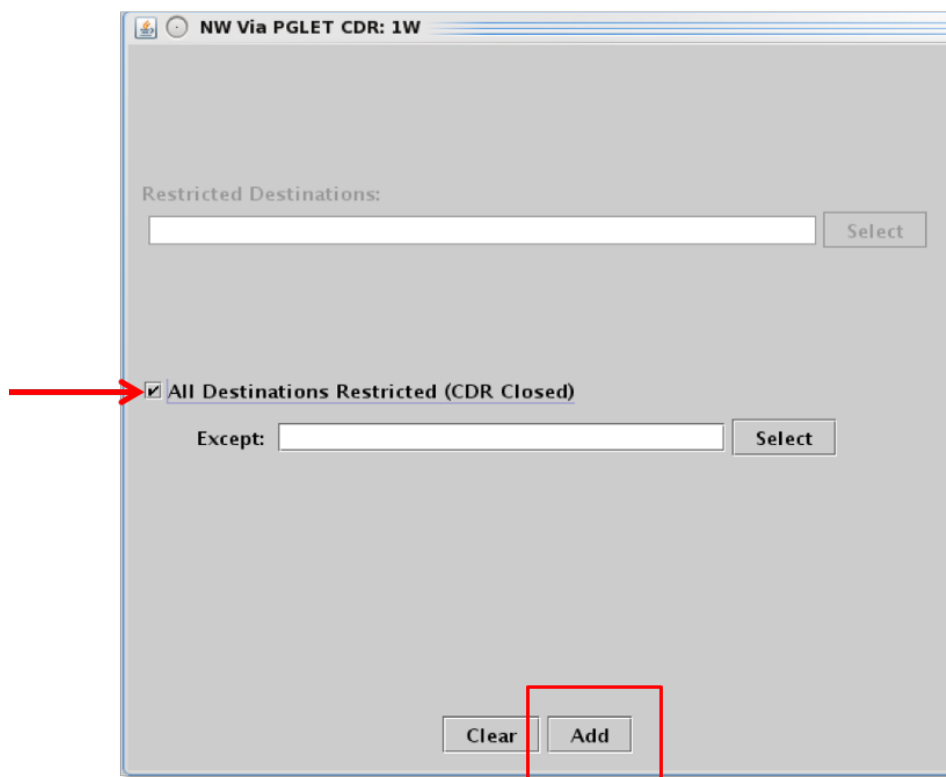


Figure 3.148. CDR Settings window: All Destinations Restricted (CDR Closed). Select “Add”.

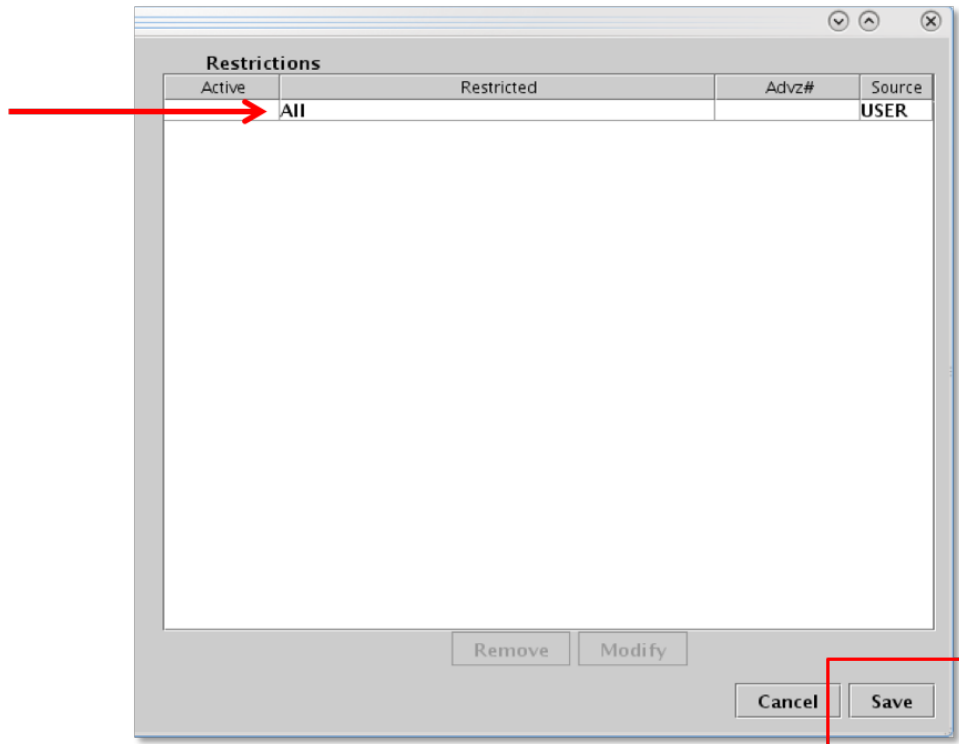


Figure 3.149. CDR Settings window: All destinations restricted (CDR closed). Select “Save”.

Metroplex Planner - DFW TM Actions

Runway Utilization | APREQ Schedules | MIT Restrictions | Dep Fix Closures | Runway Closures | Ground Stops | DCC Route Advisories

TOS Submission: ☒ Active ☐ Inactive

Excluded Destinations (All Routes): Airport:

CDR Restrictions

Direction	CDR	Fix	Parsed	DCC Advisory	User	Action
NW	Via LOWGN	1N				Set
	Via PGLET	1W			All	Set
SW	Via NELYN	1S				Set
		2S				Set
		3S				Set
	Via RBBIT	1W				Set
		2W				Set
		3W				Set
	Via ROOOO	GC				Set
NE	Via AKUNA	1N				Set
		J3				
	Via TRRCH	JV				
	Via ZERLU	1E				
SE		LT				
	Via DARTZ	1S				
		2S				
		VS				
	Via THHOR	1E				
	2E					
	WC					

Clear User CDR Entries

Cancel Submit

Figure 3.150. CDR Restrictions: In this example, the PGLET “1W” CDR is color-coded red because it is closed (restricted for “All” destinations). Select “Submit” to apply changes.

Like the TOS Operation tab, closed CDRs are also color-coded red on the map TOS Route Availability Labels. In Figure 3.151, the PGLET “1W” CDR is color-coded red because it is closed.

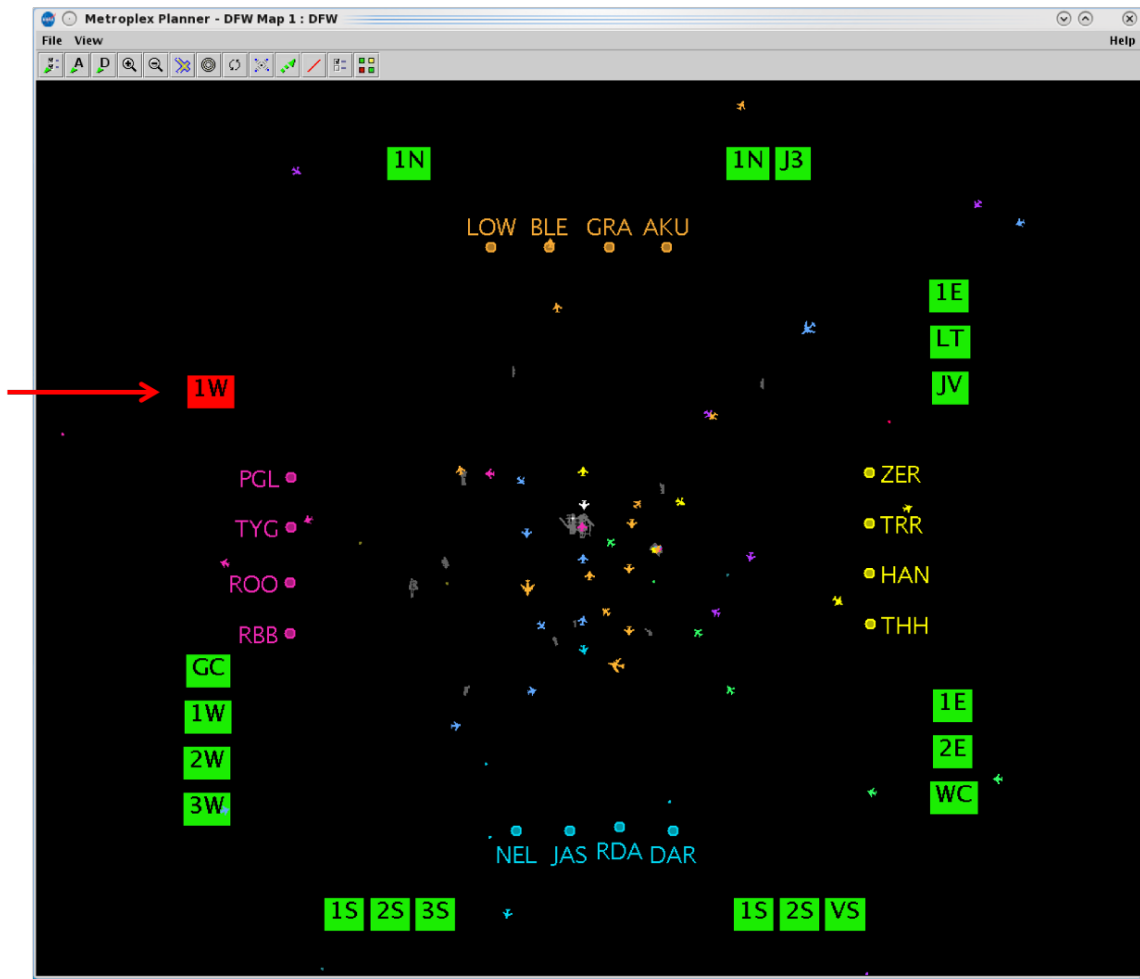


Figure 3.151. TOS Route Availability Labels on the Map. In this example, the PGLET “1W” CDR is color-coded red because it is closed.

When a CDR closure is manually entered, a Notification is generated for each restricted CDR. In this example, a Notification was generated for the PGLET “1W” CDR (Figure 3.152). See Section 3.8 for a description of Notifications.



Figure 3.152. Notifications: CDRs PGLET “1W” is restricted. Start time is shown in *hmm* UTC format.

In the **TOS Flight Menu**, a closed CDR is shown with an “Excluded” Eligibility State because it is not available for TOS rerouting.

In the example described above, the PGLET “1W” CDR is closed. That is, it is restricted from being used in TOS rerouting. While the CDR is closed, the PGLET “1W” CDR is shown as “Excluded” in the TOS Flight Menu of all flights, regardless of the flight’s destination (Figure 3.153).

Flight ID	Route	Dep Fix	CDR	Dep Gate	Eligibility State
ASH5734	KDFW.BLECO8.ZEMMA.T...	BLECO		NORTH	
ASH5734	KDFW.HUDAD2.HUDAD.....	PGLET	DFWOKC1W	WEST	Excluded
ASH5734	KDFW.ZACHH3.BSKAT..LI...	ZERLU	DFWOKC1E	EAST	Potential

Figure 3.153. TOS Flight Menu: Closed CDRs are shown with an “Excluded” Eligibility State for all destinations. In this example, the PGLET “1W” CDR is closed and unavailable for TOS rerouting.

See Section 5.5 for a description of the TOS Flight Menu.

3.1.9.4.3.1.3 Manually Close a CDR with Exception

Use the “CDR Settings” window to close a CDR *with exceptions*. When a CDR is closed, **all destinations** associated with that CDR are restricted from using that CDR as an alternative route in TOS Operations. Use the “Except” field in the CDR Settings window to exclude destinations from a CDR closure. A CDR closure with exceptions is color-coded yellow to indicate that it is partially-restricted.

In this example, the PGLET “1W” CDR is closed when the user excludes two destinations, OKC and TUL.

To Manually Close a CDR with Exception:

Note: CDR Restrictions can only be modified in ATC versions of the Metroplex Planner.

Step 1: Select the “Set” button that corresponds with the CDR to be modified (e.g., the PGLET “1W” CDR in Figure 3.154) to open the “CDR Settings” window.

Note: “All” is shown in the Restrictions table, indicating the Fix is currently closed (restricted to all destinations) (Figure 3.155).

Step 2: Select “All” in the Restrictions table (row is highlighted in cyan) and select “Modify” (Figure 3.156).

Step 3: In the “All Destinations Restricted (CDR Closed)” section, click on the “Select” button to open the “Select Airport” window (Figure 3.157).

Step 4: Check the destination(s) to be excepted (e.g., OKC and TUL in Figure 3.157).

Step 5: Click on the “Select” button to confirm the selection and close the “Select Airport” window (Figure 3.157).

Alternatively: Type the 3-letter airport code(s) directly in “Except” text box (e.g., “OKC,TUL” in Figure 3.157). Separate multiple airport codes with a comma.

Step 6: Select “Update” to add the modified closure to the Restrictions table (Figure 3.157).

Note: “All (Except OKC TUL)” is displayed in the Restrictions table to indicate that all destinations – except OKC and TUL – are restricted from using this CDR (Figure 3.158).

Step 7: Select “Save” to save the changes and close the CDR Settings window (Figure 3.158).

Note: “All (Except OKC TUL)” is displayed in the User column of the PGLET “1W” CDR. The CDR is color-coded yellow because it is partially-restricted (Figure 3.159).

Step 8: On the TOS Operation tab, select “Submit” to apply changes (Figure 3.159).

Note: Changes on the TOS Operation tab are not applied until “Submit” is selected.

Alternatively: Select “Cancel” at the bottom of the TOS Operation tab to clear any pending changes.

Step 9 (Optional): Select “Close Window” to close the TM Actions panel (not pictured in Figure 3.159).

NW	CDR	Fix	Parsed DCC	Advisory	User	
Via LOWGN	1N					Set
Via PGLET	1W				All	Set

Figure 3.154. Select “Set” to open the CDR Settings window (in this example, the Settings window for the PGLET “1W” CDR).

NW Via PGLET CDR: 1W

Restricted Destinations:

Select

☐ All Destinations Restricted (CDR Closed)
Except:
Select

Clear Add

Restrictions

Active	Restricted	Advz#	Source
	All		USER

Remove Modify

Cancel Save

Figure 3.155. CDR Settings window (for the PGLET “1W” CDR). In the Restrictions table, “All” indicates that this CDR is closed (restricted to *all* destinations).

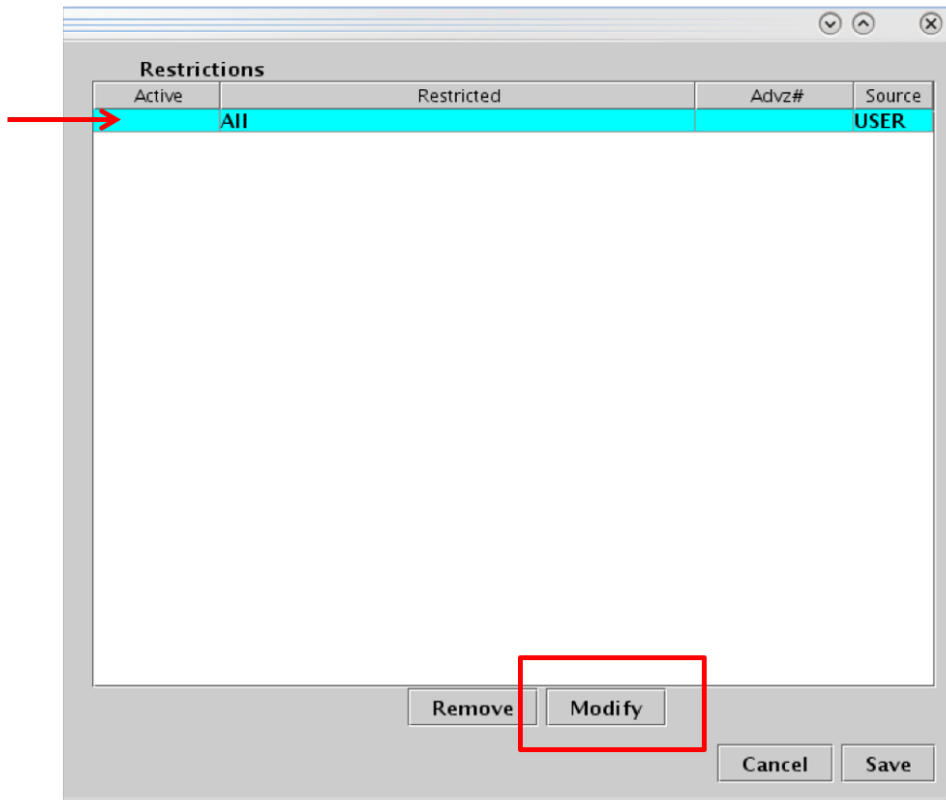


Figure 3.156. CDR Settings window: All Destinations Restricted (CDR Closed). Select “Modify”.

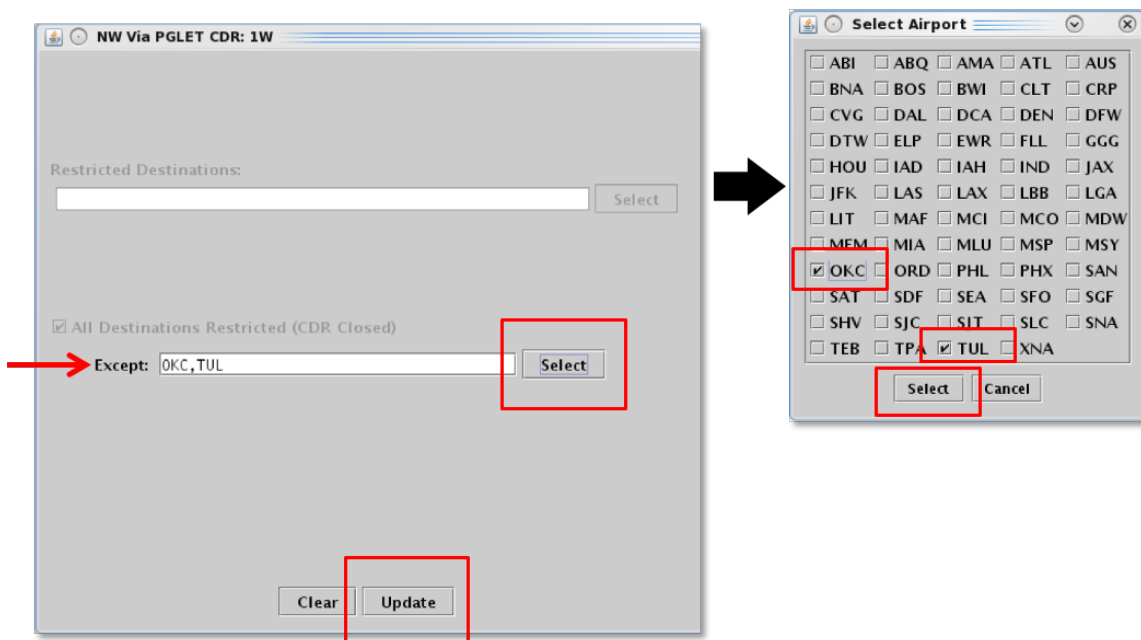


Figure 3.157. CDR Settings window: Enter or select excluded destinations (in this example, OKC and TUL). Select “Update”.

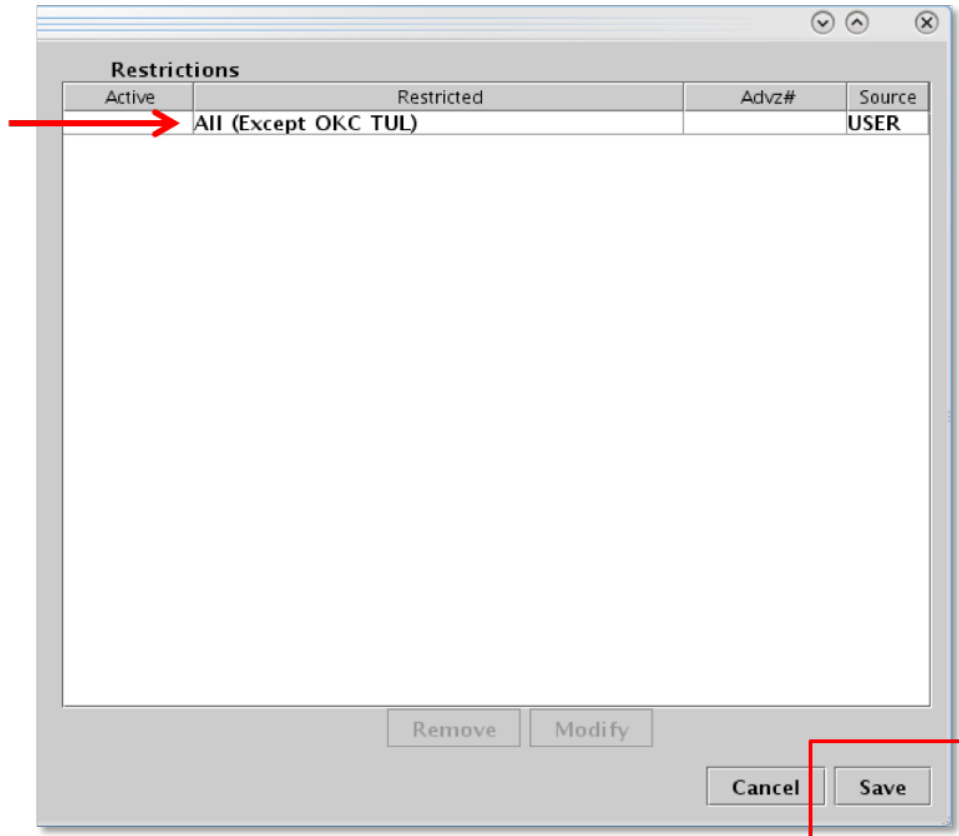


Figure 3.158. CDR Settings window: All destinations restricted, *except* for OKC and TUL. Select “Save”.

Metroplex Planner - DFW TM Actions

Runway Utilization | APREQ Schedules | MIT Restrictions | Dep Fix Closures | Runway Closures | Ground Stops | DCC Route Advisories

TOS Submission: ☒ Active ☐ Inactive

Excluded Destinations (All Routes):
Airport:

CDR Restrictions

Direction	CDR	Fix	Parsed DCC Advisory	User	Action
NW	Via LOWGN	1N			Set
	Via PGLET	1W		All (Except OKC TUL)	Set
SW	Via NELYN	1S			Set
		2S			Set
		3S			Set
	Via RBBIT	1W			Set
		2W			Set
		3W			Set
	Via ROOOO	GC			Set
NE	Via AKUNA	1N			Set
		J3			
	Via TRRCH	JV			
	Via ZERLU	1E			
SE		LT			
	Via DARTZ	1S			
		2S			
		VS			
	Via THHOR	1E			
	2E				
	WC				

Clear User CDR Entries

Cancel Submit

Figure 3.159. CDR Restrictions: In this example, the PGLET “1W” CDR is color-coded yellow because it is closed, *except* for OKC and TUL. Select “Submit” to apply changes.

Like the TOS Operation tab, closed CDRs are also color-coded red on the map TOS Route Availability Labels. In Figure 3.160, the PGLET “1W” CDR is color-coded yellow because it is partially-restricted. That is, all destinations are restricted from using this CDR for TOS rerouting, *except* for OKC and TUL.

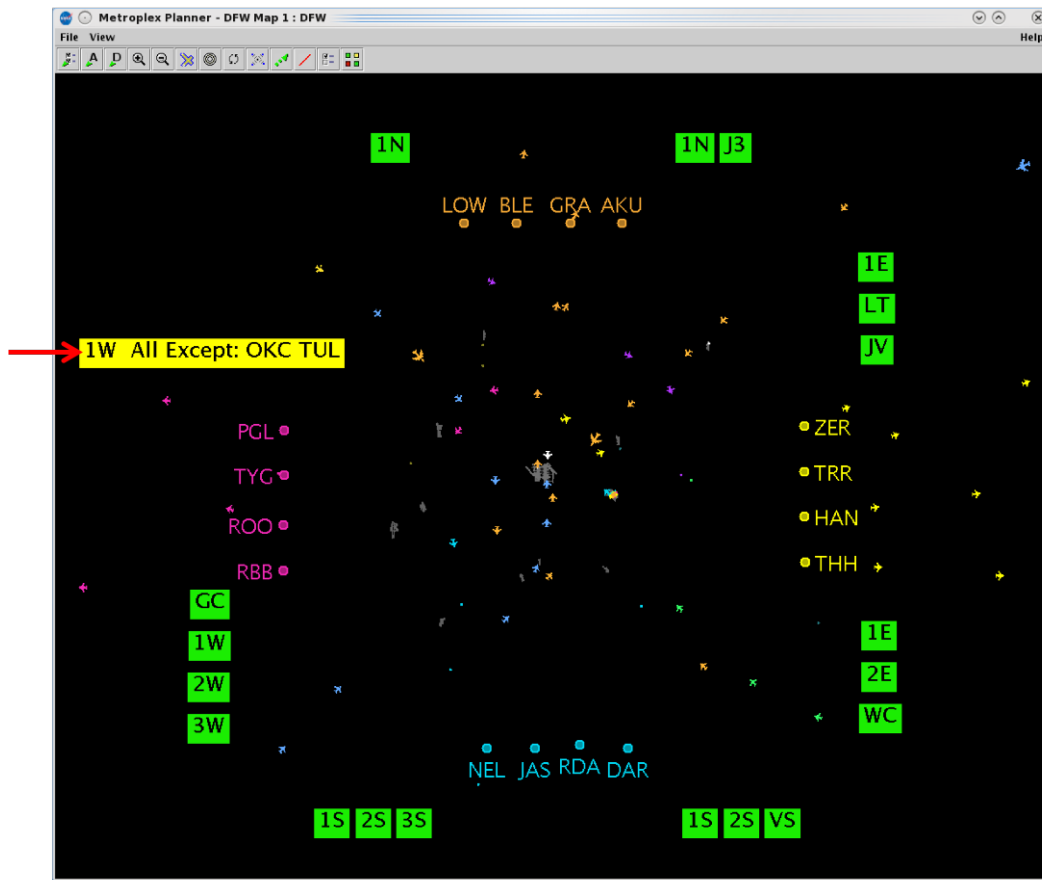


Figure 3.160. TOS Route Availability Labels on the Map. In this example, the PGLET “1W” CDR is color-coded yellow because it is closed, *except* for OKC and TUL. Click on a yellow label to view restricted destinations (in this example, OKC and TUL).

When a CDR closure with exceptions is manually entered, a Notification is generated for each restricted CDR. In this example, a Notification was generated for the PGLET “1W” CDR (Figure 3.161). See Section 3.8 for a description of Notifications.

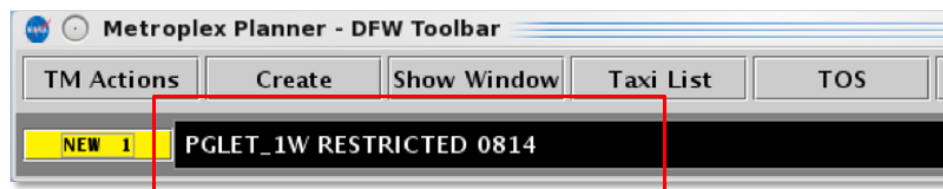


Figure 3.161. Notifications: CDRs PGLET “1W” is restricted. Start time is shown in *hhmm* UTC format.

In the **TOS Flight Menu**, a closed CDR is shown with an “Excluded” Eligibility State because it is not available for TOS rerouting. However, for destinations that are *excluded* from the closure, the CDR is *available* as an alternative TOS route.

In the example described above, the PGLET “1W” CDR is closed, *except* for OKC and TUL. As a result, for OKC- and TUL-bound flights, the PGLET “1W” CDR is available for TOS rerouting and is shown with a “Potential” Eligibility State (Figure 3.162).

TOS Flight Menu - SKW2985

Flight ID	Route	Dep Fix	CDR	Dep Gate	Eligibility State
SKW2985	KDFW.BLECO8.ZEMMA...	BLECO		NORTH	
SKW2985	KDFW.HUDAD2.HUDAD...	PGLET	DFWOKC1W	WEST	Potential
SKW2985	KDFW.ZACHH3.BSKAT.....	ZERLU	DFWOKC1E	EAST	Potential

TOS Flight Menu - AAL2400

Flight ID	Route	Dep Fix	CDR	Dep Gate	Eligibility State
AAL2400	KDFW.GRABE8.EAKER.....	GRABE		NORTH	
AAL2400	KDFW.HUDAD2.HUDAD...	PGLET	DFWTUL1W	WEST	Potential
AAL2400	KDFW.ZACHH3.BSKAT.....	ZERLU	DFWTUL1E	EAST	Potential

Figure 3.162. TOS Flight Menu: When a destination is *excluded* from a CDR closure, the CDR remains *available* (Eligibility State is “Potential”). In this example, OKC- and TUL-bound flights are *excluded* from the PGLET “1W” CDR closure and available as alternative TOS routes.

In contrast, for all other destinations associated with the PGLET “1W” CDR, the CDR is not currently available as a TOS reroute option. In the TOS Flight Menu, the PGLET CDR is shown with an “Excluded” Eligibility State when it is not available for TOS.

See Section 5.5 for a description of the TOS Flight Menu.

3.1.9.4.3.1.4 Manually Remove a User-Entry

Use the “CDR Settings” window to remove a restricted destination or CDR closure. In this example, the user removes a restricted destination (CLT) from the AKUNA “1N” CDR.

To Manually Remove a CDR Restriction:

Note: CDR Restrictions can only be modified in ATC versions of the Metroplex Planner.

Step 1: Select the “Set” button that corresponds with the CDR to be modified (e.g., the AKUNA “1N” CDR in Figure 3.163) to open the “CDR Settings” window.

Note: *Destinations currently restricted from using this CDR are listed in the Restrictions table (e.g., ATL and CLT Figure 3.164).*

Step 2: In the “Restricted Destinations” section, select a destination to be removed (highlighted in cyan) and select “Remove” (e.g., CLT in Figure 3.165).

Note: *The destination is removed from the Restrictions table (Figure 3.166).*

Step 3: Select “Save” to save the changes and close the CDR Settings window (Figure 3.166).

Alternatively: Select “Cancel” to cancel the pending change and close the CDR Settings window.

Note: *Only ATL is displayed in the User column of the AKUNA “1N” CDR. The CDR is color-coded yellow because it remains partially-restricted (by ATL, in this example, in Figure 3.167).*

Step 4: On the TOS Operation tab, select “Submit” to apply changes (Figure 3.167).

Note: *Changes on the TOS Operation tab are not applied until “Submit” is selected.*

Alternatively: Select “Cancel” at the bottom of the TOS Operation tab to clear any pending changes.

Step 5 (Optional): Select “Close Window” to close the TM Actions panel.

Note: *Follow the same steps to remove CDR closures (“All” or “All (Except)”).*

NE	CDR	Fix	Parsed	DCC	Advisory	User	
Via AKUNA	1N					ATL CLT	Set
	J3						Set
Via TRRCH	JV						Set
Via ZERLU	1E						Set
	LT						Set

Figure 3.163. Select “Set” to open the CDR Settings window (in this example, the Settings window for the AKUNA “1N” CDR).

NE Via AKUNA CDR: 1N

Restricted Destinations:

Select

☐ All Destinations Restricted (CDR Closed)

Except:

Select

Clear

Add

Restrictions

Active	Restricted	Advz#	Source
	ATL		USER
	CLT		USER

Remove

Modify

Cancel

Save

Figure 3.164. CDR Settings window (for the PGLET “1W” CDR). Restricted Destinations are shown in the Restrictions table (in this example, ATL and CLT).

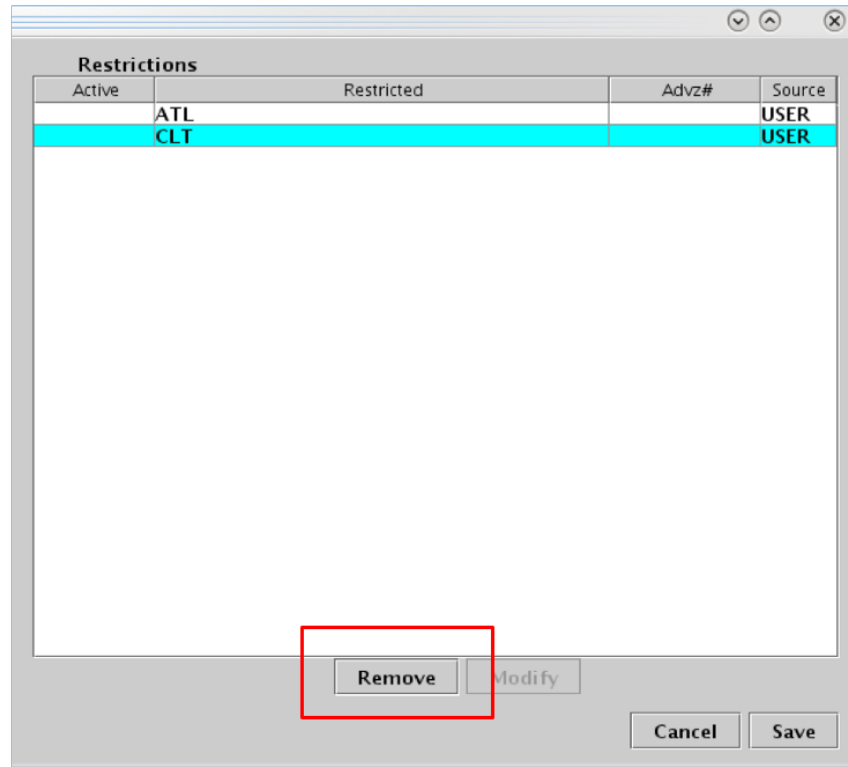


Figure 3.165. CDR Settings window: Select a restricted destination (e.g., CLT). Select “Remove”.

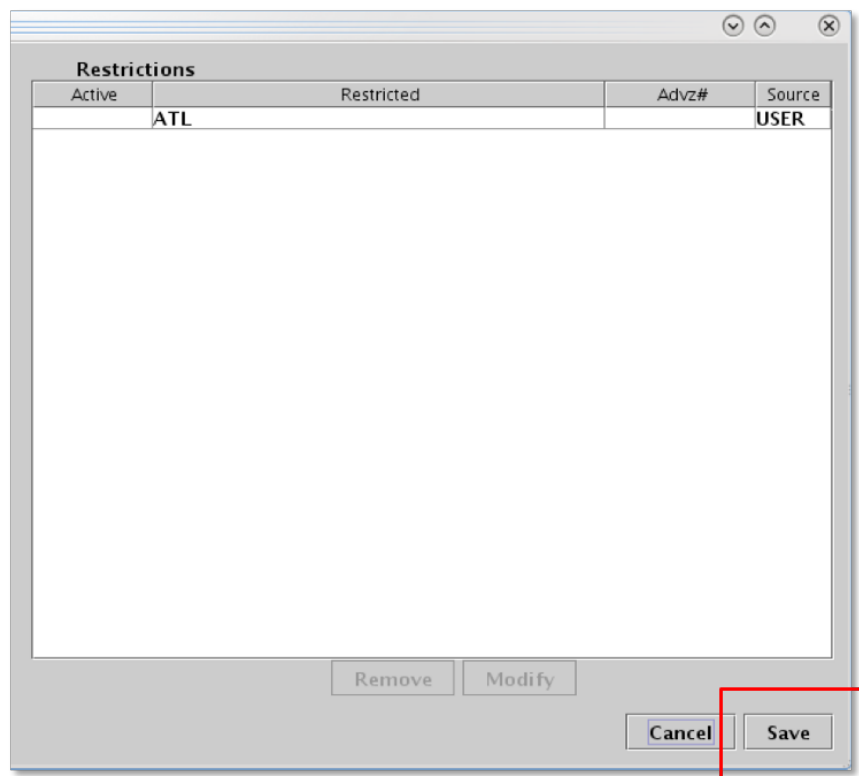


Figure 3.166. CDR Settings window: Remaining destination (ATL). Select “Save”.

The screenshot shows the 'TOS Operation' tab in the ATD-2 Metroplex Planner. The interface is divided into two main sections: 'NE' and 'SE'. Each section contains a table of CDRs (Control Display Restrictions) with columns for 'CDR', 'Fix', 'Parsed', 'DCC', 'Advisory', and 'User'. The 'NE' section lists CDRs for 'Via AKUNA' (1N, 1J, 1K), 'Via TRRCH' (JV), and 'Via ZERLU' (1E, 1T). The 'SE' section lists CDRs for 'Via DARTZ' (1S, 2S, VS) and 'Via THHOR' (1E, 2E, WC). The '1N' CDR is highlighted in yellow, indicating it is partially-restricted. The 'User' column for '1N' shows 'ATL'. At the bottom, there are buttons for 'Set', 'Clear User CDR Entries', 'Cancel', 'Submit', and 'Close Window'. Red boxes highlight the 'ATL' user, the 'Submit' button, and the 'Close Window' button.

Figure 3.167. CDR Restrictions: In this example, the AKUNA “1N” CDR is color-coded yellow because it remains partially-restricted (ATL). Select “Submit” to apply changes.

3.1.9.4.3.1.5 CDR Restrictions: General Guidelines

The following are general rules for CDR Restrictions in the ATD-2 Metroplex Planner:

- A new CDR *closure* imposed by a Fix closure, takes precedence over restricted destinations already in place.
- A user-entered CDR closure (or, closure with excepted destinations) takes precedence over restricted destinations already in place.

However, the user has *full control* of CDR restrictions and closures at all times:

- While CDR closures imposed by **Departure Fix closures** populate automatically on the TOS Operation tab, the user can override them (Section 3.1.9.4.2.1.1).
- While partial CDR restrictions imposed by **Parsed DCC Route Advisories** populate automatically on the TOS Operation tab, the user can override, modify, or add to them (3.1.9.4.2.2.1).

3.2 Toolbar: Create

Use the “Create” button on the Toolbar to open new Map, Table, Timeline, and Graph windows (Figure 3.168). These functions are described in detail later in the manual (see Section 4 for Maps, Section 5 for Tables, Section 6 for Timelines, and Section 7 for Graphs). An overview is provided here.

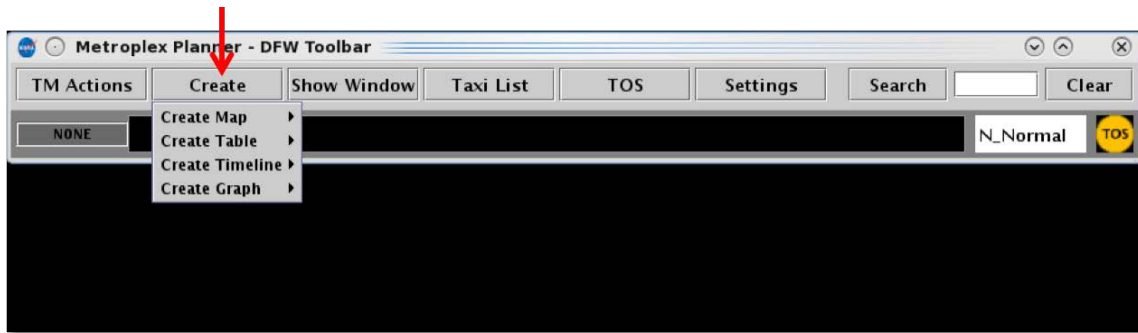


Figure 3.168. Toolbar: Create. Select from Map, Table, Timeline, or Graph.

3.2.1 Map

Select “Create Map” and select an airport from the list to create a new map window (Figure 3.169).

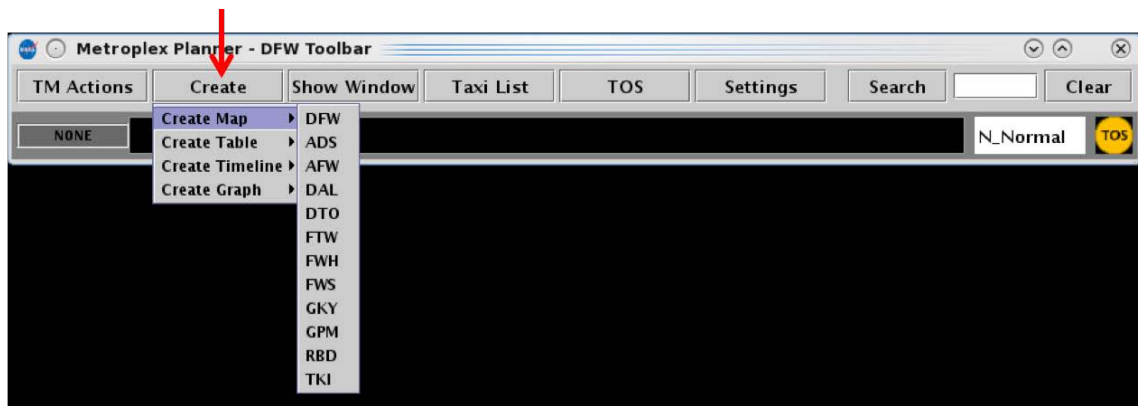


Figure 3.169. Create Map: Select Airport (in this example, “DFW” is selected).

By default, the newly created map is centered on the selected airport. In Figure 3.170, for example, the map is centered on Dallas Fort Worth International Airport because “DFW” was selected from the Create Map list. The 3-letter code of the selected airport is displayed in the title bar of the map (e.g., “DFW” in Figure 3.170).

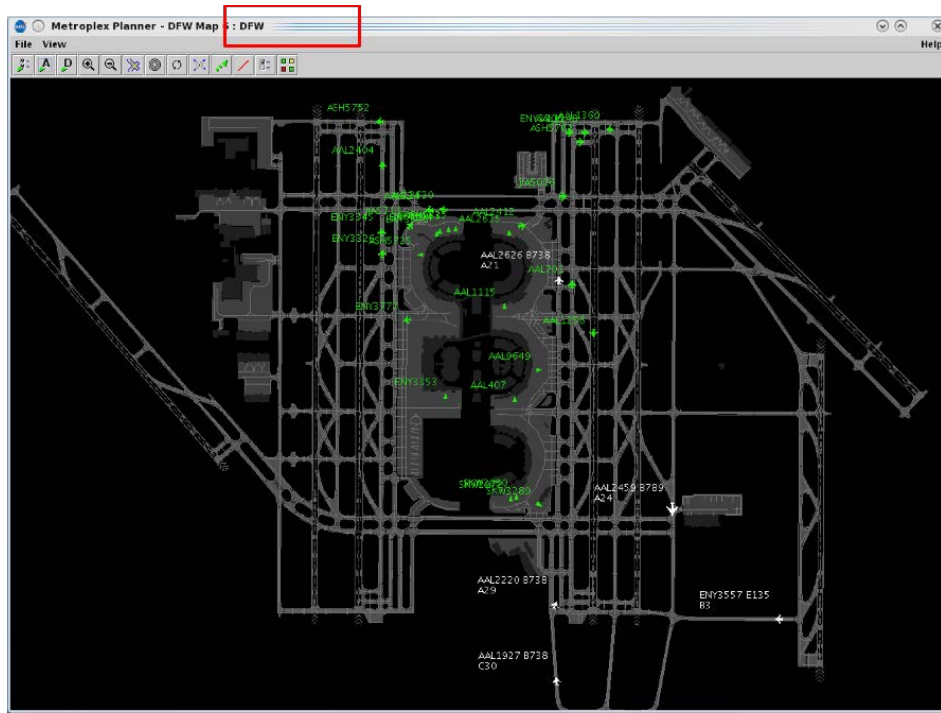


Figure 3.170. Create Map: The new map is centered on the selected airport (in this example, DFW).

If the map is repositioned or the zoom level is changed, use the “Reset Zoom” function (see Section 4.3.4) to re-center the map on the selected airport (in this example, DFW).

3.2.2 Table

Select “Create Table” to create a new: Flights Table, Aircraft Table, or Departure Fix Status Table.

For the Flights Table, choose from the default configuration or a saved configuration. Configurations saved with “Save for Quick Create” (see Section 5.1.3.4) are listed in this menu (e.g., “Tower” Figure 3.171).

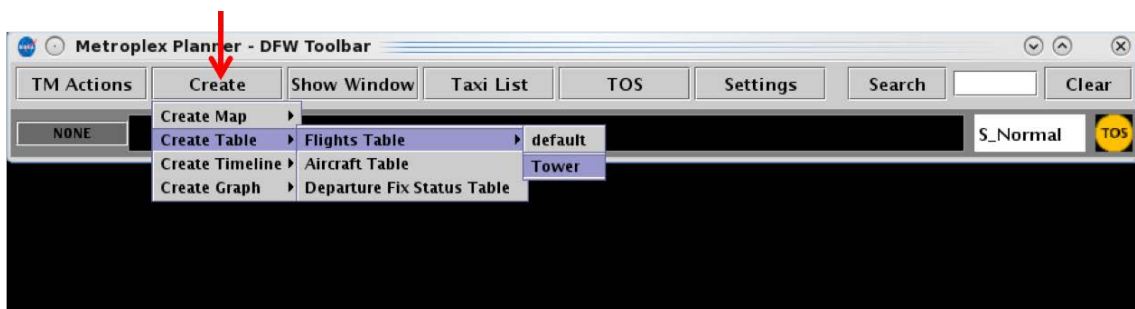


Figure 3.171. Create Table (in this example, “Flights Table”). Choose from the default configuration or a saved configuration (in this example, “Tower”).

3.2.3 Timeline

Select “Create Timeline” to create a new Timeline window. Select from one of four timeline Reference Points: Runway, Arr/Dep Fix, Parking Gate, or Spot. Choose from the default configuration or a saved configuration. Configurations saved with “Save for Quick Create” (see Section 6.7.1) are listed in this menu (e.g., “Tower” Figure 3.172).

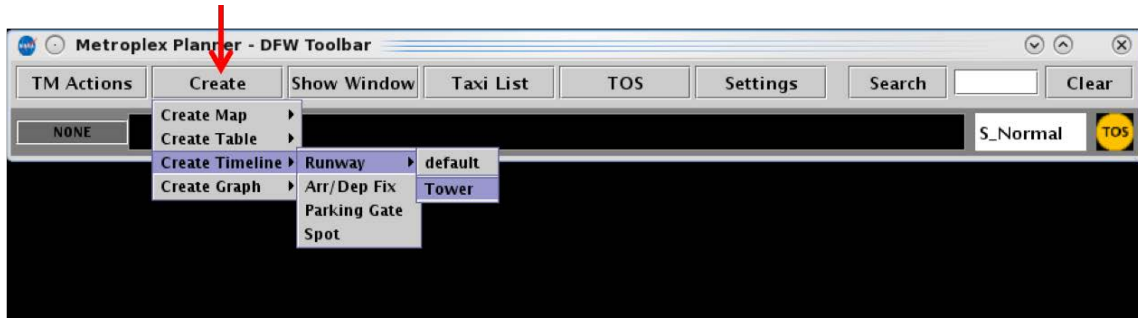


Figure 3.172. Create Timeline (in this example, “Runway” timeline). Choose from the default configuration or a saved configuration (in this example, “Tower”).

3.2.4 Graph

Select “Create Graph” to create a new Demand or Delay Graph. Two reference points are available for each graph: Fix or Runway (e.g., “Delay Graph Dep Fix” in Figure 3.173) See Section 7 for more information on Graphs.

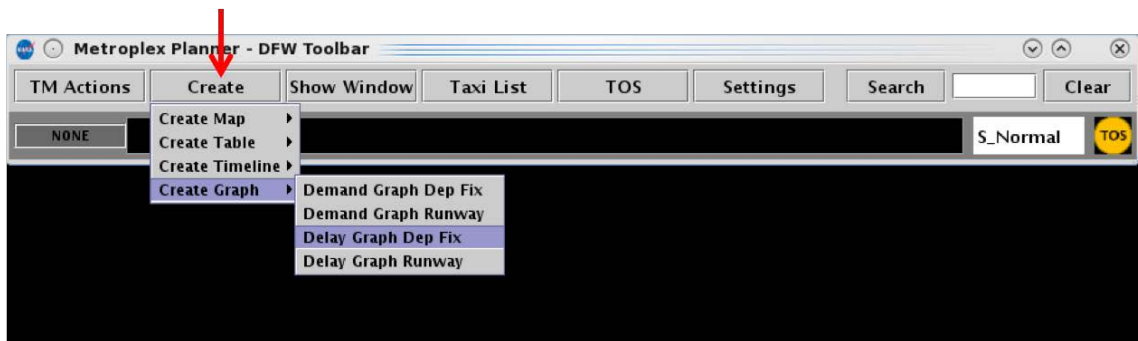


Figure 3.173. Create Graph (in this example, “Delay Graph Dep Fix”).

3.3 Toolbar: Show Window

If an existing Map, Table, Timeline, Graph, or TOS Alert window is hidden behind other windows, select “Show Window” to bring the window to the front of the display (e.g., “Demand Graph” in Figure 3.174). Displays that do not currently have open windows are grayed out and not selectable (e.g., “Show Table” in Figure 3.174).

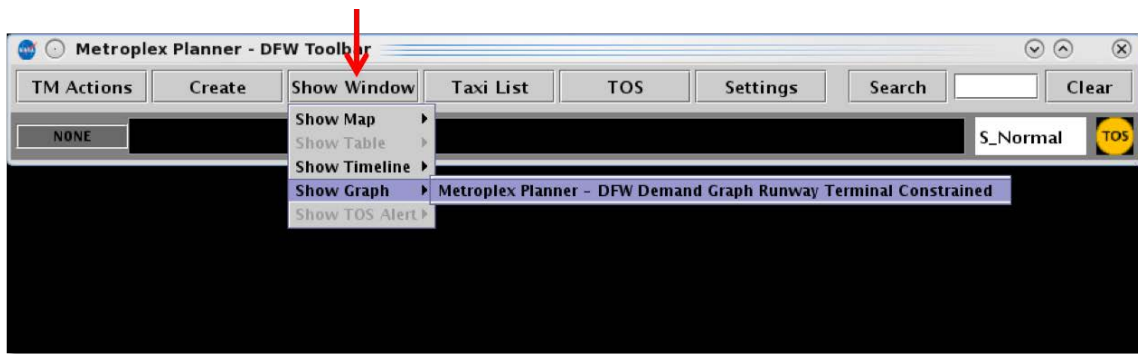


Figure 3.174. Toolbar: Show Window. Choose an existing Map, Table, Timeline, Graph, or TOS Alert window to bring it to the front of the display.

3.4 Toolbar: Taxi List

Select “Taxi List” (Figure 3.175) to view a list of departure flights and their AMA taxi time by runway. The Taxi List is designed to provide a view of departures and AMA delay similar to the display in the Airport Resource Management Tool (ARMT).

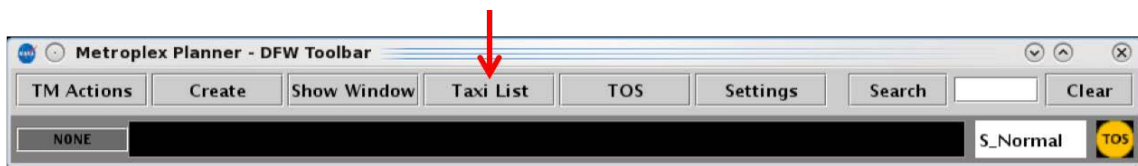


Figure 3.175. Toolbar: Taxi List.

The Taxi List includes four columns, described in Table 3.11. Select a column header *once* to sort the data alphabetically (A to Z) or numerically in ascending order; Click *twice* to sort the data in the *opposite* order (Z to A) or numerically in descending order.

Table 3.11. Taxi List: Columns

Column Header	Description
Flight ID	Flight number (call sign). For General Aviation (GA) flights, tail number is used.
AMA Time	AMA Time: Is the <u>actual duration</u> of taxi time in the Airport Movement Area (AMA), in <i>hh:mm:ss</i> format. The AMA timer begins counting when a departure flight crosses the spot to enter the AMA and continues counting until the flight starts its takeoff roll on the runway. Delay Color-Coding: The color-coding applied in this column (Figure 3.176) represents AMA delay (in minutes) and corresponds to the legend at the bottom of the window.

	In the Taxi List, delay is computed by subtracting a standard AMA taxi time (spot to runway) from a flight's current AMA Time. If the resulting <i>delay value</i> exceeds 15 minutes, the cell is color-coded for situational awareness. See Section 3.4.1 for more details about color-coding.
Dep Fix	Departure Fix When the filed Departure Fix is subject to a closure, the original or alternate fix, if applicable, is displayed and the cell is color-coded dark blue (see "ORD" in Figure 3.176).
Dest	Destination (3-letter airport code). When a destination is subject to a Ground Stop, the cell is color-coded dark blue (see "HANUH" in Figure 3.176).

Below the departure list, three flight counts are displayed (Figure 3.176):

- **Departure Count:** Number of flights displayed in the departure list ("25" in Figure 3.176)
- **Arrival Count:** Number of arrivals expected to land on the selected runway, not displayed in the list ("0" in Figure 3.176).
- **Total Runway Demand:** Sum of the Departure and Arrival counts ("25" Figure 3.176).

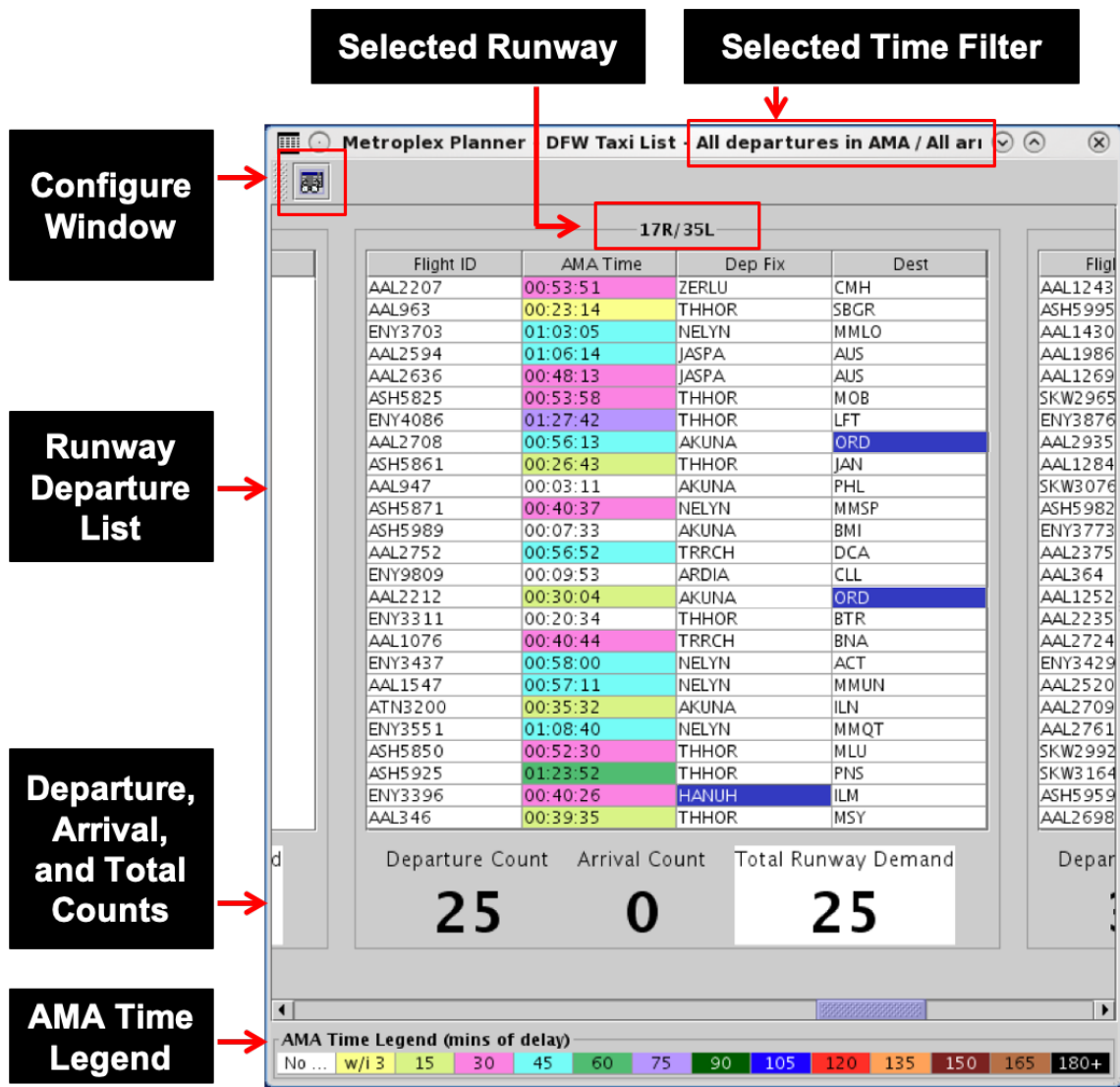


Figure 3.176. Taxi List overview. In the “AMA Time” column, color-coding represents AMA delay, see AMA Time Legend. Dark blue color-coding in the “Dep Fix” and “Dest” columns represent closed/alternate fixes and destinations subject to Ground Stops, respectively.

3.4.1 AMA Time Legend

The color-coding applied the “AMA Time” column represents AMA delay (in minutes) and corresponds to the AMA Time Legend at the bottom of the window (Figure 3.177). Like the delay scale used in the Airport Resource Management Tool (ARMT), this scale is color-coded to show departure delay in 15-minute increments, up to 180 minutes.

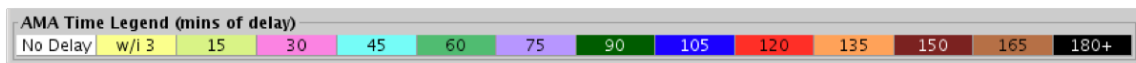


Figure 3.177. Taxi List: AMA Time Legend (minutes of delay).

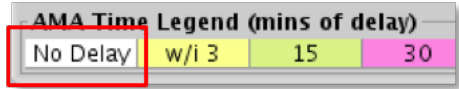
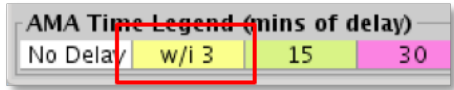
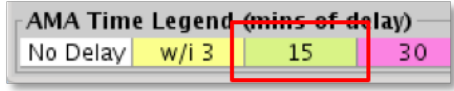
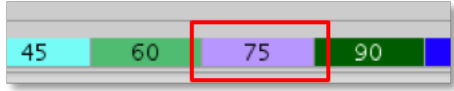
The 15-min bin includes delay between 15 and 29 minutes, the 30-min bin includes delay between 30 and 44 minutes, and so on. Prior to reaching the 15-minute departure delay threshold, an additional color-coding category is used, “within 3 minutes”. A flight is “within 3 minutes” of reaching delay when its time value is between 12 and 14 minutes.

3.4.2 Calculating Delay in the Taxi List

In the Taxi List, delay is computed by subtracting a standard AMA taxi time (spot to runway) from a flight’s current AMA Time. When a flight reaches 15 minutes, or more, of departure delay in the AMA, the cell is color-coded for situational awareness of departure delay. Time values between 12 and 14 minutes (i.e., “within 3 minutes”) are also highlighted.

Four examples are described in Table 3.12. In these examples, the standard allotted taxi time is 10 minutes, however this time may vary by airport.

Table 3.12. Taxi List Color-Coding Examples

Current AMA Time	Subtract Allotted Taxi Time	Delay Color Coding
AMA Time 00:10:35	Subtract the allotted 10-min taxi time = 35 sec	Because the value is less than the 15-min delay threshold, the flight is not color-coded. 
AMA Time 00:24:23	Subtract the allotted 10-min taxi time = 14 min and 23 sec	Because the value is <i>within three minutes</i> of the 15-min delay threshold, the flight is color-coded yellow. 
AMA Time 00:30:04	Subtract the allotted 10-min taxi time = 20 min and 4 sec	Because departure delay is between 15 – 29 min, the flight is color-coded light green. 
AMA Time 01:29:38	Subtract the allotted 10-min taxi time = 79 min and 38 sec	Because departure delay is between 75 – 89 min, the flight is color-coded purple. 

3.4.3 Configure Taxi List

Use the “Taxi List Configuration” window to select time and runway settings for the Taxi List.

Start by selecting from one of two “Time” filters, described in Table 3.13.

Table 3.13. Taxi List Configuration: Time Options

Time Filter	Description
All departures in AMA / All arrivals within the TRACON	Departures: Only those departure flights <i>currently taxiing in the AMA</i> are included in the list and the runway count. Departure flights at the gate, in the Ramp area, or after takeoff, are <i>not</i> included. Arrivals: The count of arrival flights displayed below the list includes <i>all arrivals in the TRACON</i> , expected to land on the selected runway.
All departures / arrivals within a time interval from Current Time + [15, 30, 45, or 60 minutes].	Departures: All departures within [15, 30, 45, or 60] minutes of their Target Takeoff Time (TTOT; “OFF” time) are included in the list and the runway count. The “AMA Time” column, however, is populated only for those departure flights <i>currently taxiing in the AMA</i> . Arrivals: The count of arrival flights displayed below the list includes all arrivals within [15, 30, 45, or 60] minutes of their predicted/actual landing time, expected to land on the selected runway.

A departure flight is removed from the departure list and departure count when it starts its takeoff roll on the runway. An arrival flight is removed from the arrival count upon landing.

To Configure the Taxi List:

Step 1: Select “Taxi List” on the Toolbar.

Step 2: Select the “Configure Window” icon in the Taxi List toolbar to open the Taxi List Configuration window (Figure 3.176).

Step 3: Select from one of two “Time” filters (Figure 3.178):

- All departures in AMA / All arrivals within the TRACON, or
- All departures / arrivals within time interval: Current Time + [15, 30, 45, or 60] minutes. Use the dropdown menu to make time selection (e.g., “15” minutes in Figure 3.178).

Note: *The selected time filter is indicated in the title bar of the Taxi List (e.g., “All departures in AMA / All arrivals ... ” in Figure 3.176).*

Step 4: Select runways/airports to include in the Taxi List (e.g., DFW 17R/35L AND 18L/36R in Figure 3.178).

Step 5: Select “Ok” to apply selections (Figure 3.178).

Alternatively: Select “Cancel” to close the Configuration window without applying changes.

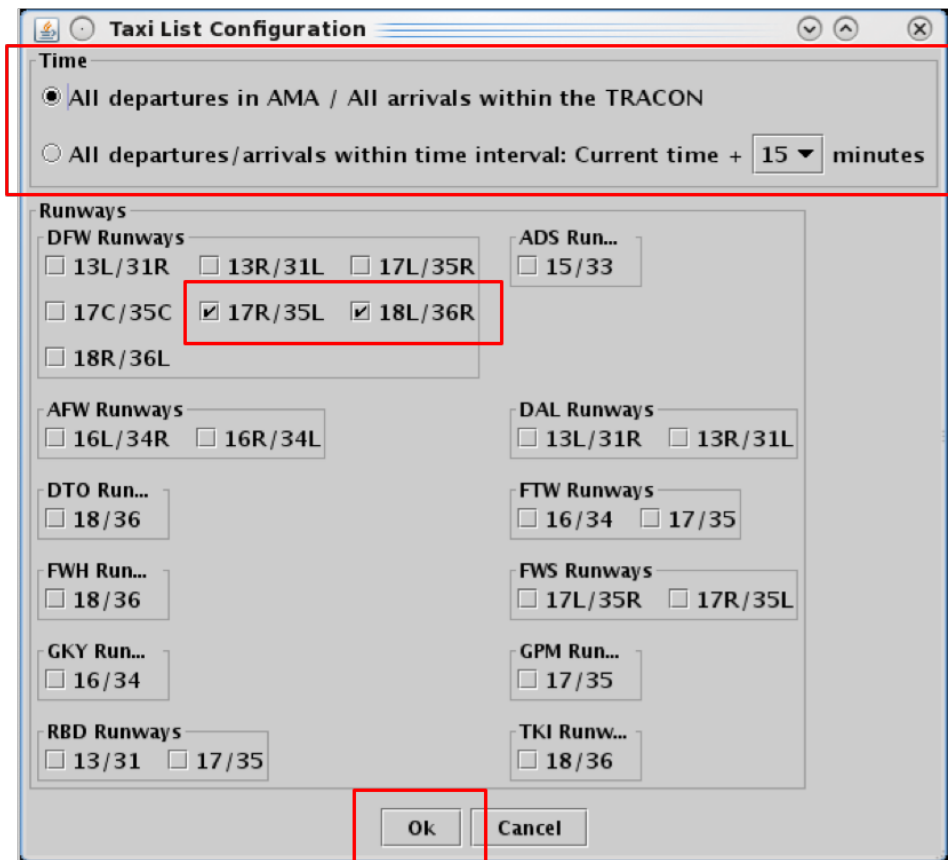


Figure 3.178. Taxi List Configuration.

3.5 Toolbar: Trajectory Option Set (TOS)

Note: TOS operation functionality varies by version of the Metroplex Planner.

Select “TOS” on the Toolbar to open the Trajectory Option Set (TOS) Operations window (Figure 3.179).

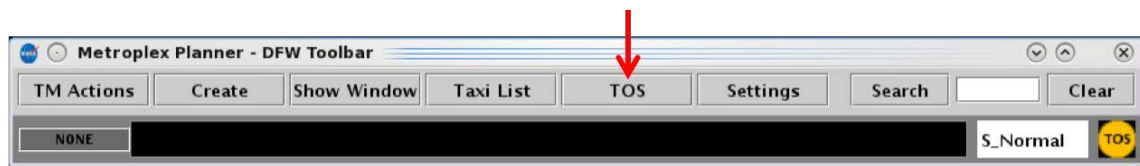


Figure 3.179. Toolbar: Trajectory Option Set (TOS).

The TOS Operations window can include multiple TOS Departure Tables (Figure 3.180). Existing tables can be reconfigured individually, and new tables can be added. See Section 5.4 for more information about TOS Departure Tables.

Metroplex Planner - DFW TOS Operations at 17:26 Z

Search Clear

TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R AND Eligibility State = Potential

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	CPDLC	EOBT	ETOT	Top CDR	Top ETOT	Top Total Delay Savings OFF	Top Agg DFW Del Sav	Flight Status	TMI Info	Eligibility State	Coord State
AAL1331	E18L	LAX	KDFW.KATZ22.BRH...	WEST		12/17/10	12/17/...	DFWLAX1N	17:31	0	0.0	Taxiing_A...	25M FixCisd	Potential	Not Submitted
ENY3777	E17R	LEX	KDFW.TRYTN3.LOOS...	EAST		12/17/15	12/17/...	DFWLEX1N	17:29	-10	-149.1	Taxiing_A...	25M FixCisd	Potential	Not Submitted
JIAS211	E17R	DAY	KDFW.ZACHH3.BSKA...	EAST		12/17/15	12/17/...	DFWDAY1N	17:31	-19	-146.8	Taxiing_A...	25M FixCisd	Potential	Not Submitted
JIAS216	E17R	PNS	KDFW.MRSSH2.ZALE...	EAST		12/17/15	12/17/...	DFWPNS1S	17:29	-5	-149.4	Taxiing_A...	25M	Potential	Not Submitted
ENY3483	E17R	MSY	KDFW.MRSSH2.ZALE...	EAST		12/17/15	12/17/...	DFWMSY1S	17:31	-14	-147.1	Taxiing_A...	25M	Potential	Not Submitted
AAL701	17R	CLT	KDFW.TRYTN3.LOOS...	EAST		12/17/16	12/17/...	DFWCLT1N	17:28	0	-138.3	Taxiing_A...	25M FixCisd	Potential	Not Submitted
AAL1258	E17R	ORD	KDFW.AKUNA7.MLC...	NORTH	Y	12/17/17	12/17/...	DFWORD1W	17:35	+1	-17.5	Pushback		Potential	Not Submitted
ENY3306	E17R	GRR	KDFW.AKUNA7.MLC...	NORTH		12/17/18	12/17/...	DFWGRR1W	17:37	-9	-18.5	Pushback		Potential	Not Submitted
ENY3628	E17R	JAN	KDFW.MRSSH2.MRSS...	EAST		12/17/18	12/17/...	DFWJAN1S	17:32	-25	-146.2	Taxiing_A...	25M	Potential	Not Submitted
ENY4162	E18L	LRD	KDFW.NELYN6.SAT...	SOUTH		12/17/19	12/17/...	DFWLDR1W	17:38	0	0.0	Pushback		Potential	Not Submitted

TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R AND Eligibility State = Candidate

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	CPDLC	EOBT	ETOT	Top CDR	Top ETOT	Top Total Delay Savings OFF	Top Agg DFW Del Sav	Flight Status	TMI Info	Eligibility State	Coord State
AAL1009	E17R	BNA	KDFW.TRYTN3.L...	EAST		12/17/40	12/19/40	DFWBNA1N	17:58	-103	-132.1	Scheduled...	25M FixCisd	Candidate	Not Submitted
AAL1018	E17R	IIND	KDFW.ZACHH3.BS...	EAST		12/17/34	12/19/06	DFWIND1N	17:48	-78	-135.2	Scheduled...	25M FixCisd	Candidate	Not Submitted
AAL1148	E17R	BOS	KDFW.AKUNA7.M...	NOR...	Y	12/17/25	12/18/14	DFWBOSJ3	17:36	-37	0.0	Pushback		Candidate	ATC Approved
AAL1360	E17R	DCA	KDFW.TRYTN3.L...	EAST	Y	12/17/20	12/18/14	DFWDCA1N	17:37	-36	-129.4	Pushback	25M FixCisd	Candidate	FO Submitted
AAL1630	E17R	ATL	KDFW.FORCK2.FO...	EAST		12/17/32	12/18/54	DFWATL1N	17:48	-66	-135.2	Scheduled...	25M FixCisd	Candidate	FO Submitted
AAL1768	E17R	LGA	KDFW.TRYTN3.L...	EAST	Y	12/17/28	12/18/43	DFWLGAJ3	17:47	-56	-135.2	Scheduled...	25M FixCisd	Candidate	FO Submitted
AAL2025	E17R	MIA	KDFW.MRSSH2.ZA...	EAST	Y	12/17/29	12/18/48	DFWMIA1S	17:48	-60	-135.2	Scheduled...	25M	Candidate	Not Submitted
AAL2314	E17R	MCO	KDFW.MRSSH2.ZA...	EAST		12/17/39	12/19/11	DFWMCO1S	17:49	-83	-124.3	Scheduled...	25M	Candidate	Not Submitted
AAL2430	E17R	TPA	KDFW.MRSSH2.ZA...	EAST	Y	12/17/40	12/19/29	DFWTPA1S	17:53	-96	-124.2	Scheduled...	25M	Candidate	Not Submitted
AAL2509	E17R	JAX	KDFW.ZACHH3.BS...	EAST		12/17/17	12/18/20	DFWJAX1S	17:37	-42	-129.4	Pushback	25M FixCisd	Candidate	Not Submitted
AAL2533	E17R	PHL	KDFW.AKUNA7.M...	NOR...	Y	12/17/40	12/19/35	DFWPHLJ3	17:53	-102	0.0	Scheduled...		Candidate	ATC Approved
AAL2559	E17R	DTW	KDFW.ZACHH3.BS...	EAST	Y	12/17/52	12/20/04	DFWDTW1N	18:04	-119	-136.6	Scheduled...	25M FixCisd	Candidate	FO Submitted
AAL2736	E17R	ENR	KDFW.FORCK2.FO...	EAST	Y	12/17/41	12/19/23	DFWENR1J3	17:53	-90	-124.2	Scheduled...	25M FixCisd	Candidate	FO Submitted
ASH5767	E17R	VPS	KDFW.FORCK2.FO...	EAST		12/17/26	12/18/25	DFWVPS1S	17:43	-42	-129.4	Scheduled...	25M FixCisd	Candidate	Not Submitted
ENY3345	E18L	CMH	KDFW.ZACHH3.BS...	EAST		12/17/16	12/18/08	DFWCMH1N	17:32	-36	-146.0	Taxiing_A...	25M FixCisd	Candidate	Not Submitted

TOS Departure - Coord State = ATC Approved

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	EOBT	ETOT	Total Delay OFF	Flight Status	TMI Info	Eligibility State	Coord State	Scratch Pad
AAL1148	E17R	BOS	KDFW.AKUNA7.MLC.RZ...	NORTH	12/17/25	12/18/14	+41	Pushback		Candidate	ATC Approved	
AAL2533	E17R	PHL	KDFW.AKUNA7.MLC.RZ...	NORTH	12/17/40	12/19/35	+102	Scheduled_Out		Candidate	ATC Approved	
ENY3752	E18L	MEM	KDFW.AKUNA7.MLC.RZ...	NORTH	12/17/50	12/20/04	+121	Scheduled_Out		Candidate	ATC Approved	

Add Table

Figure 3.180. Trajectory Option Set (TOS) Operations.

3.6 Toolbar: Settings

Select “Settings” on the Toolbar to load or save display configurations and change display settings (Figure 3.181).

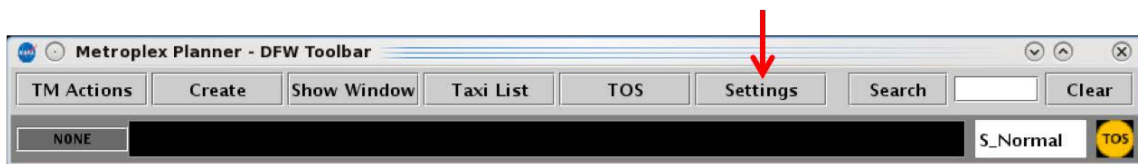


Figure 3.181. Toolbar: Settings.

3.6.1 Global Flights Settings

Use “Global Flights Settings” to change how information is displayed in datablocks on the Timeline and Map.

To change Fix Closure Format:

Step 1: Select “Settings” on the Toolbar.

Step 2: Select the “Global Flights Settings” tab (Figure 3.182).

Step 3: In the “Fix Closure Format” box, select:

- “**Closed Fix**” to display only the name of the Departure Fix that is closed. For example, if TRRCH is closed and being rerouted to AKUNA, only “TRRCH” is displayed (Figure 3.183, left).
- Or, “**Closed Fix → Alt Fix**” to display both the closed Departure Fix and the fix to which flights are being rerouted (“TRRCH → AKUNA” in Figure 3.183, right).

Note: This setting applies to datablocks on both the timeline and map.

Step 4: Select “Close” to close the Settings window.

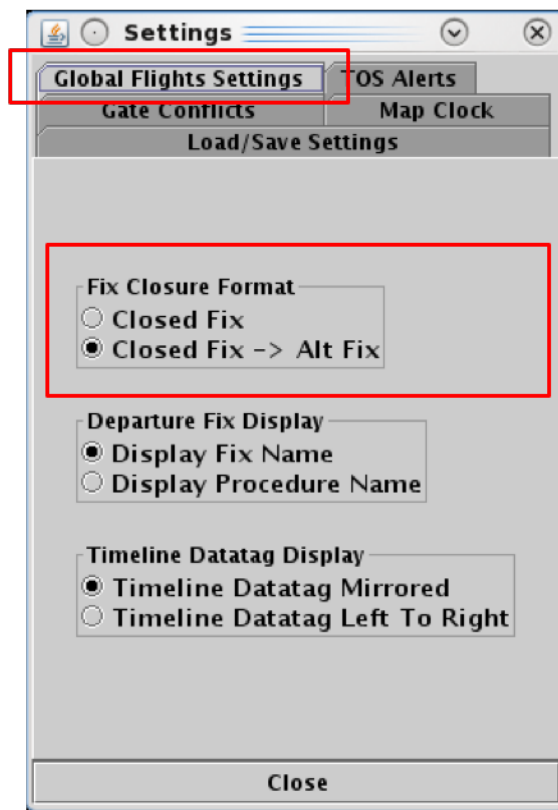


Figure 3.182. Global Flights Settings: Fix Closure Format.

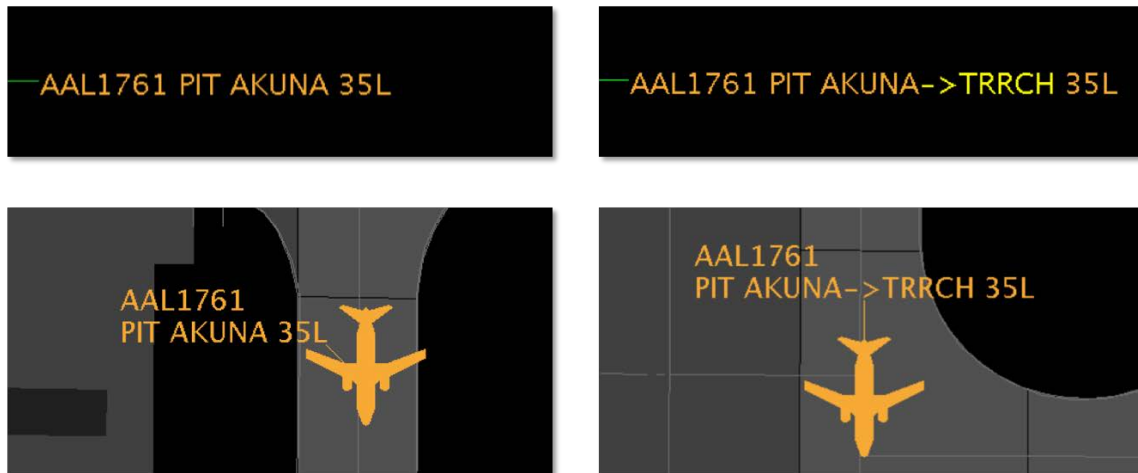


Figure 3.183. Fix Closure Format: Closed Fix (left) and Closed Fix → Alt Fix (right).

To change Departure Fix Display:

Note: This setting impacts those fixes for which the Fix name and Procedure name are different.

Step 1: Select “Settings” on the Toolbar.

Step 2: Select the “Global Flights Settings” tab (Figure 3.184).

Step 3: In the “Departure Fix Display” box, select:

- “Display Fix Name” to display the Fix name (e.g., “ROOOO” in Figure 3.185, left).
- “Display Procedure Name” to display the Procedure name (e.g., “KATZZ” in Figure 3.185, right).

Note: This setting applies throughout the Metroplex Planner interface:

- *Timeline and map datablock (Figure 3.185)*
- *Map labels (Figure 3.186)*
- *Flights Table*
- *TOS Operation tab*
- *TOS Departure Table*

Step 4: Select “Close” to close the Settings window.

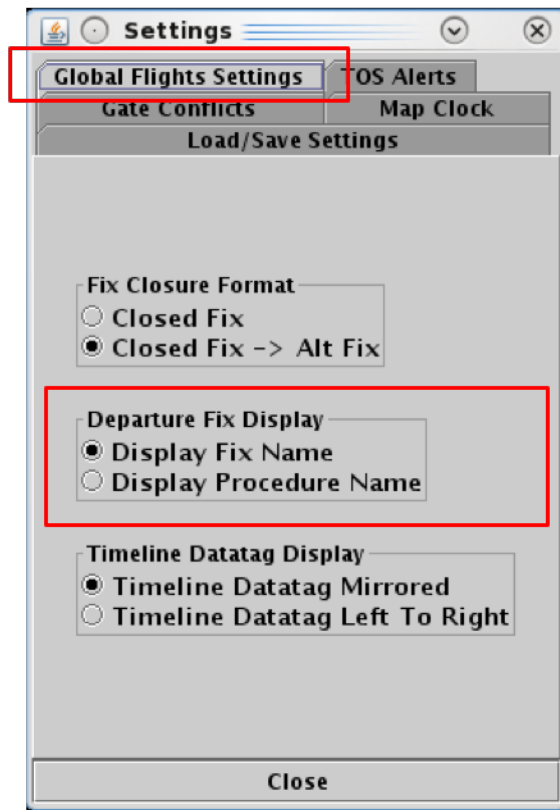


Figure 3.184. Global Flights Settings: Departure Fix Display.

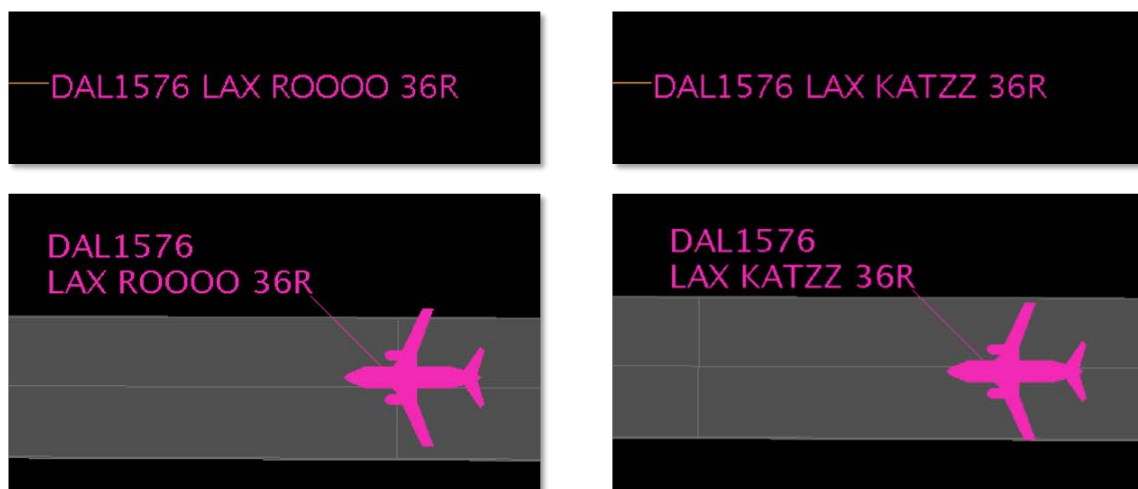


Figure 3.185. Departure Fix Display: Departure Fix name (left) and Procedure name (right). In this example, “ROOOO” (left) and “KATZZ” (right).

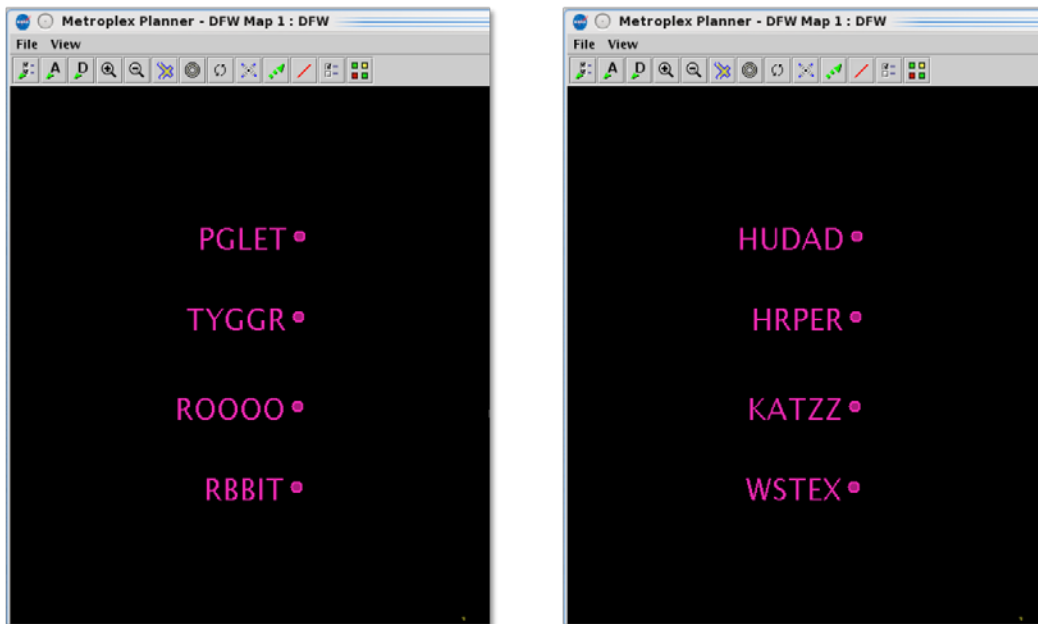


Figure 3.186. Departure Fix Display: Departure Fix name (left) and Procedure name (right) displayed on Map Labels.

To change the Timeline Datatag Display:

Note: This setting impacts the display of flights on the left side of the timeline.

Step 1: Select “Settings” on the Toolbar.

Step 2: Select the “Global Flights Settings” tab (Figure 3.187).

Step 3: In the “Timeline Datatag Display” box, select:

- **“Timeline Datatag Mirrored”** to mirror the order of data elements from the right side of the timeline (Figure 3.188, left).
- **“Timeline Datatag Left to Right”** to order data elements from left to right (Figure 3.188, right).

Step 4: Select “Close” to close the Settings window.

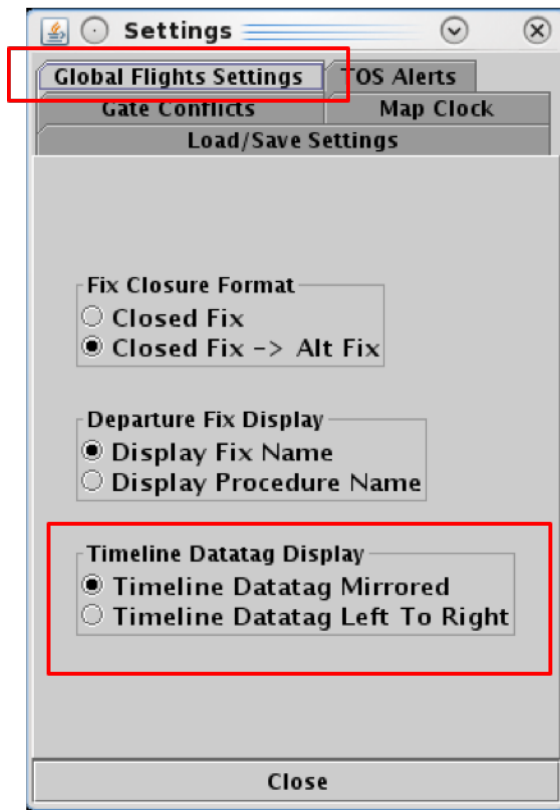


Figure 3.187. Global Flights Settings: Timeline Datatag Display.

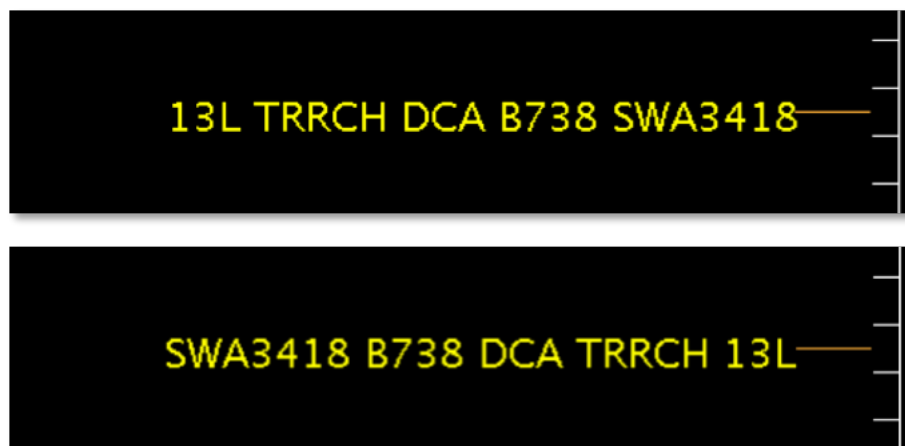


Figure 3.188. Timeline Datatag Display: Mirrored (top) and Left to Right (bottom).

3.6.2 TOS Alerts

Select the “TOS Alerts” tab to enable/disable TOS alerts for submissions and approvals.

To Enable/Disable TOS Alerts:

Note: TOS Alerts vary by version of the Metroplex Planner.

Step 1: Select “Settings” on the Toolbar.

Step 2: Select the “TOS Alerts” tab (Figure 3.189).

Step 3: In the “TOS Alerts” box:

- Check “**Visual Alerts**” to display a pop-up window:
 - In *ATC versions* of the Metroplex Planner when a Flight Operator **submits** a TOS route (Figure 3.190, left).
 - In *Flight Operator versions* of the Metroplex Planner when ATC **approves** a TOS route (Figure 3.190, right).
- Check “**Audible Alerts**” to play an audio alert:
 - In *ATC versions* of the Metroplex Planner when a Flight Operator **submits** a TOS route.
 - In *Flight Operator versions* of the Metroplex Planner when ATC **approves** a TOS route.

Alternatively: Uncheck either box to disable the alert.

Step 4: Select “Close” to close the Settings window.

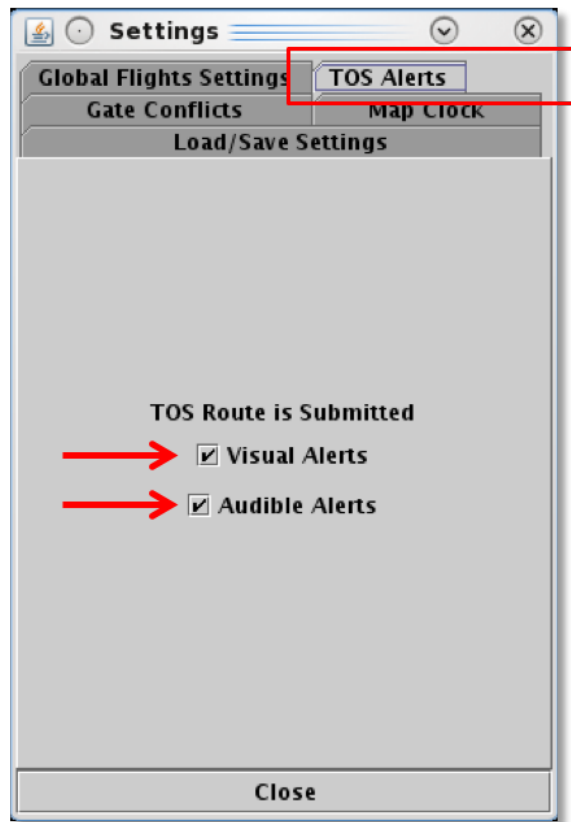


Figure 3.189. Settings: TOS Alerts.

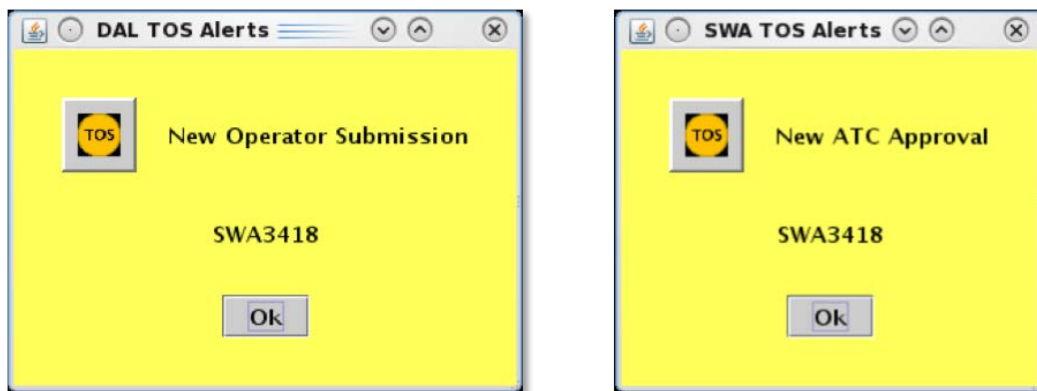


Figure 3.190. TOS Visual Alert. Operator Submission (left) and ATC Approval (right).

3.6.3 Gate Conflicts

Select the “Gate Conflicts” tab to set the start time for indicating gate conflicts on the timeline and map. If, for example, the time is set to 10 minutes prior to landing, a gate conflict will not be indicated until the inbound arrival is within 10 minutes of its predicted touchdown time. Alternatively, enter zero (0) minutes so that gate conflicts are not shown until the arrival has landed.

Gate conflicts are also shown for gates that are blocked by a flight at an adjacent gate. When there is a ‘heavy’ aircraft blocking an adjacent gate and there is an inbound arrival for that gate, a gate conflict will be indicated. This only occurs at certain airports where there is limited spacing between gates.

To set the Gate Conflict display time:

Step 1: Select “Settings” on the Toolbar.

Step 2: Select the “Gate Conflicts” tab (Figure 3.191).

Step 3: Enter by typing, or using the up/down arrows to select, the number of minutes prior to landing that gate conflicts will be displayed (“0” minutes in Figure 3.191).

Note: *The minimum/maximum allowable values in this field are 0 and 120 minutes, respectively. Zero minutes represents landing time.*

Step 4: Select “Apply”.

Step 5: Select “Close” to exit the Settings window.

Note: *When a gate conflict is detected, the gate number is displayed in magenta in flight datablocks on the time and map (for example, gate E25B in Figure 3.192).*

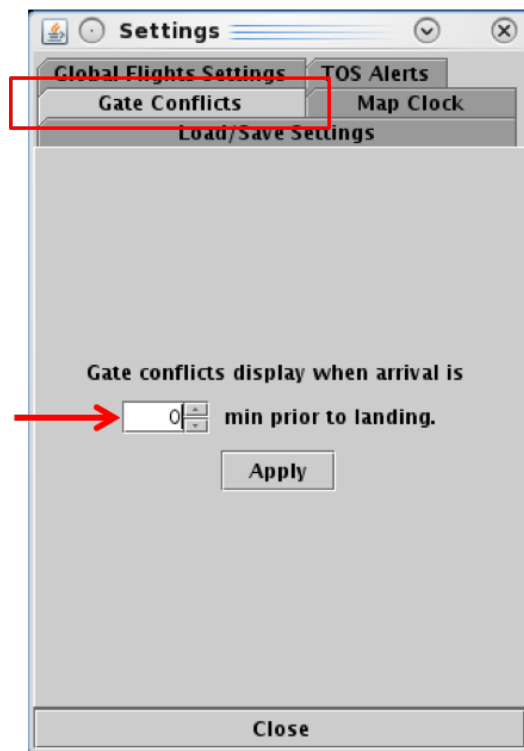


Figure 3.191. Settings: Gate Conflicts.



Figure 3.192. Gate Conflicts: In this example, Gate E25B is occupied, as indicated by the magenta gate number in the arrival flight's datablock on the timeline (top) and map (bottom).

3.6.4 Map Clock

Select the “Map Clock” tab to display local UTC time on the bottom of map windows. The selection will apply to all open map windows.

To show/hide the Map clock:

Step 1: Select “Settings” on the Toolbar.

Step 2: Select the “Map Clock” tab (Figure 3.193).

Step 3: Select the “Show Map Clock” checkbox (Figure 3.193).

Alternatively: Uncheck the “Show Map Clock” checkbox to hide the Map clock.

Step 4: Select “Apply” to display the Map clock at the bottom of each map window (Figure 3.194).

Step 5: Select “Close” to exit the Settings window.

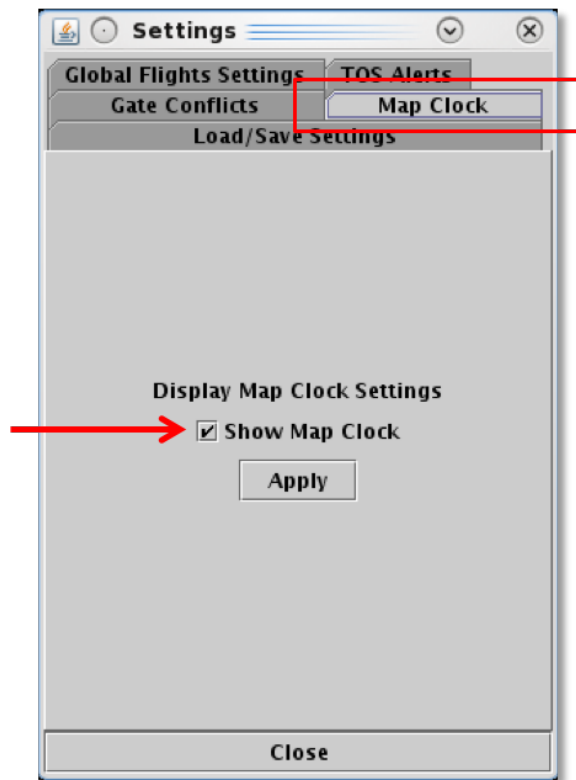


Figure 3.193. Settings: Map Clock.



Figure 3.194. Map Clock.

3.6.5 Load/Save Settings

Select the “Load/Save Settings” tab to save a display configuration or load a profile that has already been saved.

To Save a display configuration:

Step 1: Select “Settings” on the Toolbar.

Step 2: Select the “Load/Save Settings” tab (Figure 3.195).

Step 3: Type a name for the display configuration in the “File Name” text box (e.g., “Tower_DFW” in Figure 3.195).

Step 4: Select “Save” (Figure 3.195).

Step 5: Select “OK” in the “Save Settings” confirmation window to acknowledge that the display configuration has been saved (Figure 3.195). The display configuration file name is added to the list of saved configurations.

Step 6: Select “Close” to exit the Settings window.

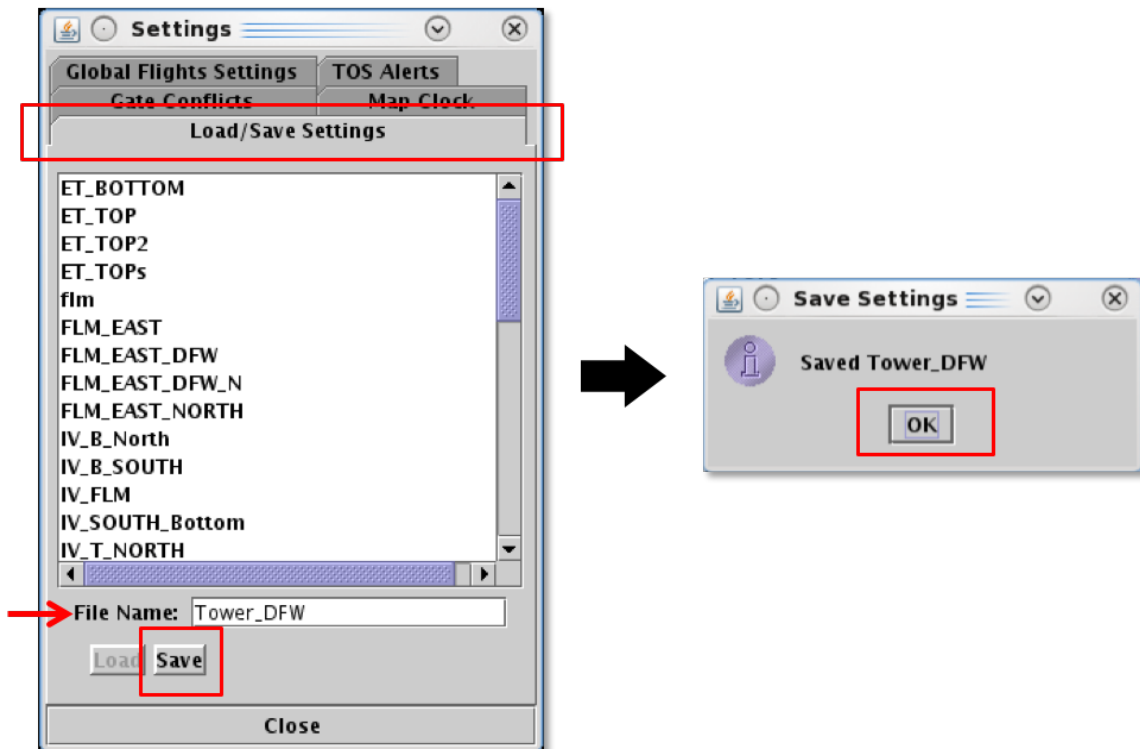


Figure 3.195. Settings: Save a new display configuration.

To Load a saved display configuration:

- Step 1:** Select “Settings” on the Toolbar.
- Step 2:** Select the “Load/Save Settings” tab (Figure 3.196).
- Step 3:** Select a file name from the list of saved configurations (e.g., “MetroplexPlanner_DAL” in Figure 3.196). If necessary, scroll to view the entire list.
- Step 5:** Select the “Load” button to load the selected display configuration (Figure 3.196).
- Step 6:** Select “Close” to exit the Settings window.

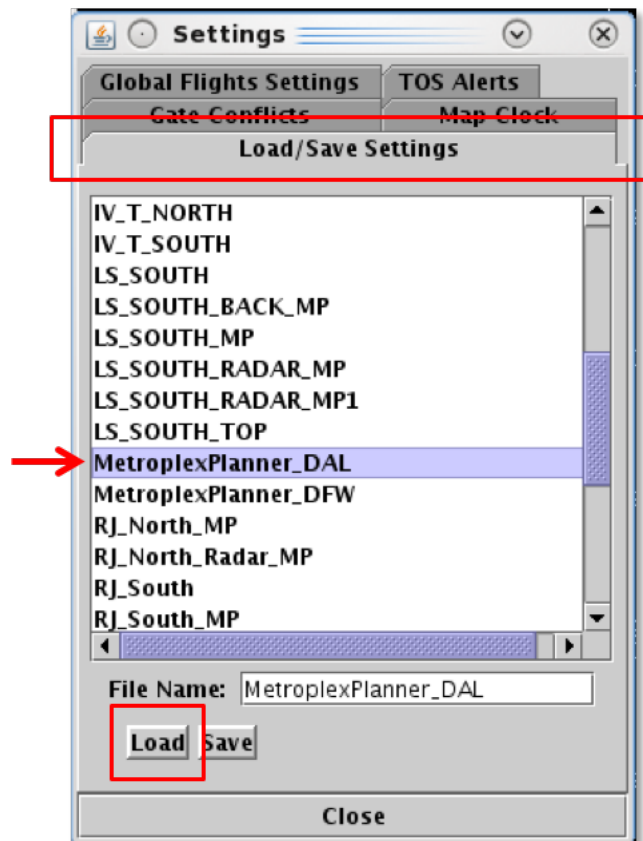


Figure 3.196. Settings: Load a saved display configuration.

To update a Saved display configuration:

Step 1: Select “Settings” on the Toolbar.

Step 2: Select the “Load/Save Settings” tab (Figure 3.197)

Step 3: Select a file name from the list of saved configurations (e.g., “North_DAL_Tower” in Figure 3.196). If necessary, scroll to view the entire list.

Step 4: Select “Save” (Figure 3.197).

Step 5: Select “Yes” in the “Confirm Overwrite” window to overwrite the previous version of the file (Figure 3.197).

Step 6: Select “Close” to exit the Settings window.

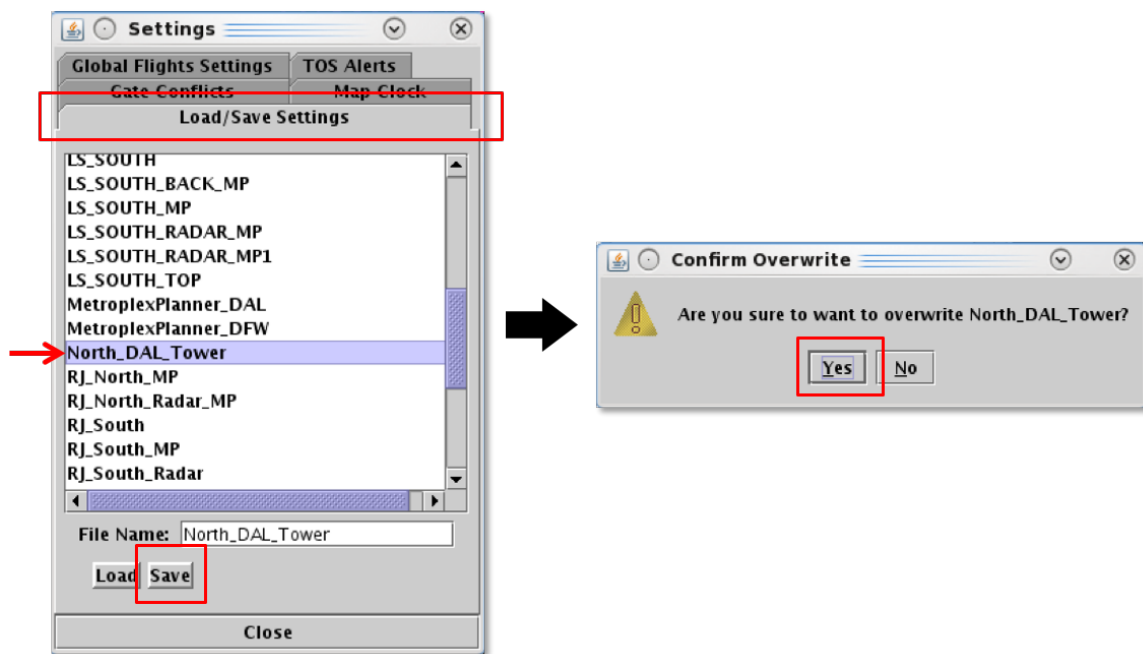


Figure 3.197. Settings: Updated a saved display configuration.

3.7 Toolbar: Search

Search for flights using the “Search” function on the Toolbar. For example, typing “FDX” will highlight all FedEx flights. Typing “LGA” will highlight all LGA-bound flights. Typing “53” will highlight all flights whose flight number contains “53”, independent of airline.

Search criteria are listed in Table 3.14.

Table 3.14. Toolbar: Search Criteria

Search Criteria	Example
Departure and Arrival Flights	
Flight number	1456
Air Carrier	AAL
Call Sign	AAL1456
Tail Number	N123AB
“GA” for General Aviation flights	GA
Departure Flights	
3-letter Destination Airport	BOS
Departure Fix <i>*Procedure Names cannot be used for Search.</i>	TRRCH
Departure Gate	EAST
Arrival Flights	
Arrival Fix	SEEVN
3-letter Arrival Airport	DFW

To Search for Flights:

Step 1: Enter search criteria in the “Search” field on the Toolbar (e.g., “BOS” in Figure 3.198). Flights matching the search criteria are highlighted on the:

- Timeline (Figure 3.199)
- Map (Figure 3.200)
- Flights Table (Figure 3.201)
- TOS Departure Table (if applicable) (not pictured)

In this example, a BOS flight, AAL1456, is highlighted.

Note: *As text/digits are entered in the search field, flights matching that criteria (full or partial) will be highlighted.*

Alternatively: Select “Clear” to clear the Search field.

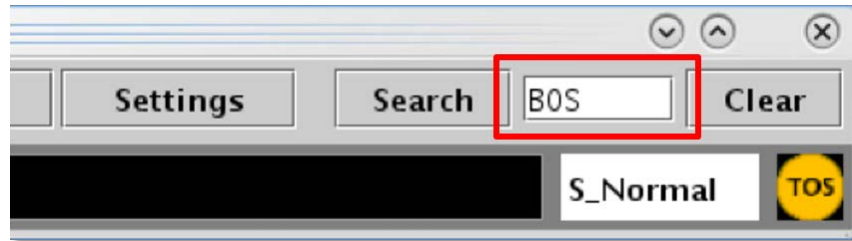


Figure 3.198. Toolbar: Search field (in this example, Destination “BOS” is entered).

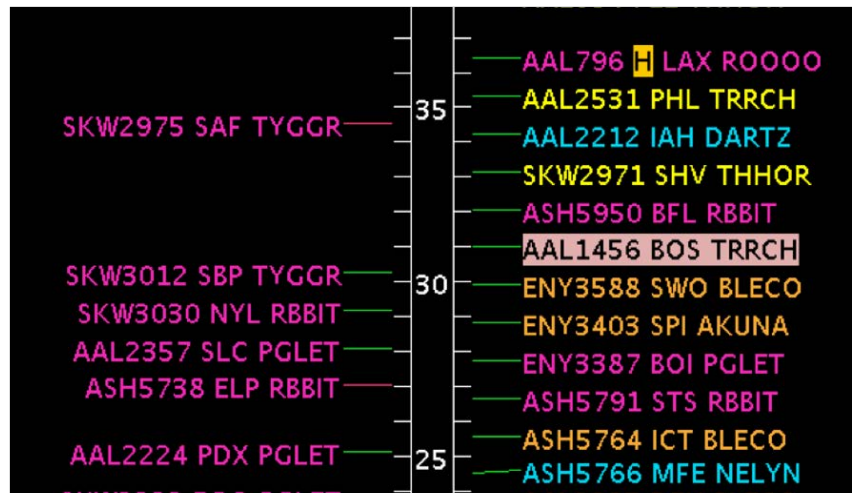


Figure 3.199. Matching search result (“BOS” flight, AAL1456) is highlighted in Timeline.

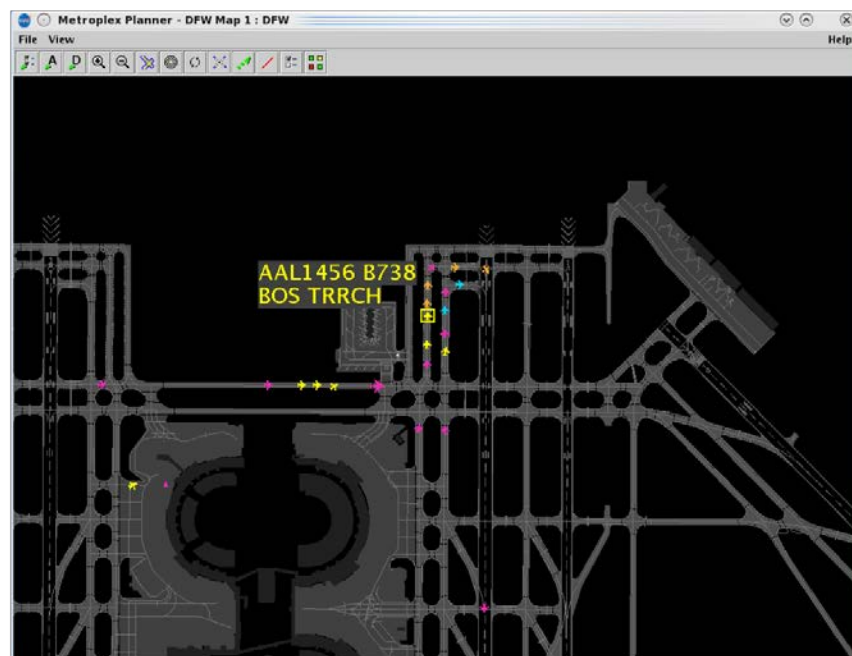


Figure 3.200. Matching search result (“BOS” flight, AAL1456) is highlighted on the Map.

Metroplex Planner - DFW Flights Table All Results: 791 at 00:26 Z

Flight ID	Arr/Dx	Route of Flight	Origin	Dest	Beacon Code	AC Type	Gate	Rwy	Dep Fix	Dep Gate	Arr Fix	Flight Status
ENY4267	D	KDFW / ADM14...	DFW	GRR	0521	E170	D38	17R	AKUNA	NORTH		Departed
SKW2986	A	KMTJ / KENT02...	MTJ	DFW	1403	CRJ7	E298	18R			UKW	In
AAL1578	D	KDFW / TTT05...	DFW	MSP	2302	A319	A24	17R	AKUNA	NORTH	NITZR	Departed
AAL2714	A	KPDx / 3516N/...	PDX	DFW	6670	8738	C29	17C			UKW	In
SKW3267	A	KSHV / WAITT 0E...	SHV	DFW	5255	CRJ7	E22A	17L			BEREE	In
AAL1927	A	KMCO / NITTS1...	MCO	DFW	1030	8738	C30	17L			BEREE	In
AAL1456	D	KDFW TRYTN3...	DFW	BOS	0504	8738	C12	17R	TRRCH	EAST	GDM	In Queue
ASH5927	A	KSDF / MEM007...	SDF	DFW	4042	CRJ9	B36	17L	APALO		SEEVr	In
SKW3189	D	KDFW / TTT22...	DFW	MMCU	3404	CRJ7	E38	17R	RBBIT	WEST		Departed
AAL2308	A	KSMF / JICA Q1...	SMF	DFW	6041	8738	A13	17C	RALEY		UKW	In
SCM12	A	KSAT / 3059N/...	SAT	DAL	2455	C56X	DAL_8	13R			SEEVr	In
ENY3454	D	KDFW WSTEX2...	DFW	ABI	5263	E145	B1	18L	RBBIT	WEST		Departed
XSR81	D	KFTW / DBL RIL	FTW	RIL	2373	C56X	GA2	E16	TYGGR	WEST	GUILT	Departed
N829C	D	KGPM / CWK31...	GPM	DZB	UNK	PA32	GA1	E17	NELYN	SOUTH		Departed
DAL31	A	KATL / ME038...	ATL	DFW	7177	A319	E15	E17C	KAJIN		BEREE	Enroute_Arr
N608G	A	KGKY / COY193...	GKY	CKY	UNK	P28A	GA1	E16	JASPA	SOUTH	DODJE	In
SWA1529	D	KDAL KKITYS Cl...	DAL	ELP	2263	8737	6	E13L	RBBIT	WEST		Scheduled_Out
SWA795	A	KPHS* / AEX09...	PHS	DAL	0766	8737	12	13R			SEEVr	In
JIA5017	D	KDFW / TKK27...	DFW	DAY	2350	CRJ9	B27	17R	ZERLU	EAST		Departed
ENY9806	A	KABI SHGGL BO...	ABI	DFW	5267	E135	E39C	17C			FEVER	In
SWA43	D	KDAL / TTT140...	DAL	HOU	2315	8738	20	E13R	DARTZ	SOUTH	KIDDZ	Departed
ENY3768	A	KSGF / RZC156...	SGF	DFW	1136	E145	E248	17L			SEEVr	In
SKW3246	A	KBBN / COWES3...	BBN	DFW	5657	CRJ7	E238	17L			SEEVr	In
ENY3422	A	KBHM / IGB085...	BHM	DFW	3135	E170	B18	17C	JOEYE		BEREE	In
DAL719	A	KMSP / FOD194...	MSP	DFW	3650	BCS1	E16	E18R	OVR		VKTRY	Enroute_Arr
AAL1117	A	KMSP / DLE327...	MSP	DFW	3152	8728	D26	17C			IFM	In

Figure 3.201. Matching search result (“BOS” flight, AAL1456) is highlighted in the Flights Table.

3.8 Toolbar: Notifications

Notifications are displayed in the form of a:

- **Notification Icon** to indicate the number of new notifications.
- **Notification Banner** to cycle through unacknowledged notifications.
- **Notification Panel** to display a list of notifications.

Notifications are generated when new information is populated in the system. This new information may originate from ATC or from an outside source, such as the System-Wide Information Management (SWIM), the FAA Operational Information System (OIS), or ATD-2 users. Notifications are always related to events that impact multiple flights or the airport (e.g., TMI and airport-related restrictions) and are never issued for single flights.

When new notifications are received:

- The Notification Icon turns yellow and displays the number of new notifications (e.g., “NEW 41” for 41 new notifications in Figure 3.202).
- The Notification Banner displays the subject of the notification and the time range of the event (e.g., “ORD GDP 1642-0259” in Figure 3.202). The banner cycles through all unacknowledged notifications.

To open/close the Notification Panel:

Step 1: Click once on the Notification Banner (black box) shown in Figure 3.202 to view notifications in the Notification Panel.

Step 2: Click on the “X” in the upper right corner of the Notification Panel to close the Notification Panel.

Alternatively: Click again on the Notification Banner (black box).

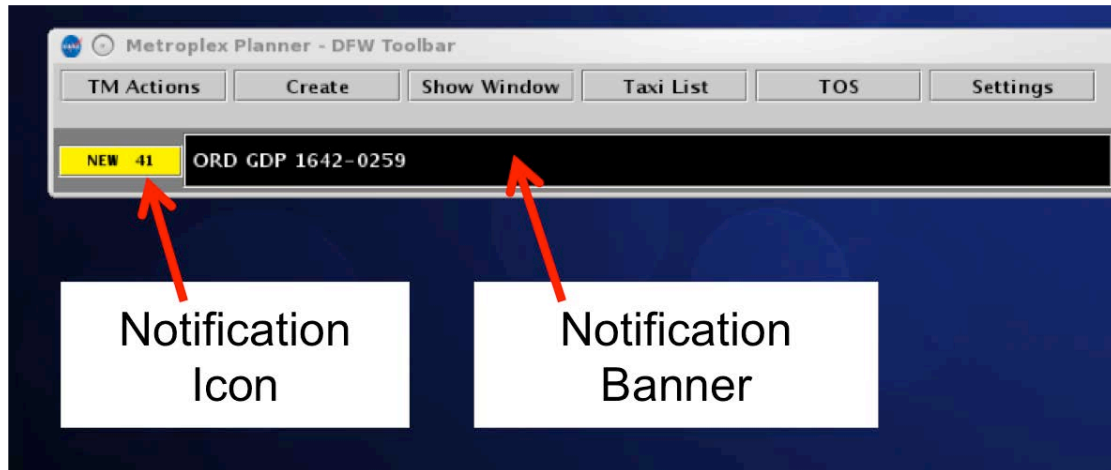


Figure 3.202. Notification Icon (yellow window) and Notification Banner (black window).

The Notification Panel displays all notifications for the past 24 hours, and the list is automatically cleared each day at 0800 UTC. New notifications are highlighted in yellow and new cancellation from TFM or OIS are highlighted in blue (Figure 3.203). For example, if a TMI is ended earlier than planned, the notification will be highlighted in cyan. Examples of notifications are shown below.

Reported	Event Type	Description	Event Start	Event End	Details
6/29/19 1831	TMI	MCO GDP	6/29/19 1830	6/29/19 2359	TFM: INCL DAL2181 ASA768 UAL18...
6/29/19 1828	TMI	LIT STOP	6/29/19 1726	6/29/19 1828	Cancelled
6/29/19 1824	TMI	IAH STOP	6/29/19 1806	6/29/19 1945	TFM: TRACON: D10
6/29/19 1824	TMI	IAH STOP	6/29/19 1723	6/29/19 1824	Cancelled
6/29/19 1704	TMI	JFK GDP	6/29/19 1900	6/30/19 0359	TFM: TRACON: D10
6/29/19 1635	TMI	EWR GDP	6/29/19 1400	6/30/19 0359	TFM: TRACON: D10
6/29/19 1620	TMI	EWR GDP	6/29/19 1400	6/29/19 1635	TFM: INCL ASQ4024 UAL334 UAL27...
6/29/19 1351	TMI	EWR GDP	6/29/19 1400	6/29/19 1620	TFM: TRACON: D10
6/29/19 1335	TMI	EWR STOP	6/29/19 1239	6/29/19 1335	Cancelled
6/29/19 0818	TOS	TOS INACTIVE	6/29/19 0816		FMC
6/29/19 0818	Ramp	RAMP OPENED	6/29/19 0818		
6/29/19 0818	Metering Mode	NO METERING	6/29/19 0816		
6/29/19 0818	Airport	D_18L_18R_17R_17C_13L			
6/29/19 0818	Airport	D_18L_18R_17R_17C_13L...			
6/29/19 0818	Airport	VMC			

New Notifications shown in yellow

New **Cancellation** Notifications shown in blue

Previously acknowledged Notifications shown in white

Notification Panel
(click anywhere in the Notification Panel to acknowledge all new notifications)

Figure 3.203. Notification Panel: New notifications (yellow), new *cancellation* notifications (blue), and previously acknowledged notifications (white).

Examples of ATC-related Notifications:

- **[EWR] GDP** (Ground Delay Program: *in effect / cancelled (CXL) / expired*)
- **[TPA] STOP** (Ground Stop: *in effect / cancelled (CXL) / expired*)
- **APREQ to [JFK]** (APREQ: *in effect / cancelled (CXL) / expired / obsolete*)
- **[AKUNA] CLOSED** (Departure Fix Closure: *in effect / cancelled (CXL) / expired*)
- **[AKUNA] OPENED** (Departure Fix Opened)
- **[THHOR] 20MIT** (Miles-in-Trail restriction: *in effect / cancelled (CXL) / expired*)

Examples of Airport-related Notifications:

- **VMC** (example meteorological conditions)
- **North** (example of airport configuration)
- **N_Normal** (example of runway utilization)
- **18L CLOSED** (example of runway closure)

Examples of TOS-related Notifications:

- **TOS ACTIVE**
- **TOS INACTIVE**

To acknowledge new (yellow and cyan) Notifications in the Notification Panel:

Step 1: Click once anywhere in the Notification Panel to acknowledge all new (yellow and cyan) notifications.

Alternatively: Click once on the Notification Icon (yellow box) (Figure 3.202).

Note: Once new notifications have been acknowledged, the Notification Icon will turn gray and indicate “NONE”.

Once acknowledged, notifications in the Notification Panel are no longer highlighted in yellow or blue (Figure 3.204) and the Notification Icon changes to gray and displays “NONE” to indicate there are no new notifications (Figure 3.205).

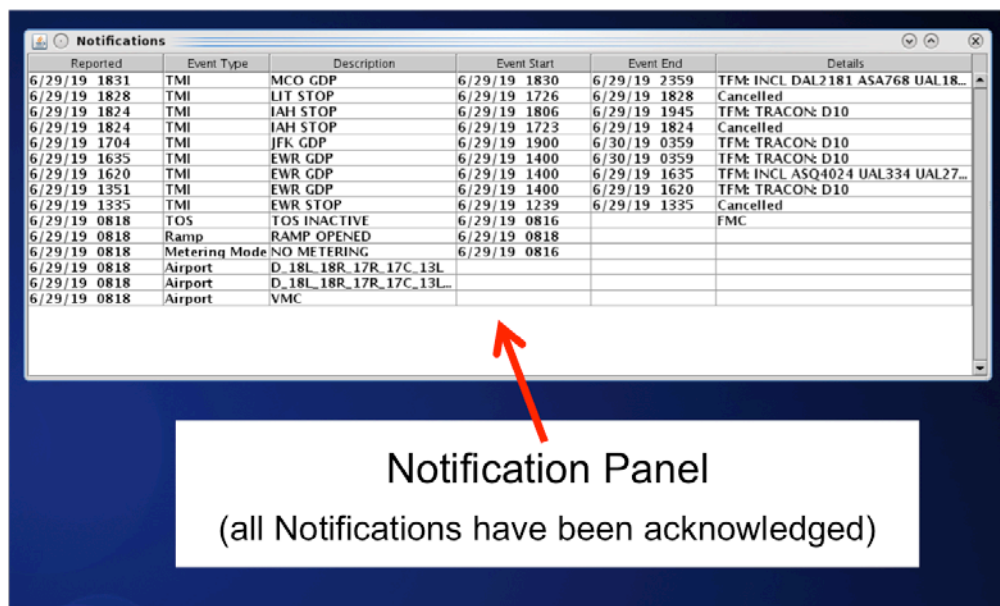


Figure 3.204. Notification Panel: Notifications acknowledged.

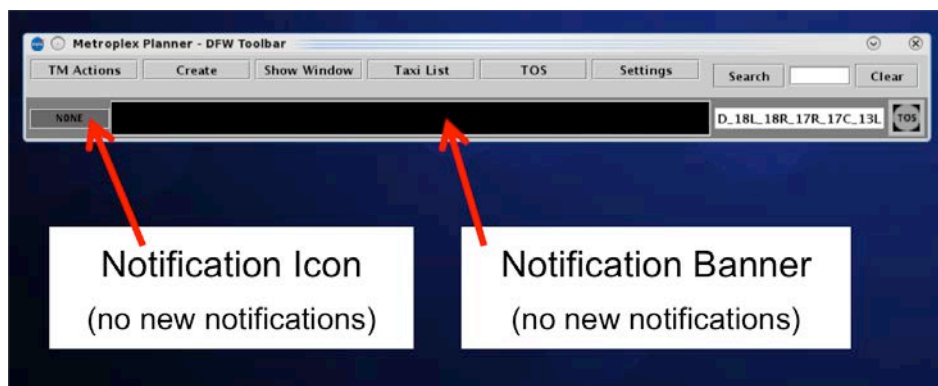


Figure 3.205. Notification Icon and Notification Banner: Notifications acknowledged.

3.9 Toolbar: Runway Utilization

The Runway Utilization icon (Figure 3.206) displays the current runway utilization. When the runway utilization and/or configuration information for the airport changes, the text in the Runway Utilization icon updates to reflect this change.

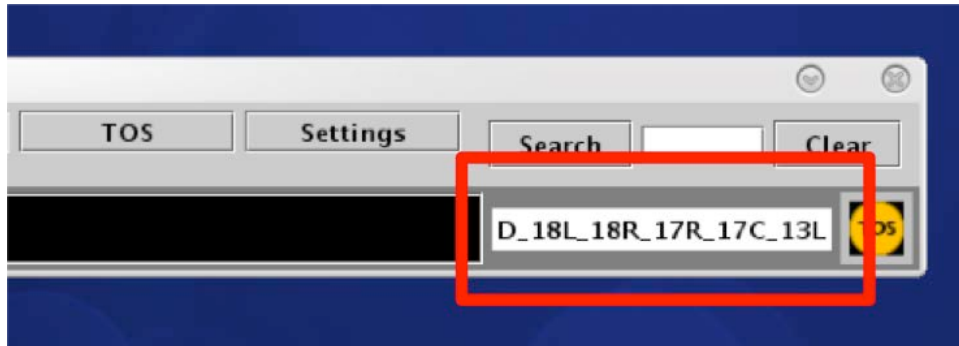


Figure 3.206. Toolbar: Runway Utilization field.

3.10 Toolbar: Icons

Icons related to the status of the Surface Metering, Trajectory Option Set (TOS) Operations, and Ramp Status are displayed on the Toolbar.

3.10.1 Trajectory Option Set (TOS) Icon

When Trajectory Option Set (TOS) Operations are currently active, the TOS icon is displayed in yellow, rather than gray (Figure 3.207). (See Section 3.1.9.1 on how to activate TOS Operations.)

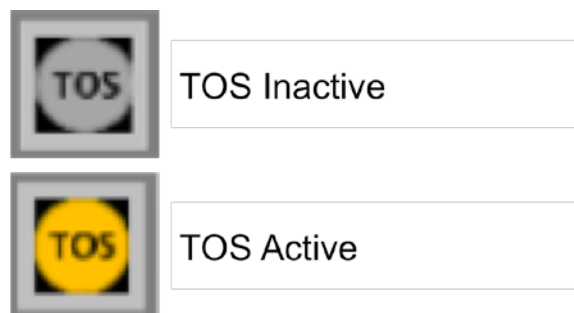


Figure 3.207. TOS icon shown on the Toolbar.

4 Metroplex Planner: Maps

Maps display live positional aircraft data to create a visual representation of flights on the surface and in the terminal area. Each flight on the map is accompanied by a datablock which can be configured with flight-specific information.

At lower zoom levels, the map can be used to view flights on the surface of the airport in the Ramp and AMA areas (Figure 4.1).

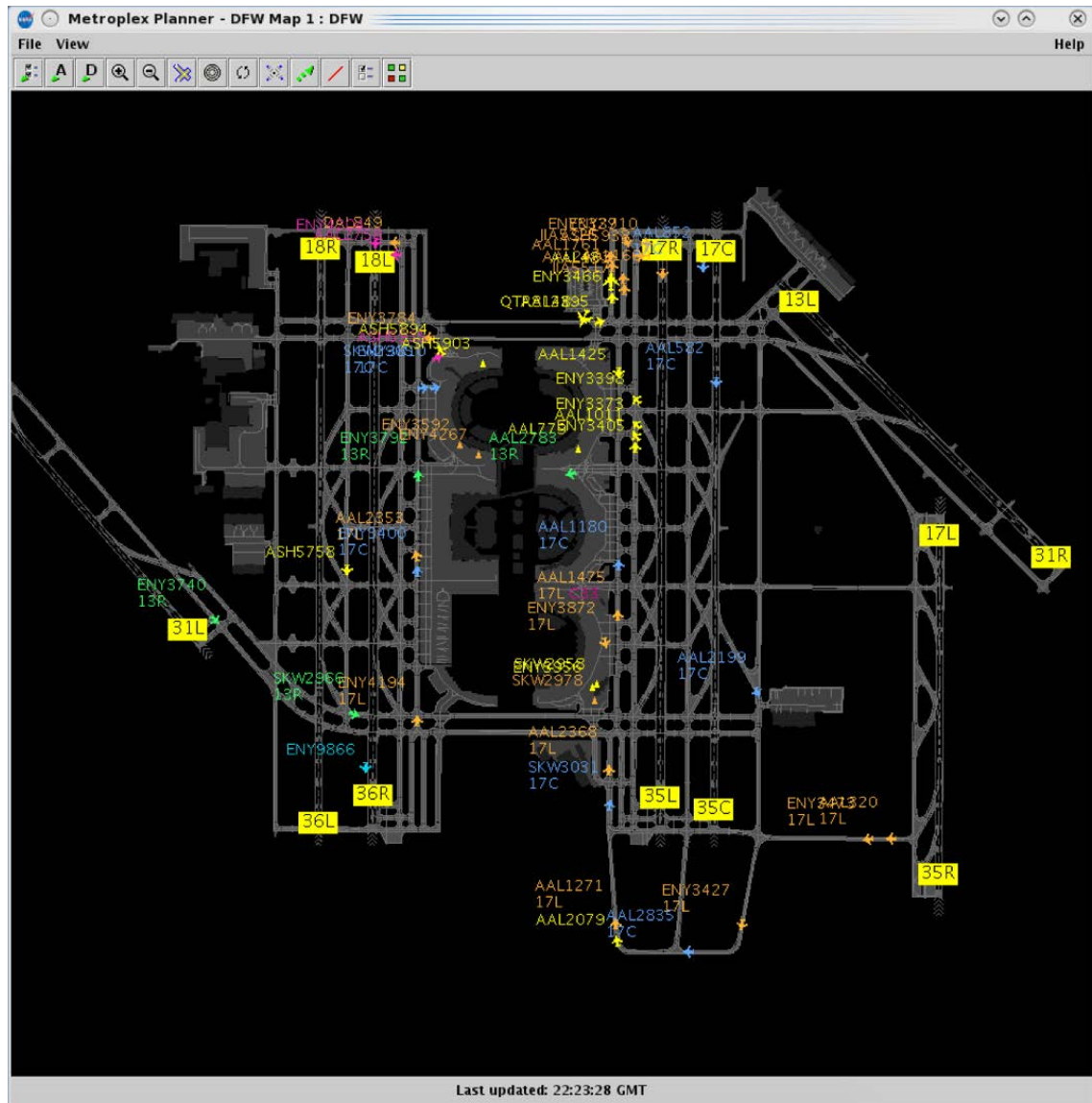


Figure 4.1. Map (Ramp/AMA example).

At higher zoom levels, the map can be used to view enroute flights in the terminal area (Figure 4.2).

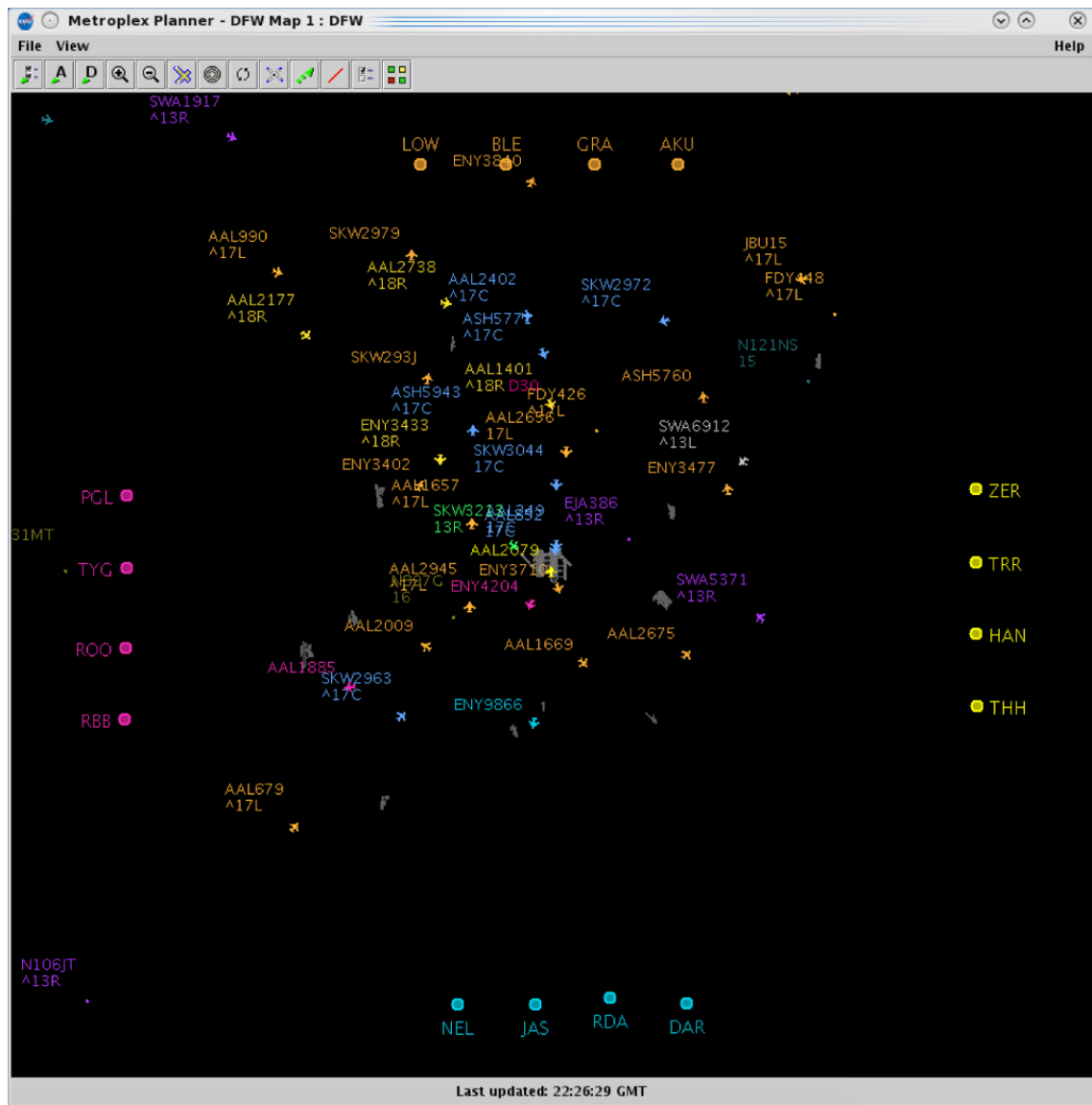


Figure 4.2. Map (terminal area example).

The Menu Bar and Toolbar can be used to configure the map (Figure 4.3). More than one map can be open at the same time and each can be configured independently of the others.

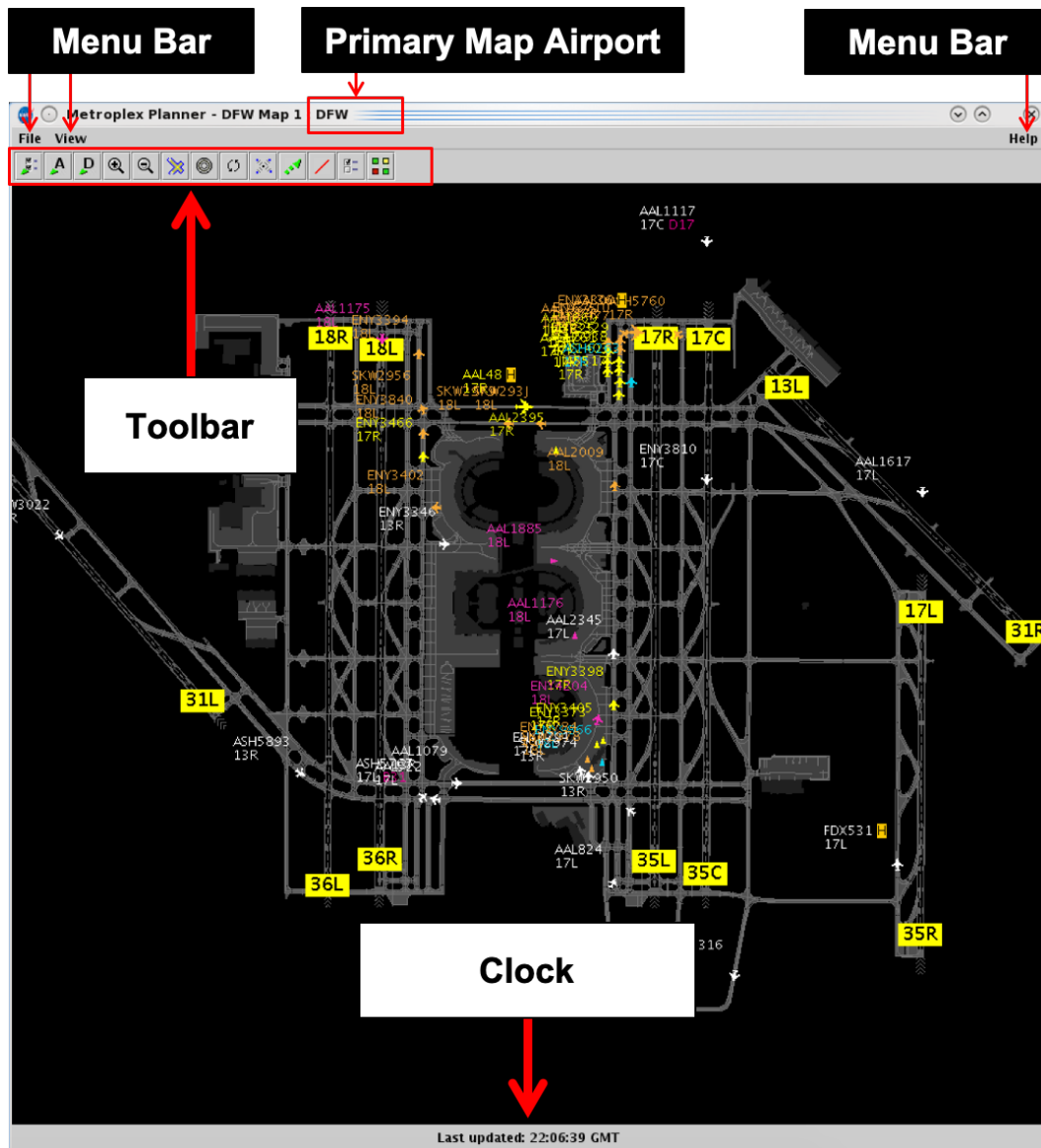


Figure 4.3. Map overview.

4.1 Map: Select a Flight

Select a flight on the map to highlight the flight throughout the Metroplex Planner user interface.

To select a flight on the Map:

Step 1: Left-click on a flight on the map. Once selected, the flight icon's datablock is highlighted and a border is displayed around the flight icon (Figure 4.4).

Note: When a flight is selected on the map, it is highlighted throughout the Metroplex Planner user interface. That is, it is also highlighted on the timeline, in the Flights Table, and in the TOS Departure Table (if applicable).

Alternatively: Click elsewhere on the map to deselect the flight.



Figure 4.4. Flight icons selected on the map (in the Ramp area, in the AMA, and enroute in the Terminal Area).

More than one flight icon on a map can be selected at the same time.

To select multiple flights on the Map:

Step 1: Select multiple flight icons on the map by holding the “Shift” key on the keyboard while left-clicking on the flights to select them (Figure 4.5).

Alternatively: Click elsewhere on the map to deselect the flights.

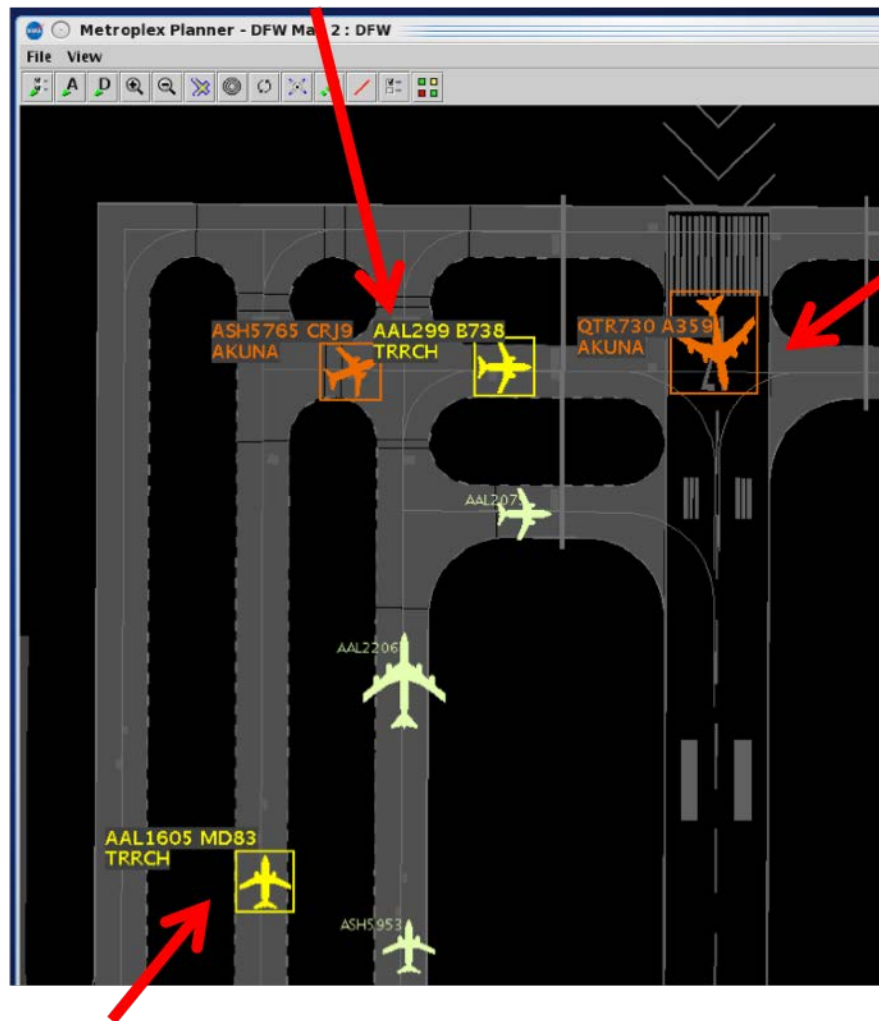


Figure 4.5. Multiple flights selected at once (squares around icons).

While flight icons themselves cannot be relocated, the attached datablocks can be repositioned by clicking and dragging.

To reposition a flight icon datablock:

Step 1: Select a flight icon on the map. Once selected, the flight icon's datablock is highlighted and a border is displayed around the flight icon (Figure 4.6).

Step 2: Click and drag the datablock to reposition it.

Alternatively: Click elsewhere on the map to deselect the flights.

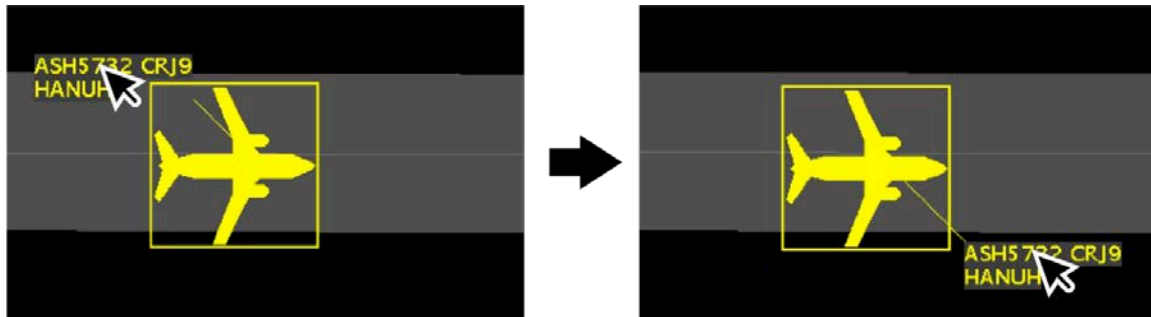


Figure 4.6. Map: Reposition flight datablock.

4.2 Map: Menu Bar

Three options are available on the Menu Bar: File, View, and Help.

4.2.1 File Menu

Use “File” menu to “recycle” flights and shut down the Metroplex Planner (Figure 4.7).

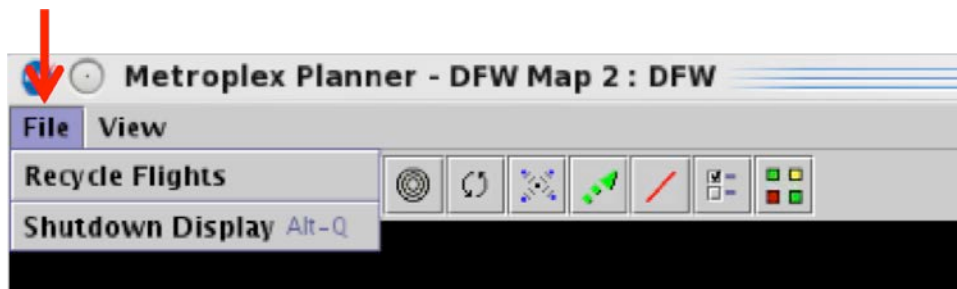


Figure 4.7. Map: File menu.

4.2.1.1 Recycle Flights

When “Recycle Flights” is selected, flight data is reinitialized to refresh flights displayed on the map.

4.2.1.2 Shutdown Display

Select “Shutdown Display” to shut down the Metroplex Planner.

To Shutdown the Metroplex Planner:

Step 1: Select “File” on the Menu Bar.

Step 2: Select “Shutdown Display” from the dropdown menu.

Step 3: Select “Yes” at the prompt to shut down the Metroplex Planner (Figure 4.8).

Alternatively: Select “No” to keep the Metroplex Planner open.

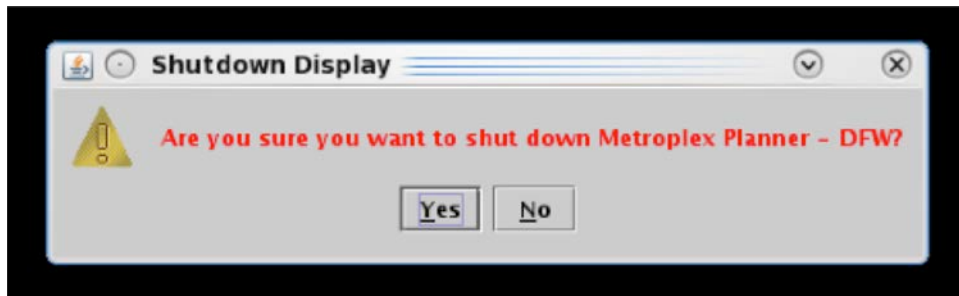


Figure 4.8. Shutdown display confirmation prompt.

4.2.2 View Menu

Use the “View” menu to configure the map display (Figure 4.9).

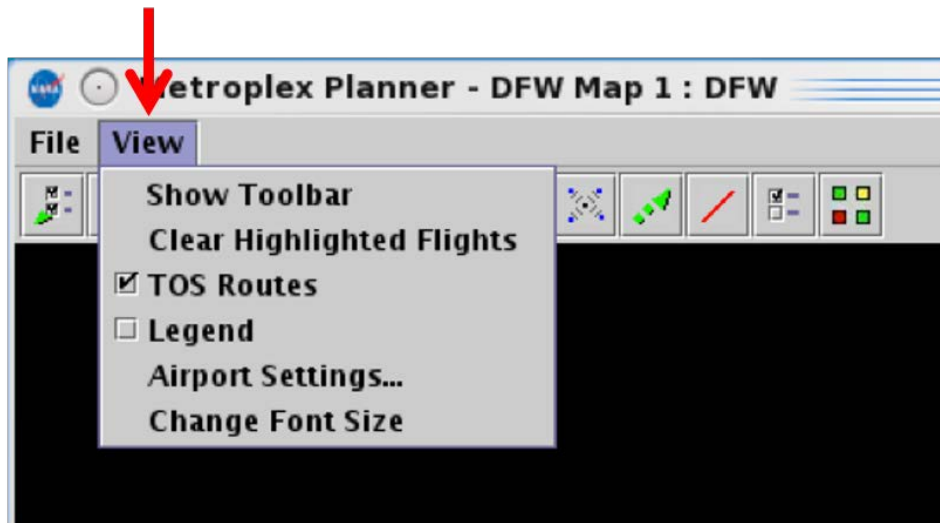


Figure 4.9. Map: View menu.

4.2.2.1 Show Toolbar

Use “Show Toolbar” to bring the Metroplex Planner Toolbar window to the front of other windows.

To show the Metroplex Planner Toolbar:

Step 1: Select “View” on the Menu Bar.

Step 2: If the Metroplex Planner Toolbar window is obscured by other windows (Figure 4.11 top), select “Show Toolbar” to bring the Toolbar window to the front (Figure 4.10).

Note: *The Toolbar is displayed in front of other open windows (Figure 4.11 bottom).*

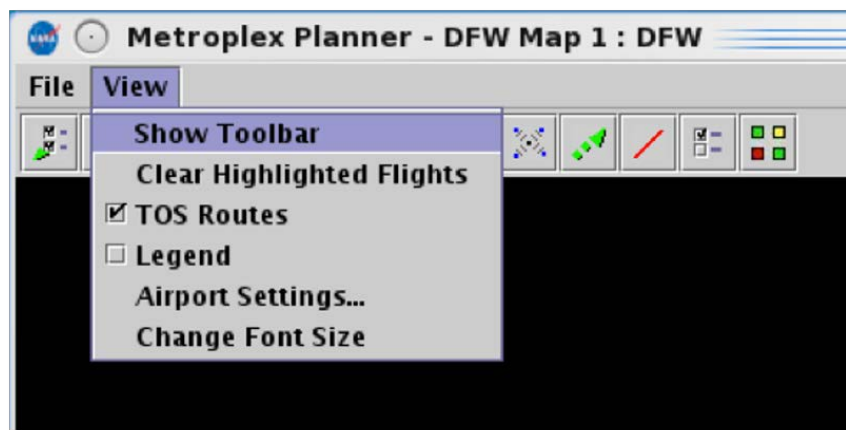


Figure 4.10. View Menu: Show Toolbar.

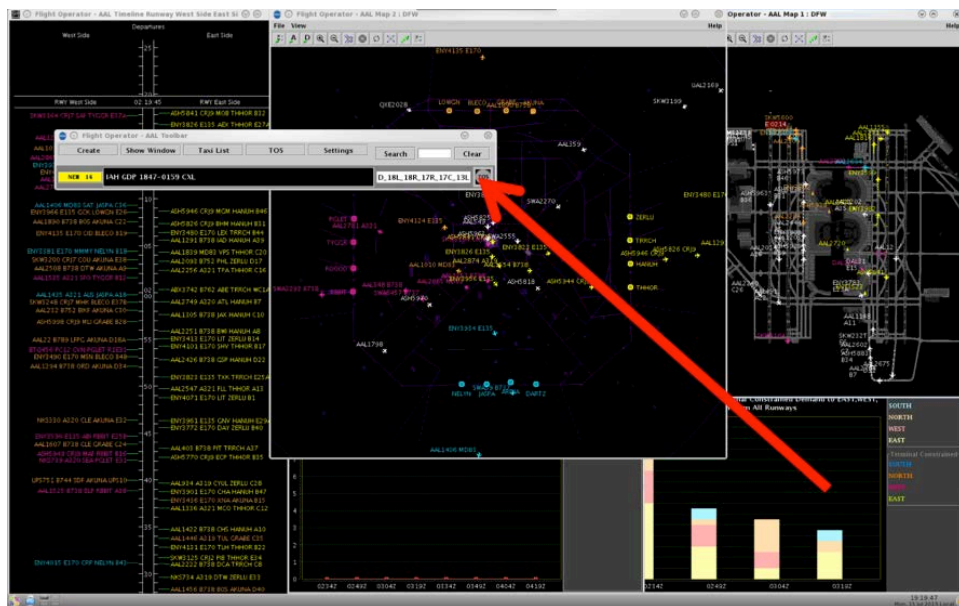
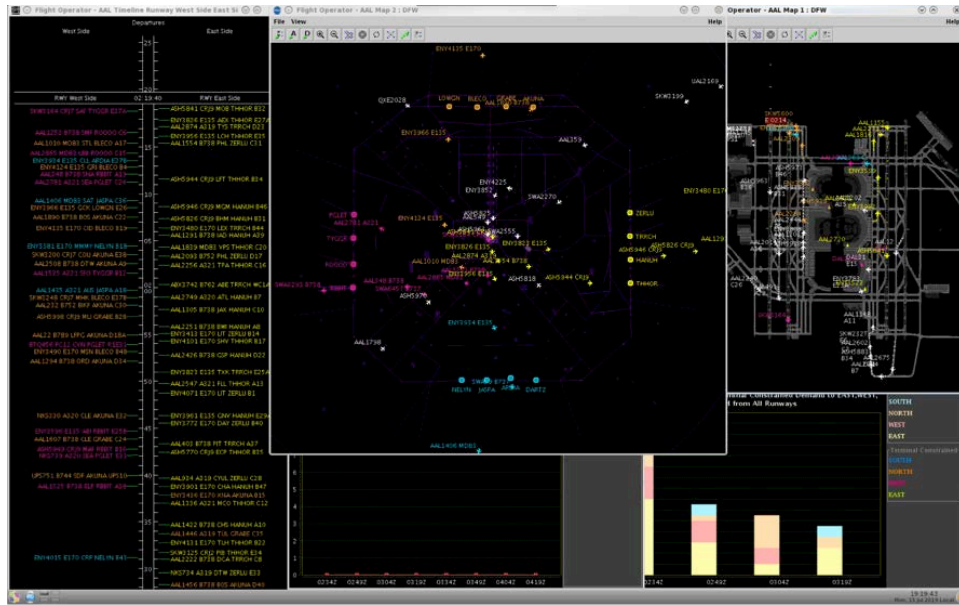


Figure 4.11. Metroplex Planner Toolbar obscured by other windows (top) and then displayed in front of other windows (bottom).

4.2.2.2 Clear Highlighted Flights

Use “Clear Highlighted Flights” to deselect flights on the map.

To Clear all Highlighted flights on the Map:

Step 1: Select “View” on the Menu Bar (Figure 4.12).

Step 2: When one or more flights are selected on the map (Figure 4.13, left), select “Clear Highlighted Flights” to deselect them (Figure 4.13, right).

Alternatively: Click elsewhere on the map background to deselect flights.

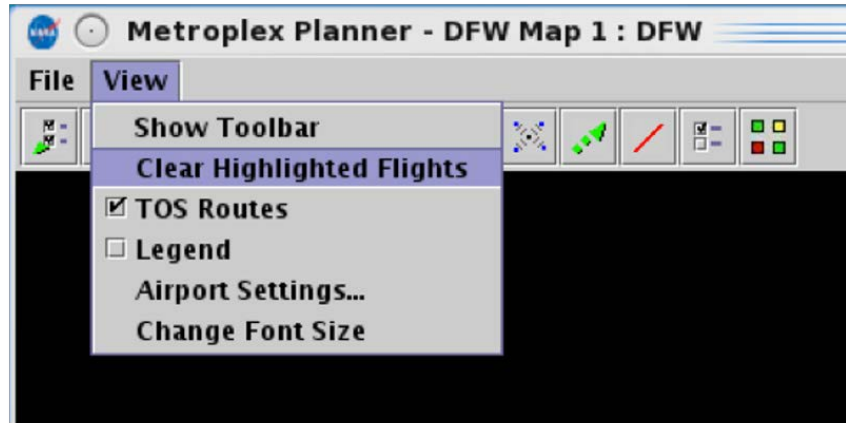


Figure 4.12. View Menu: Clear Highlighted Flights.

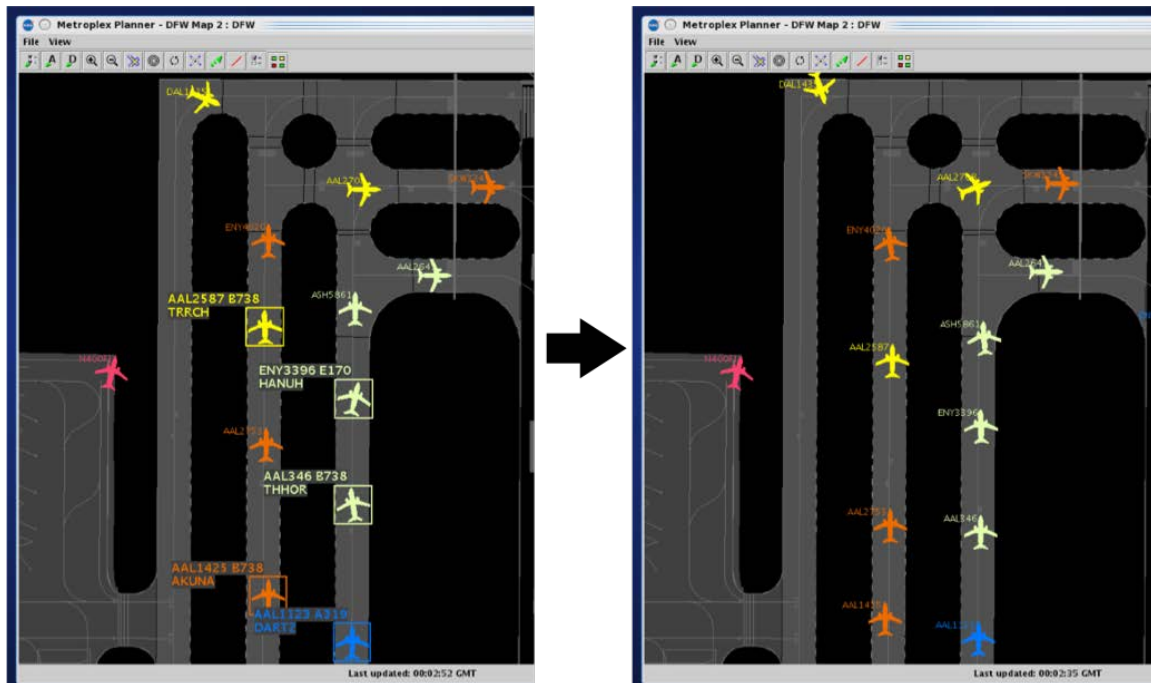


Figure 4.13. Clear Highlighted Flights: Any highlighted flights (left) are deselected (right).

4.2.2.3 TOS Routes

TOS CDR routes can be displayed on the map.

To enable the display of TOS Routes on the Map:

Step 1: Select “View” on the Menu Bar.

Step 2: Check the box next to “TOS Routes” (Figure 4.14).

Note: A TOS route is displayed on the map when:

- ***In the TOS Departure Table:*** When a flight, for which a “top” route has been identified, is selected, the “top” route is displayed on the map (Figure 4.15).
- ***In a TOS Flight Menu:*** When any route in a TOS Flight Menu is selected, it is displayed on the map (Figure 4.16).

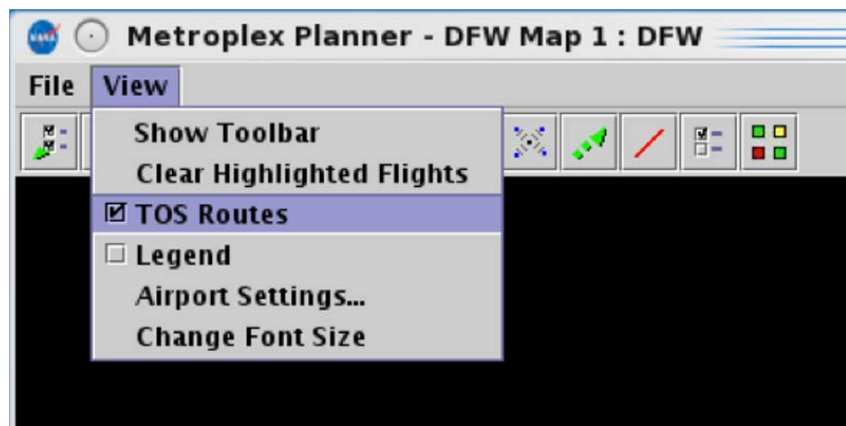


Figure 4.14. View Menu: TOS Routes.

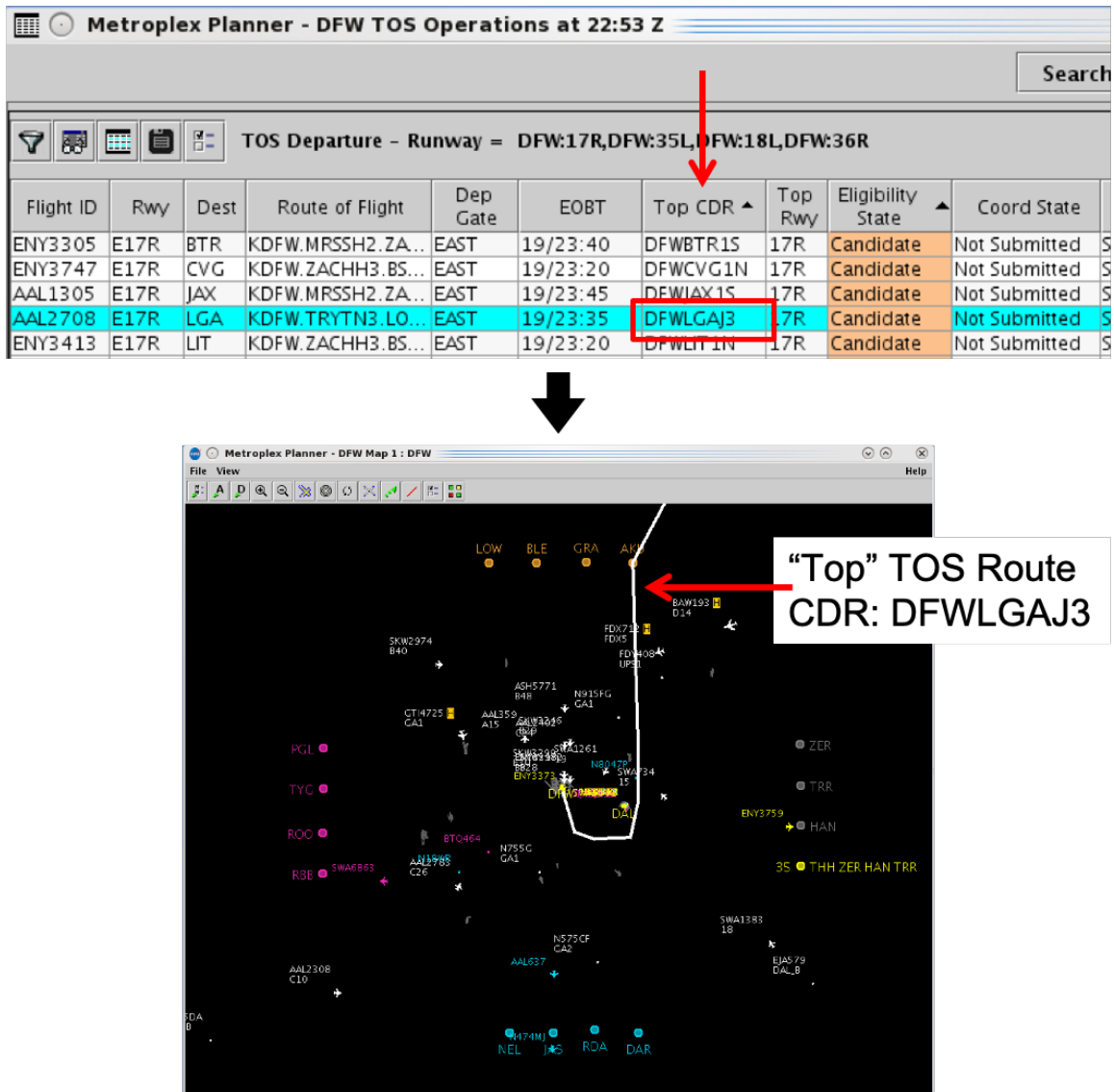


Figure 4.15. Select a flight in the TOS Departure Table (in this example, AAL2708). If a “top” TOS route has been identified for the flight, it is displayed on the Map (“DFWLGAJ3”).

Note that a “top” route is identified approximately 60 minutes prior to takeoff. See Section 5.4.4 for a description of “top” TOS routes.

TOS Flight Menu - AAL2708								
Flight ID	Route	CDR	Dep Gate	Dep Fix	Rwy	Eligibility State	Coord State	Term Delay Savings Dep Fix
AAL2708	KDFW.TRYTN3.L...		EAST	THHOR	17R			
AAL2708	KDFW.AKUNA7...	DFWLGA1N	NORTH	AKUNA	17R	Candidate	Not Submitted	-64
AAL2708	KDFW.AKUNA7...	DFWLGAJ3	NORTH	AKUNA	17R	Candidate	Not Submitted	-64
AAL2708	KDFW.DARTZ8.T...	DFWLGA1S	SOUTH	DARTZ	17R	Potential	Not Submitted	-64

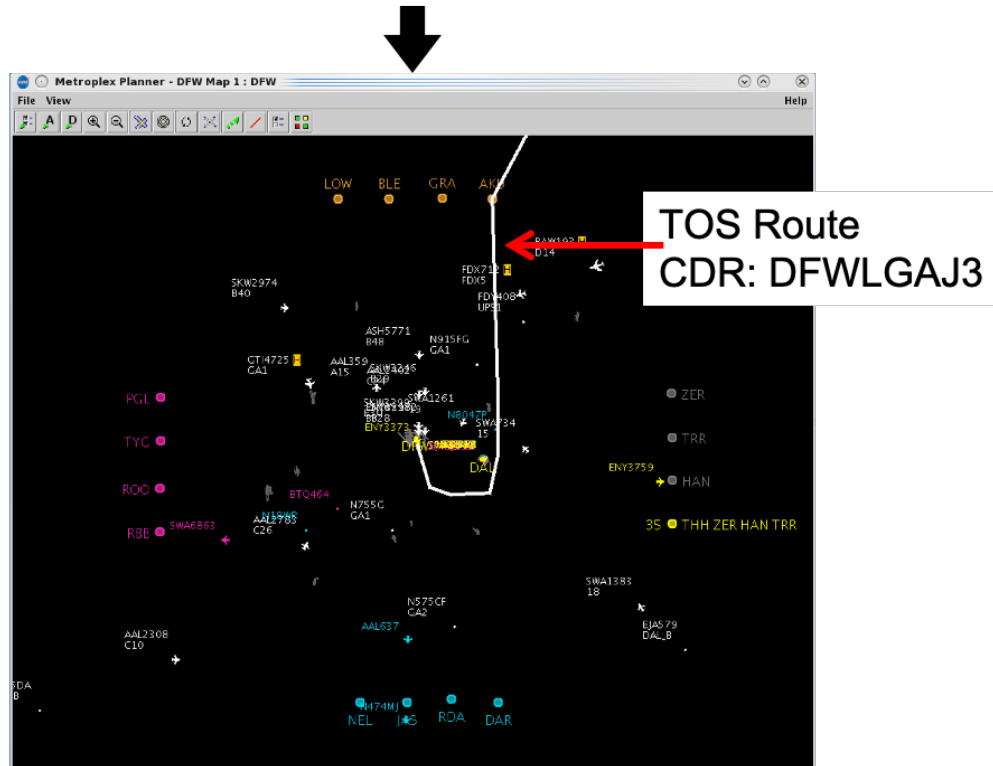


Figure 4.16. Select any route in the TOS Flight Menu to display it on the Map (in this example, “DFWLGAJ3”).

Note, when a CDR is selected in the CDR List (Section 3.1.9.3.2), it is displayed regardless of whether “TOS Routes” is checked or unchecked in the map View menu.

4.2.2.4 Legend

The map legend displays the color coding for each category in the selected arrival and departure color schemes. (See Section 4.3.1.1 for information on how to set up colors for aircraft icons and text on the map.) Unlike the timeline legend, categories cannot be deselected for exclusion from the map.

To Show/Hide the Map Legend:

Step 1: Select “View” on the Menu Bar.

Step 2: Check the box next to “Legend” (Figure 4.17). An example is shown in Figure 4.18.

Note: *Colors displayed in the legend are based on the selected arrival/departure color schemes (see Section 4.3.1.1 for a description of selecting Map color schemes). Colors are pre-assigned and cannot be changed.*

Alternatively: Uncheck the box to remove the legend from the map display.

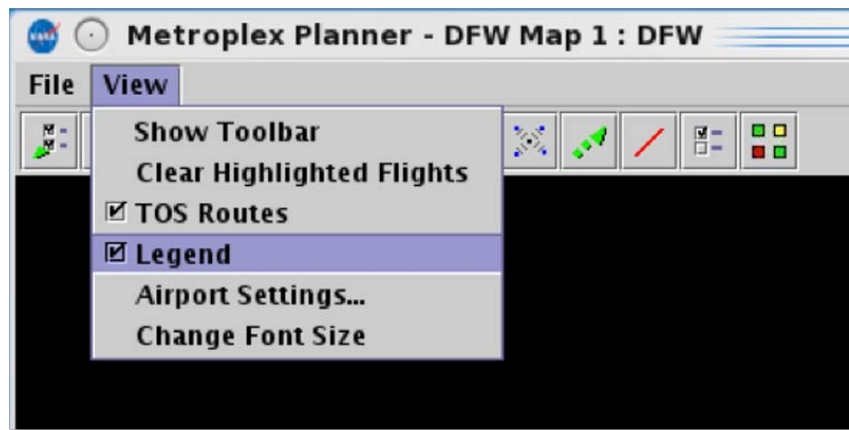


Figure 4.17. View Menu: Map Legend.

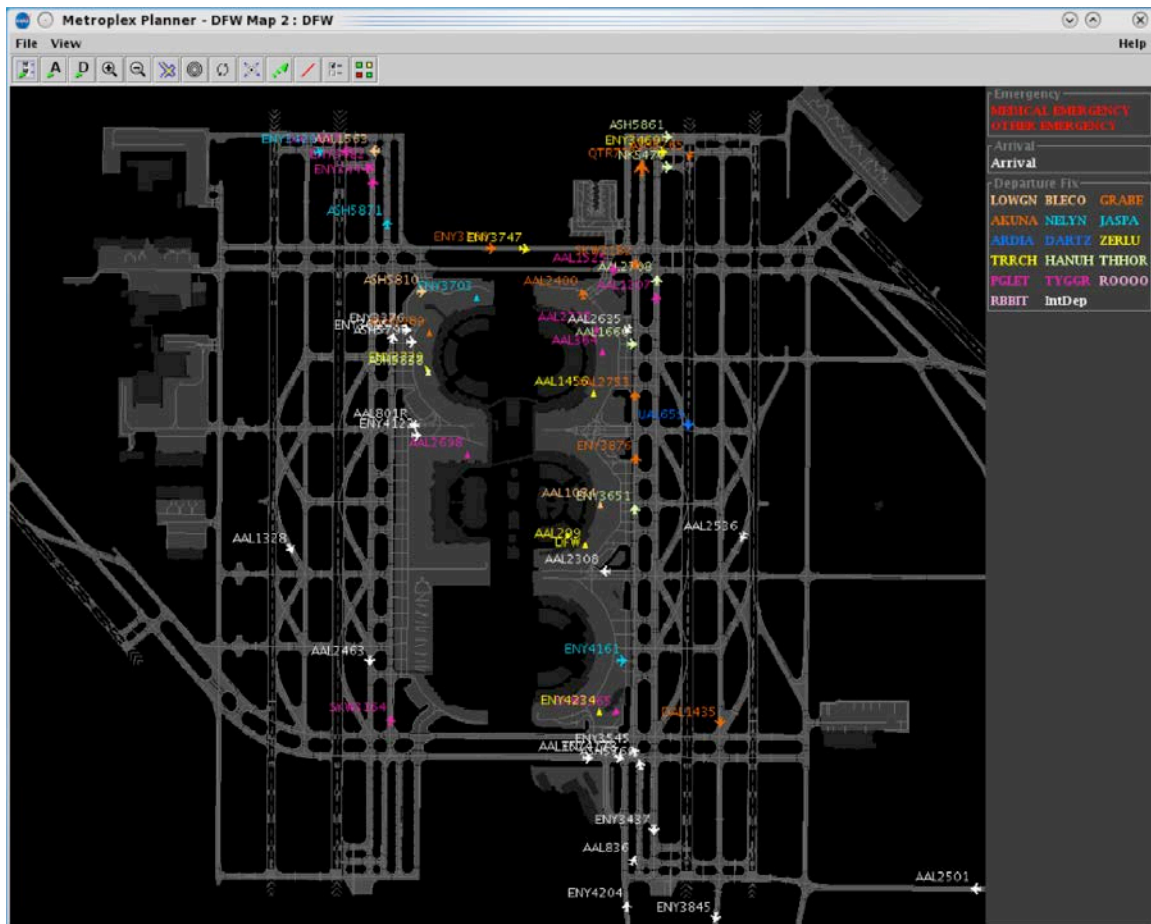


Figure 4.18. Map with legend.

4.2.2.5 Airport Settings

Configure which flights are displayed on the map using “Airport Settings” in the “View” menu.

To configure map Airport Settings:

Step 1: Select “View” on the Menu Bar.

Step 2: Select “Airport Settings” from the menu (Figure 4.19).

Step 3: Select a tab to choose an airport (Figure 4.20).

Step 4: Select from six types of flight/aircraft options, each of which will be further explained, to view on the map (Figure 4.20).

- Departures
- Arrivals
- Flights at Gates
- Aircraft at Gates
- Flights by Line-of-Flight
- Suspended Flights

Note: *Not all options available at all airports.*

Step 5: Select “Apply”.

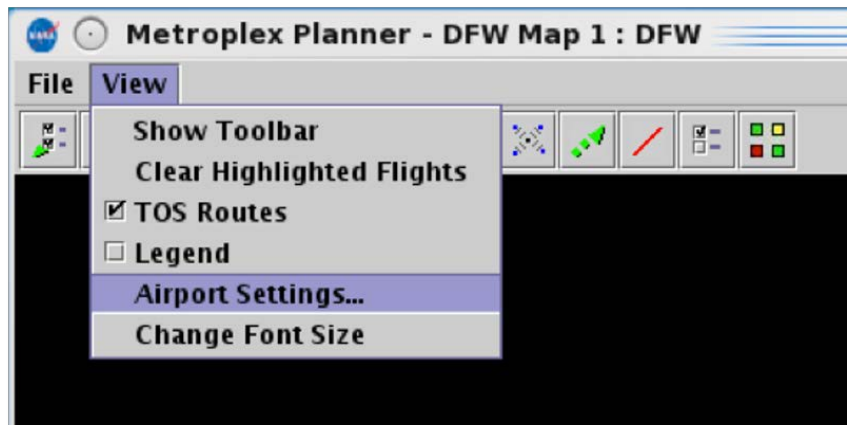


Figure 4.19. View Menu: Airport Settings.

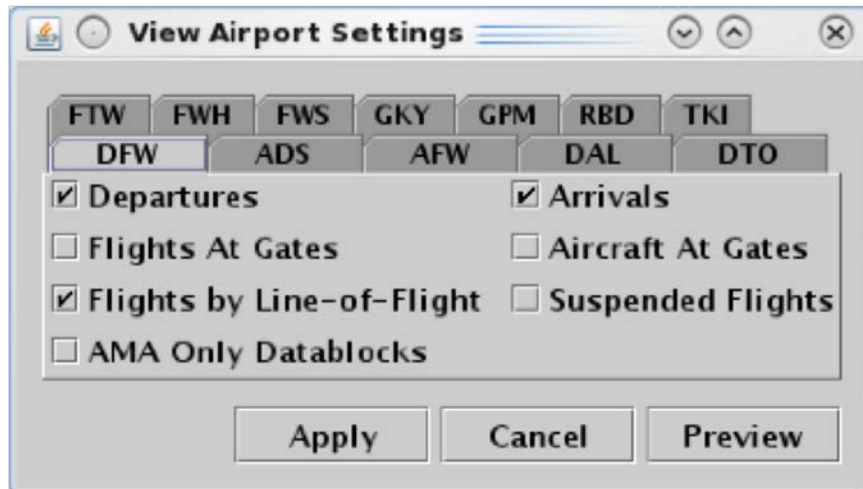


Figure 4.20. View Airport Settings Menu.

- **Departures:** Departure flights on the surface or enroute, in the terminal area.
- **Arrivals:** Arrival flights on the surface or enroute, in the terminal area.
- **Flights at Gates:**
 - If the “Flights at Gates” option is selected along with “Departures”, departure flights at the gate are displayed (Figure 4.21).
 - If the “Flight at Gates” option is selected along with “Arrivals”, arrival flights at the gate are displayed.

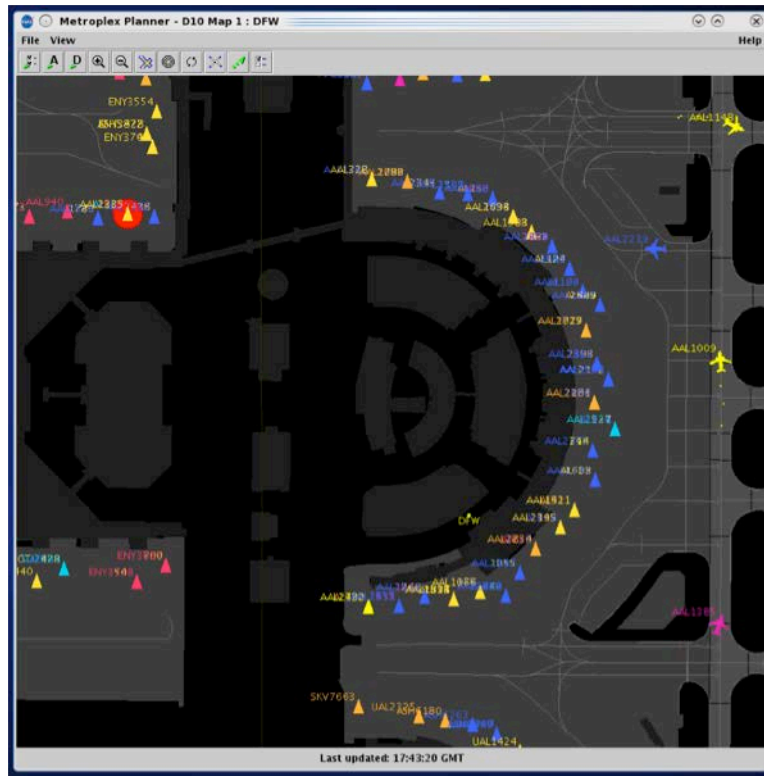


Figure 4.21. Airport Settings: Flights at Gates (example).

- **Aircraft at Gates:** Display tail number and aircraft type at gate (Figure 4.22).

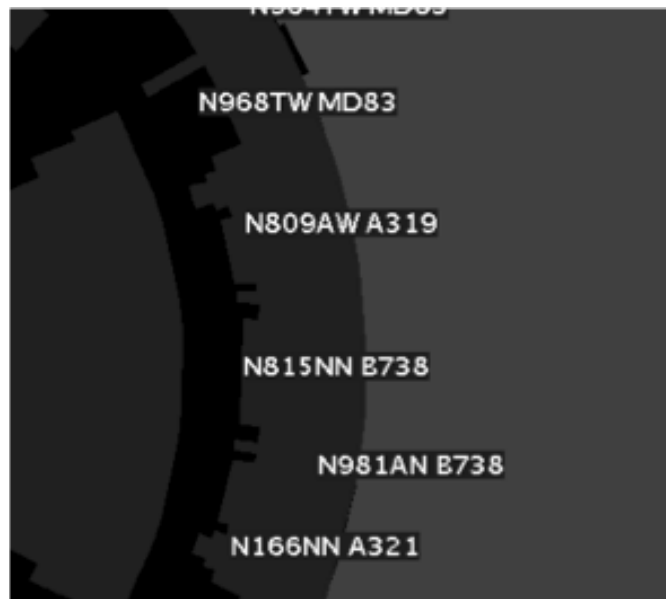


Figure 4.22. Airport Settings: Aircraft at Gates (example).

- **Flights by Line-of-Flight:**

A particular aircraft may currently be an arrival flight (“Flight A”), but will eventually become a turnaround departure flight later that day (“Flight B”).

- When the “Flights by Line-of-Flight” option is *unselected* (Figure 4.23, left), the current flight *and* future flights that will use the same aircraft are displayed (e.g., “Flight A” and “Flight B”).
- When the “Flights by Line-of-Flight” option is *selected* (Figure 4.23, right), only the current flight (e.g., “Flight A”) is displayed.

Expired Flights. After parking at a gate, flight information associated with an arrival eventually times out, or expires. When “Flights by Line-of-Flight” is *selected*, expired flights are not displayed.



Figure 4.23. Flights by Line-of-Flight: *Unselected* to show current and future flights (left) and *selected* to show only the current flight (right).

- **Suspended Flights:** Display departure flights that have been designated as “suspended” in the ATD-2 system (Figure 4.24). A flight is designated as “suspended” when it is temporarily delayed (e.g., mechanical issue), but not permanently cancelled.



Figure 4.24. Airport Settings: Suspended flight (example).

- **AMA Only Datablocks:** Select “AMA Only Datablocks” to hide datablocks in the Ramp Area. In Figure 4.25 (left), datablocks are displayed for flights at the gate and in the Ramp Area. In Figure 4.25 (right), datablocks at the gate and in the Ramp Area are hidden when “AMA Only Datablocks” is selected.

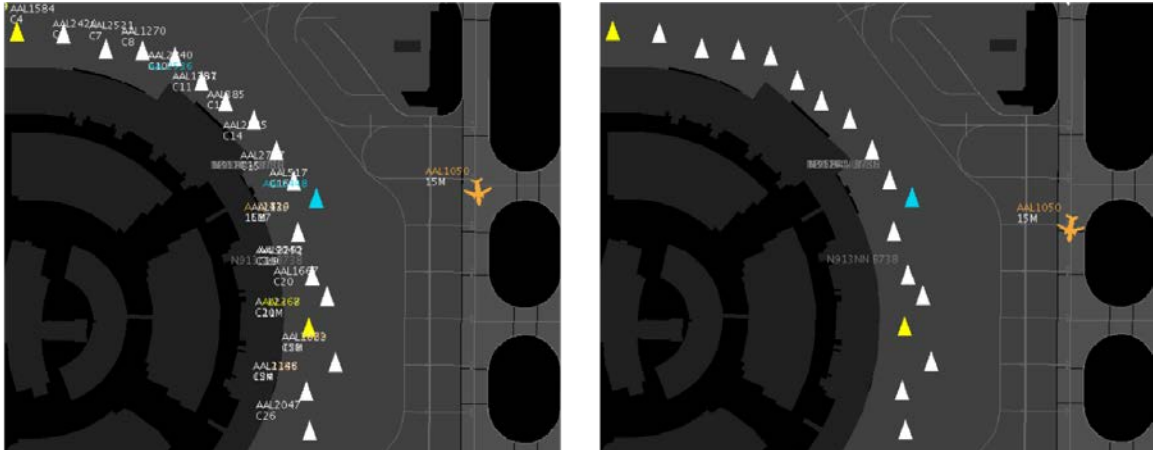


Figure 4.25. Airport Settings: When AMA Datablocks is selected (right), datablocks are not displayed for flights in the Ramp Area.

4.2.2.6 Change Font Size

Select “Change Font Size” in the “View” menu (Figure 4.26) to change the font size of Flight Data Tags and Map Labels (Figure 4.27).

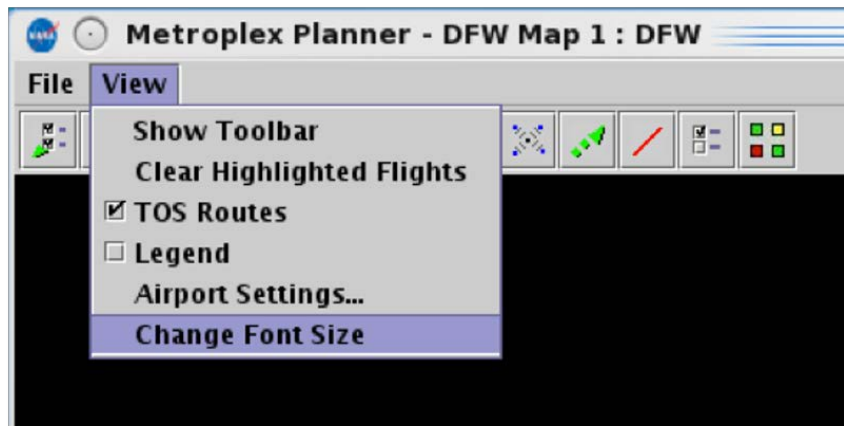


Figure 4.26. View Menu: Change Font Size.

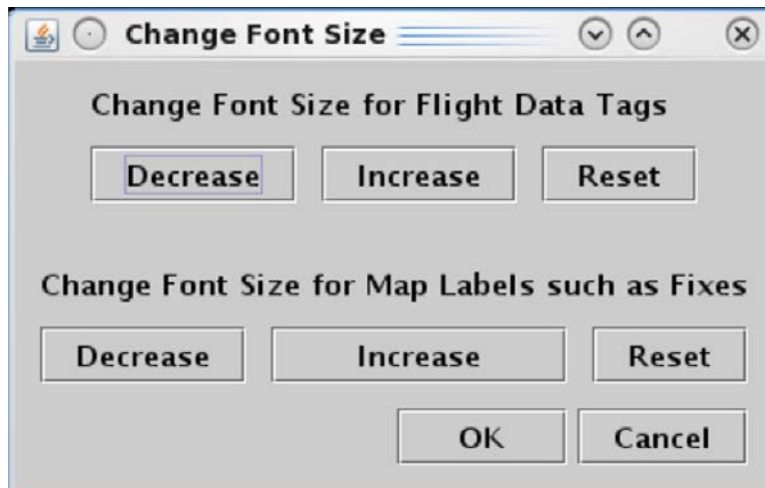


Figure 4.27. Change Font Size.

4.2.3 Help Menu

Use the “Help” menu to view the software version number and help menus for quick keys (Figure 4.28).

4.2.3.1 About

Use the “Help” menu to view the Metroplex Planner version number.

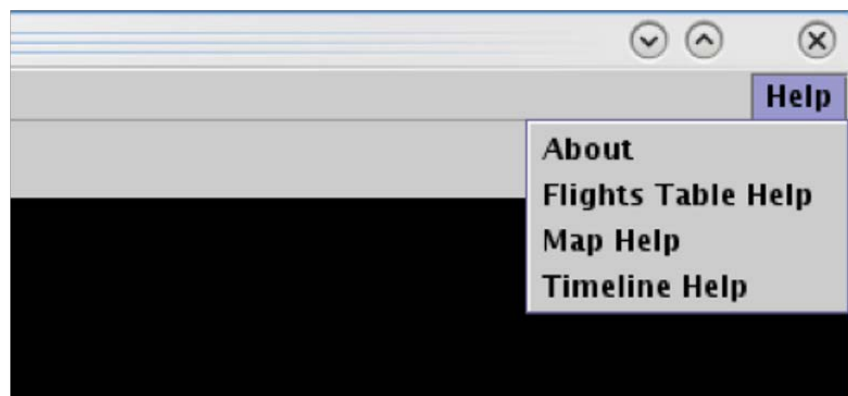


Figure 4.28. Map: Help menu.

To view software Version number:

Step 1: Select “Help” on the Menu Bar.

Step 2: Select “About” to view the version number (Figure 4.29).

Step 3: Select “OK” to close the window (Figure 4.30).

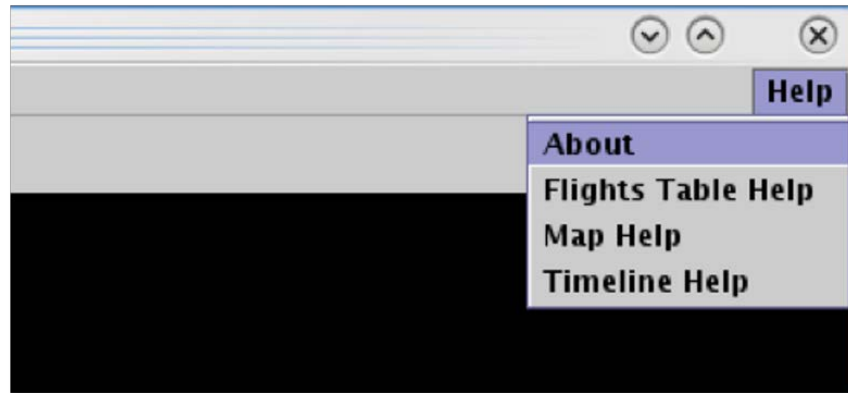


Figure 4.29. Help Menu: About.

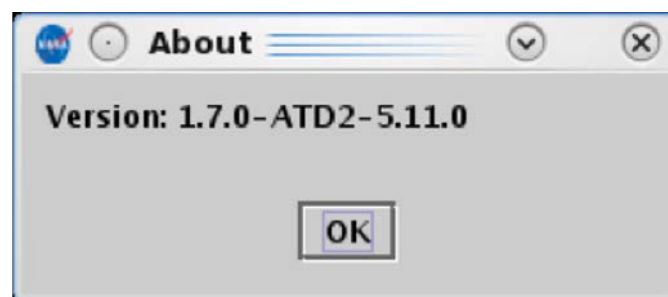


Figure 4.30. About: Version information (example).

4.2.3.2 Flights Table Help

Some users prefer to use “quick key” functions, or keyboard shortcuts, to navigate and interact with the Metroplex Planner. Quick key functions are available for the Flights Table.

To open the list of Quick Keys for the Flights Table:

- Step 1:** Select “Help” on the Menu Bar.
- Step 2:** Select “Flights Table Help” to view a list of quick keys (shortcuts) for the Flights Table (Figure 4.31).
- Step 3:** Select “Close” to close the window (Figure 4.32).

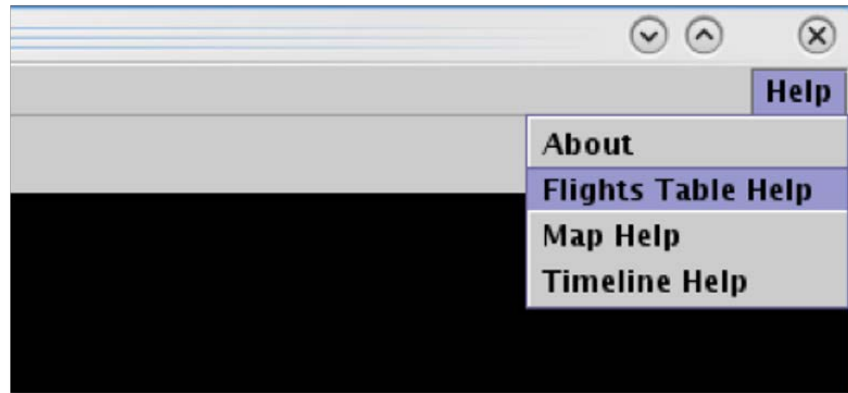


Figure 4.31. Help Menu: Flights Table Help.

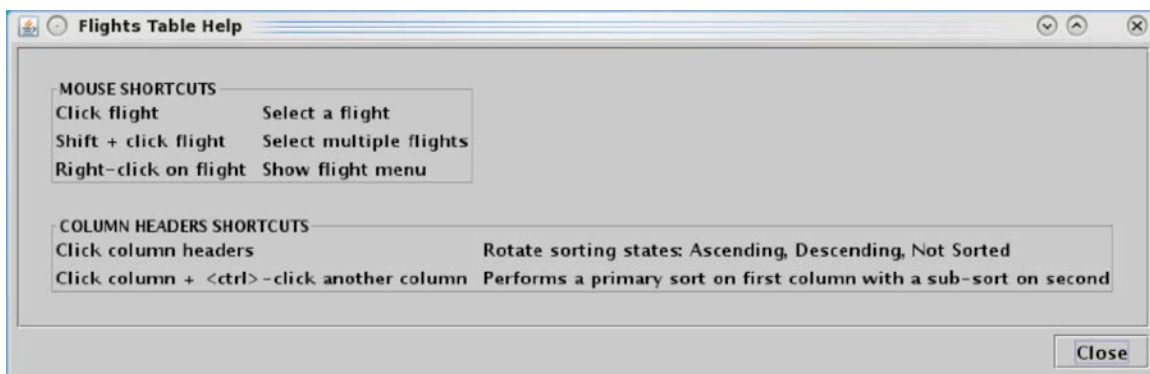


Figure 4.32. Flights Table Help.

4.2.3.3 Map Help

Quick key functions are available for maps.

To open the list of Quick Keys for Maps:

- Step 1:** Select “Help” on the Menu Bar.
- Step 2:** Select “Map Help” to view a list of quick keys (shortcuts) for the map (Figure 4.33).
- Step 3:** Select “Close” to close the window (Figure 4.34).

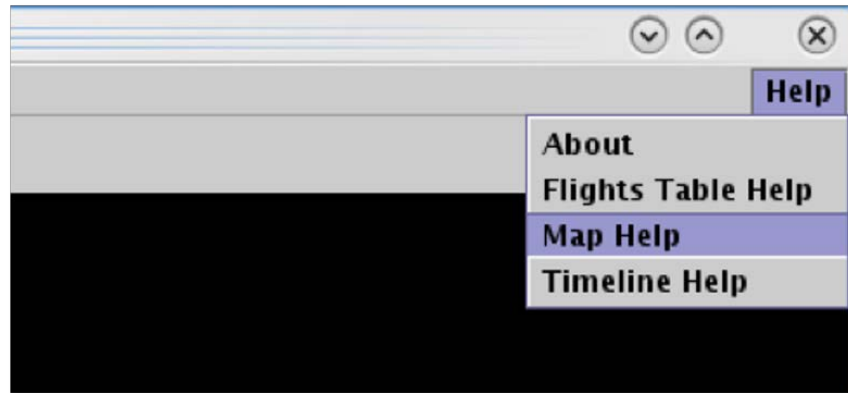


Figure 4.33. Help Menu: Map Help.



Figure 4.34. Map Help.

4.2.3.4 Timeline Help

Quick key functions are available for timelines.

To open the list of Quick Keys for Timelines:

Step 1: Select “Help” on the Menu Bar.

Step 2: Select “Timeline Help” to view a list of quick keys (shortcuts) for the timeline (Figure 4.35).

Step 3: Select “Close” to close the window (Figure 4.36).

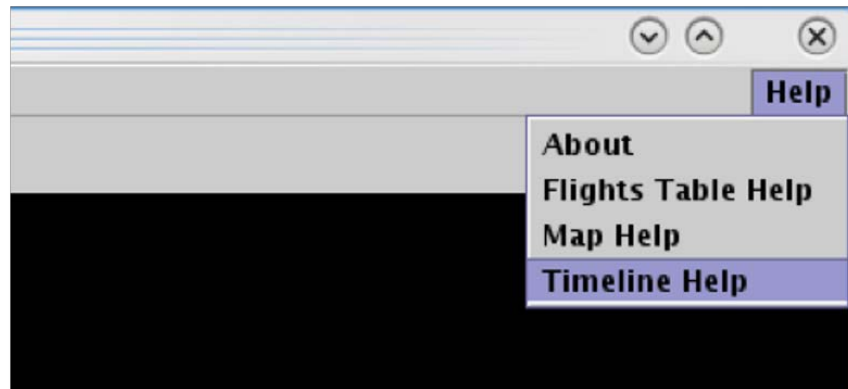


Figure 4.35. Help Menu: Timeline Help.

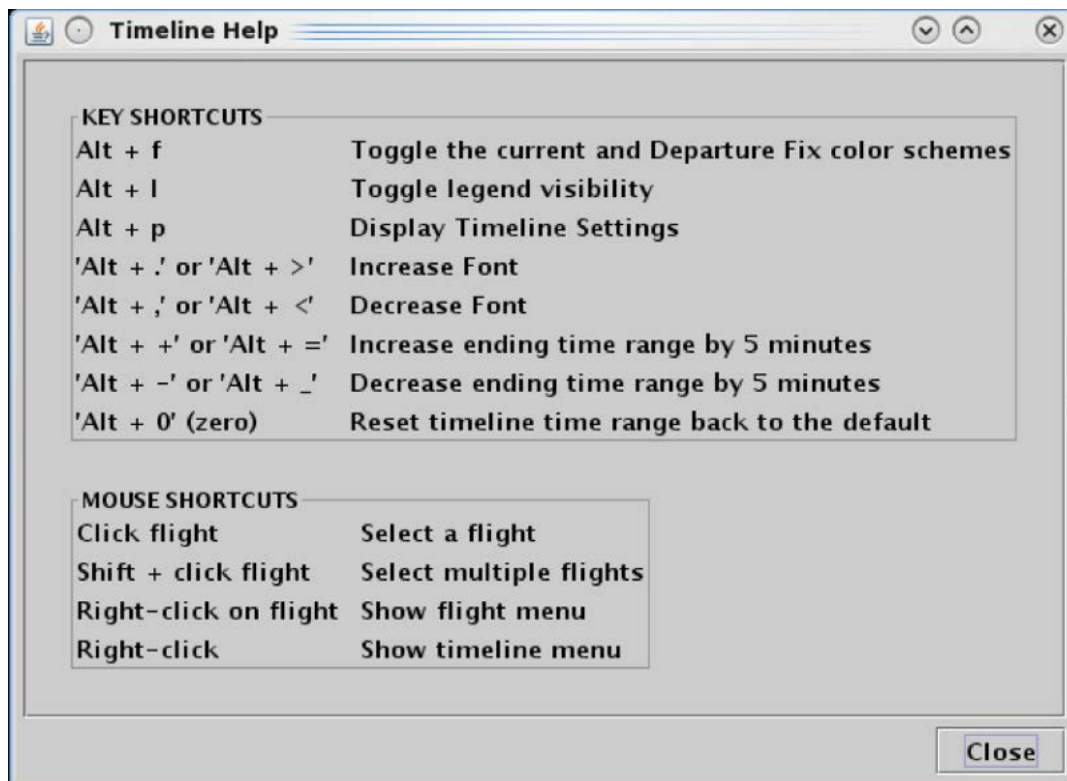


Figure 4.36. Timeline Help.

4.3 Map: Toolbar

Use the Toolbar to configure the appearance of the map and information displayed on the map (Figure 4.37).

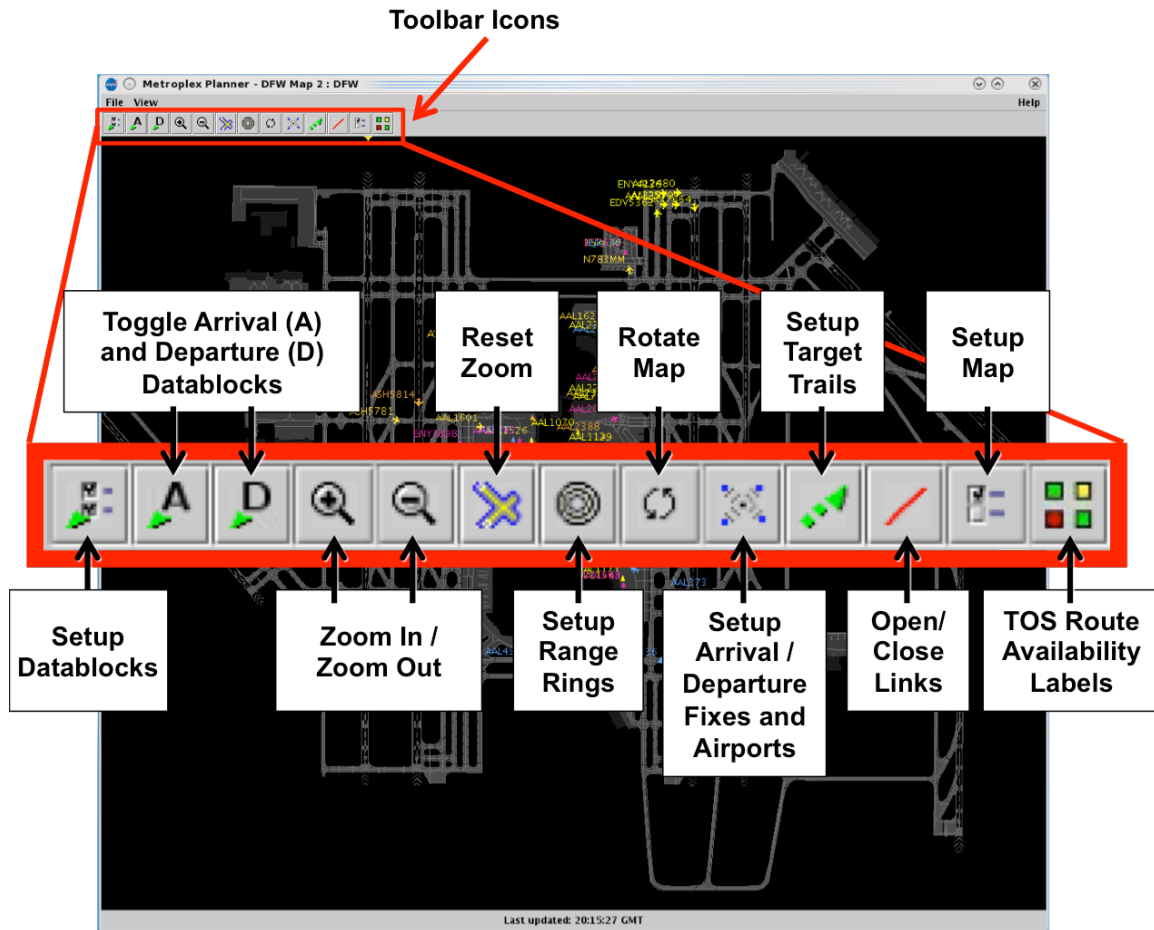


Figure 4.37. Map: Toolbar.

4.3.1 Setup Datablocks

Select the “Setup Datablocks” icon to configure information in the datablock. Starting from the top, select color coding for departures and arrivals (Figure 4.38).

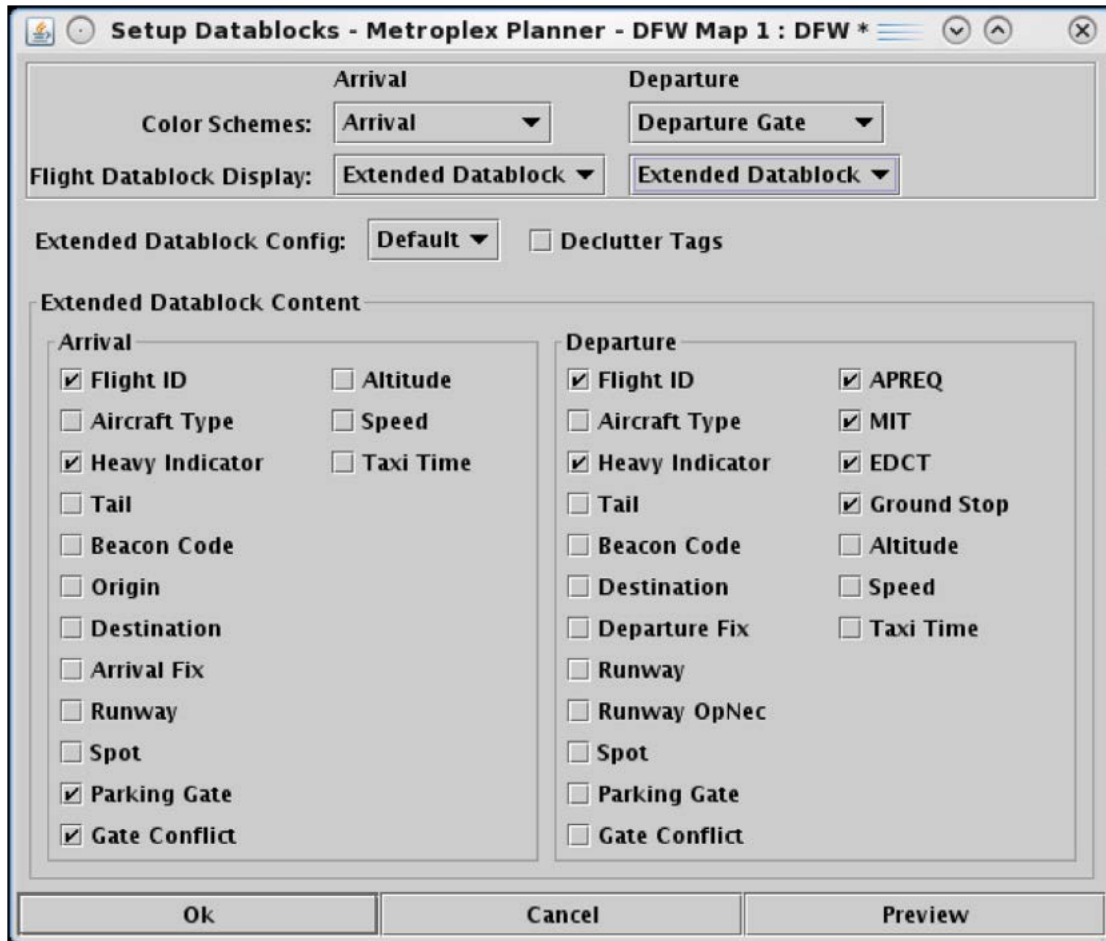


Figure 4.38. Map: Setup Datablocks.

4.3.1.1 Color Schemes

Use “Color Schemes” to format flight icons and datablock text. Arrival flights and Departure flight use different color schemes.

To change Arrival/Departure flight Color Schemes on the Map:

Step 1: Select the “Setup Datablocks” icon from the Map Toolbar.

Step 2: Click on the Departure “Color Scheme” dropdown menu to select a color scheme for departure flights (e.g., “Departure Gate” in Figure 4.39):

- Departure
- Departure Fix
- Departure Gate (example shown in Figure 4.40)
- Departure Runway
- Weight (Aircraft)

Step 3: Click on the Arrival “Color Scheme” dropdown menu to select a color scheme for arrival flights (e.g., “Arrival” in Figure 4.39):

- Arrival
- Arrival Fix
- Arrival Runway
- Weight (Aircraft)

Step 4: Select “Ok” to apply the change or “Preview” to preview the changes on the map.

Note: *Color schemes are the same as those used in the Metroplex Planner timeline.*

Note: *Flights designated as an emergency are always shown in red.*

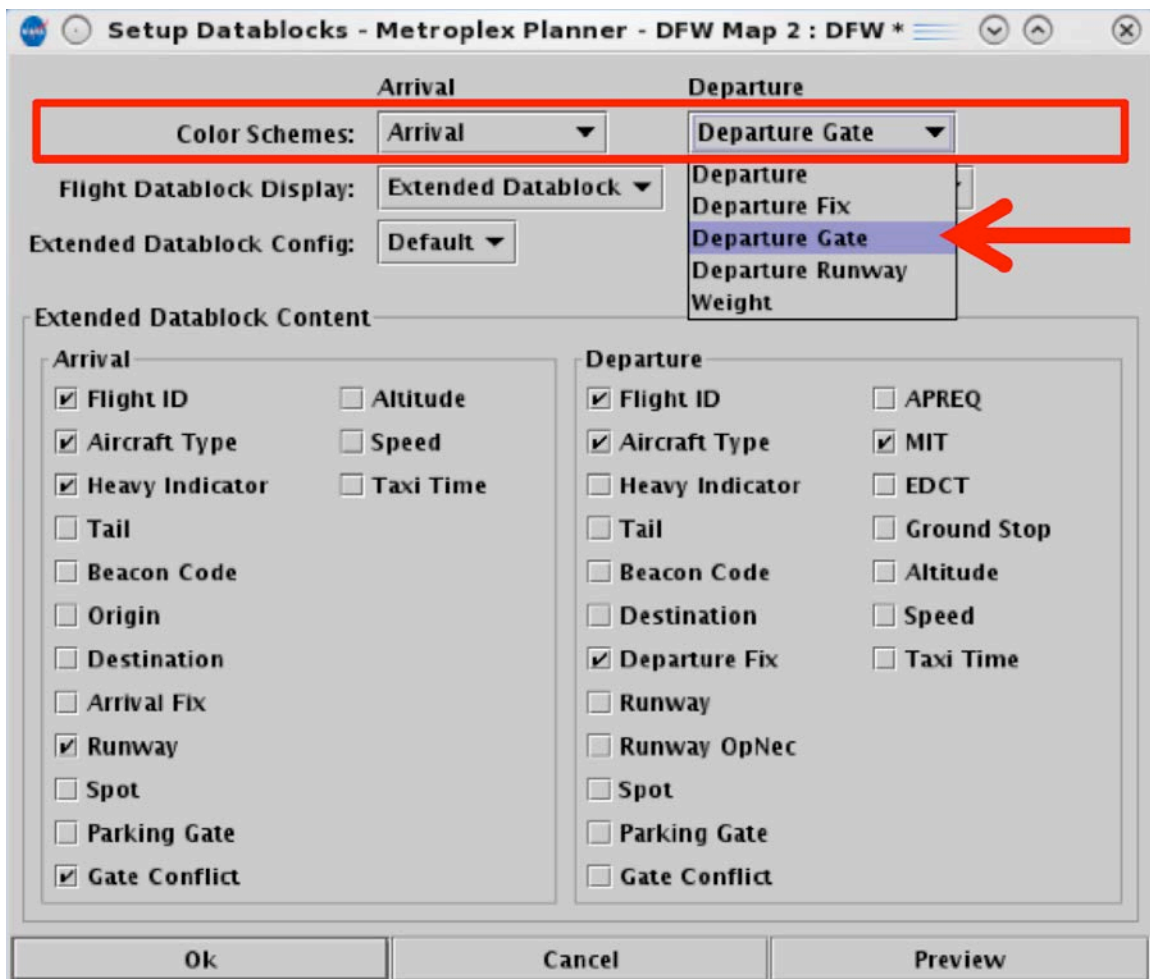


Figure 4.39. Setup Datablocks: Arrival/ Departure Color Schemes.

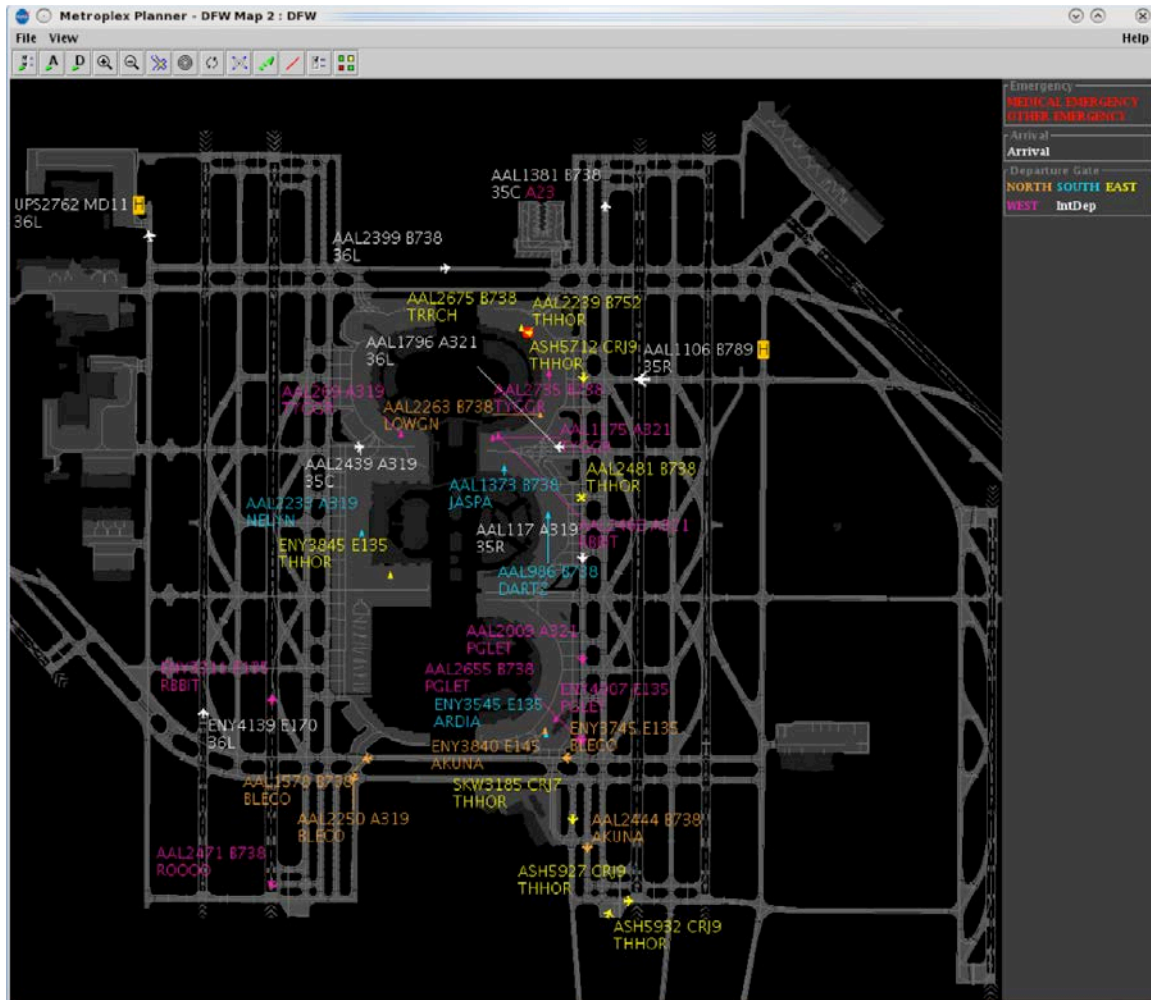


Figure 4.40. Color Scheme examples: “Arrival” and “Departure Fix” are selected.

4.3.1.2 Flight Datablock Display

Use “Flight Datablock Display” to select how much information is shown in a datablock. Arrivals and departures can be configured differently.

To change the Datablock Display for Arrival/Departure flights:

Step 1: Select the “Setup Datablocks” icon from the Map Toolbar.

Step 2: Select the arrival or departure “Flight Datablock Display” dropdown menus to select a datablock configuration (e.g., “ID Only Datablock” for Departure flights in Figure 4.39):

- No Datablock (e.g., Figure 4.40, left)
- ID Only Datablock (e.g., Figure 4.40, middle)
- Extended Datablock (e.g., Figure 4.40, right)

Note: *Arrival and Departure datablocks are configured independently of one another.*

Step 3: Select “Ok” to apply the change or “Preview” to preview the change on the map.

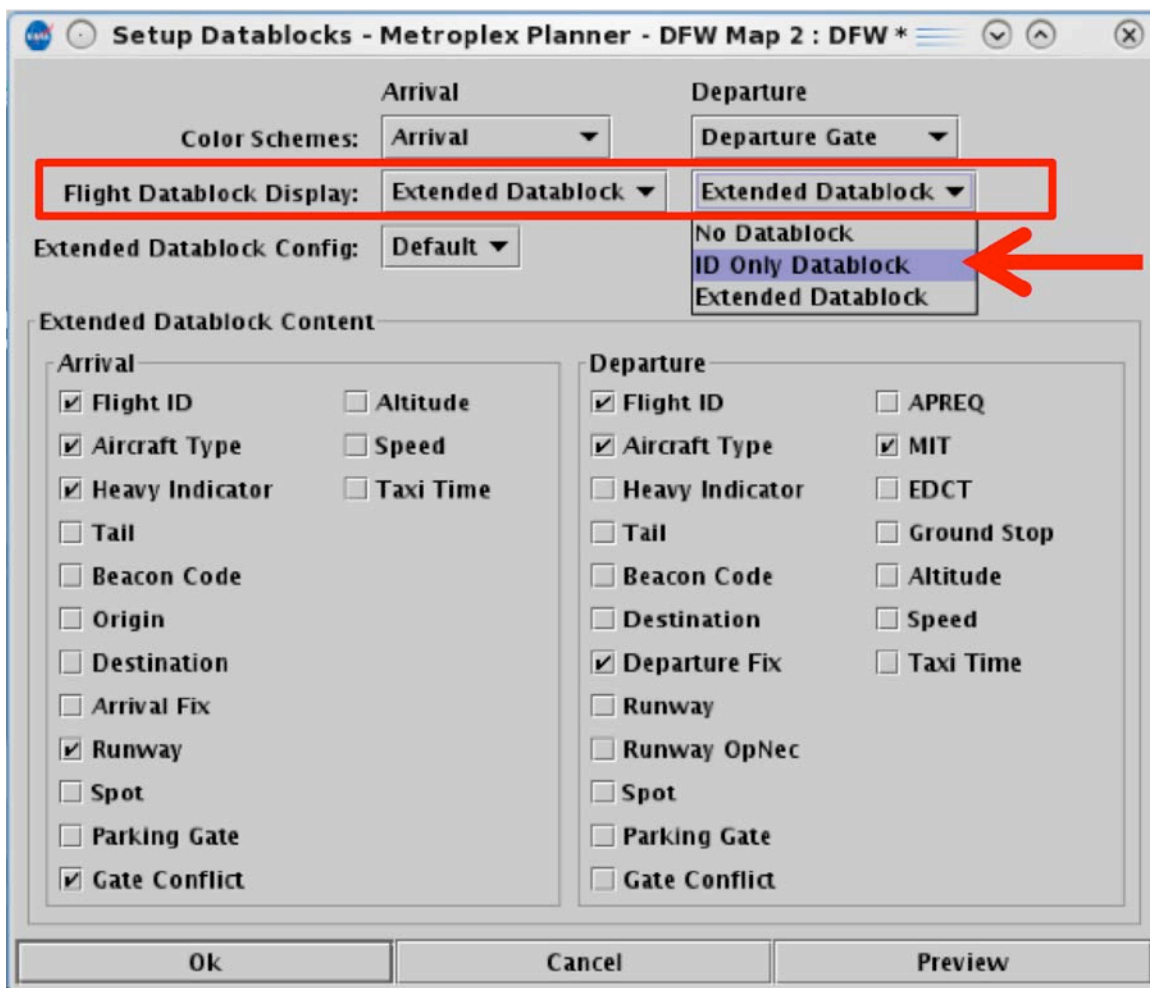


Figure 4.41. Setup Datablocks: Flight Datablock Display.

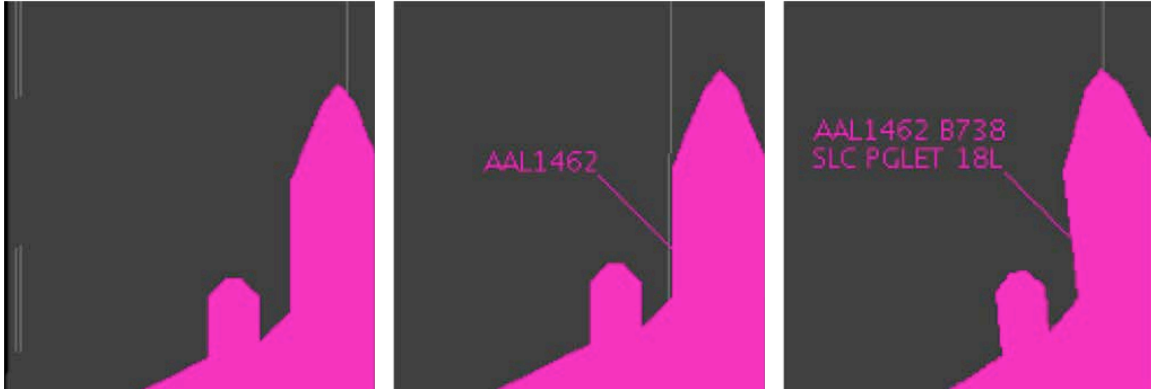


Figure 4.42. Flight Datablock Display: No Datablock (left), ID Only Datablock (middle), Extended Datablock (right; content of Extended Datablock is selectable).

4.3.1.3 Extended Datablock Config

Use “Extended Datablock Config” to format extended datablocks. Select from one of two options:

- **Default:** No background color in the datablock.
- **Ramp:** Datablock background is:
 - o Blue for flights assigned to the east runway(s)
 - o Brown for flights assigned to the west runway(s), and
 - o Green for arrivals.

To change the Extended Datablock Config:

Step 1: Select the “Setup Datablocks” icon from the Map Toolbar.

Step 2: Click on the “Extended Datablock Config” dropdown menu to select a datablock format (e.g., “Default” in Figure 4.43):

- Default (e.g., Figure 4.44, left)
- Ramp (e.g., Figure 4.44, right)

Note: *This formatting applies only to “Extended Datablocks”.*

Step 3: Select “Ok” to apply the change or “Preview” to preview the changes on the map.

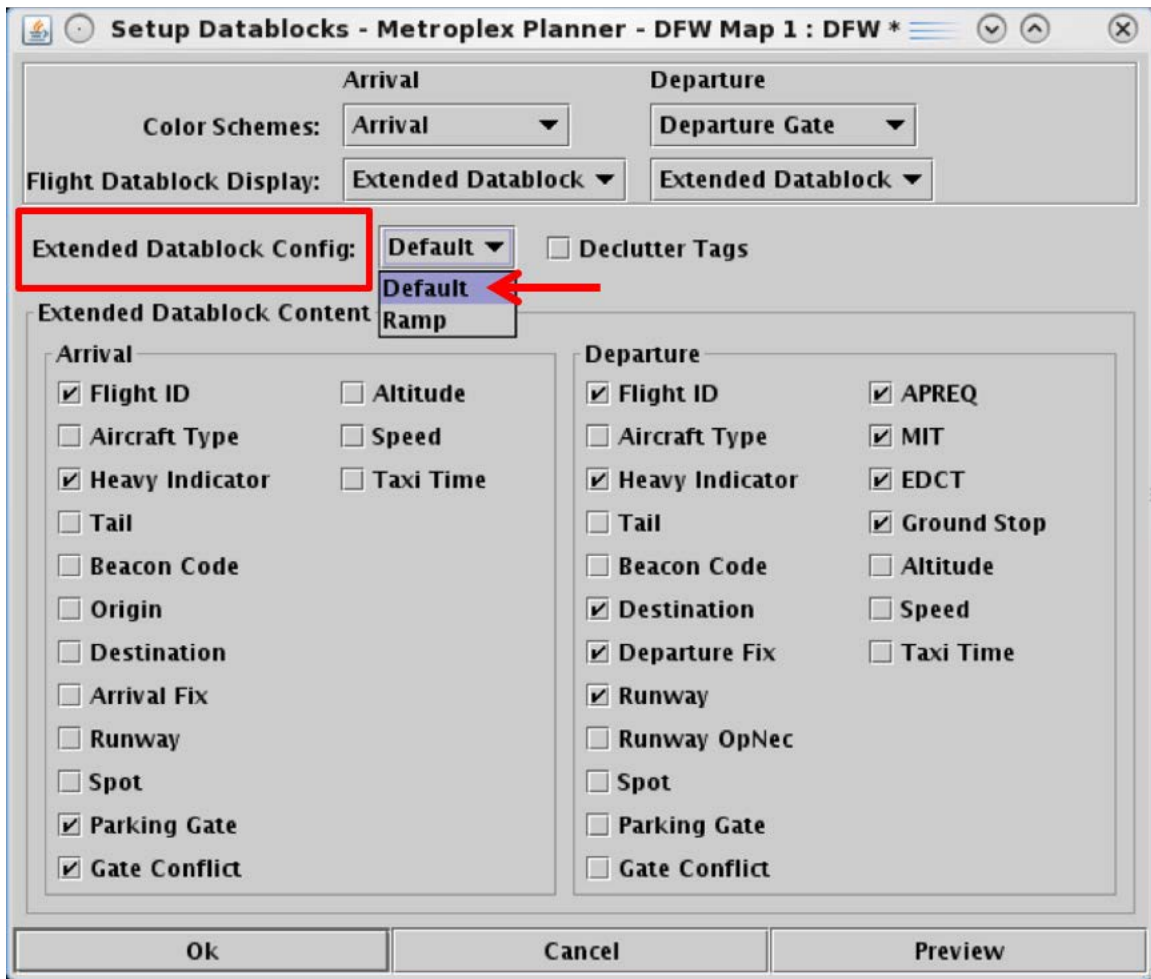


Figure 4.43. Setup Datablocks: Extended Datablock Config.

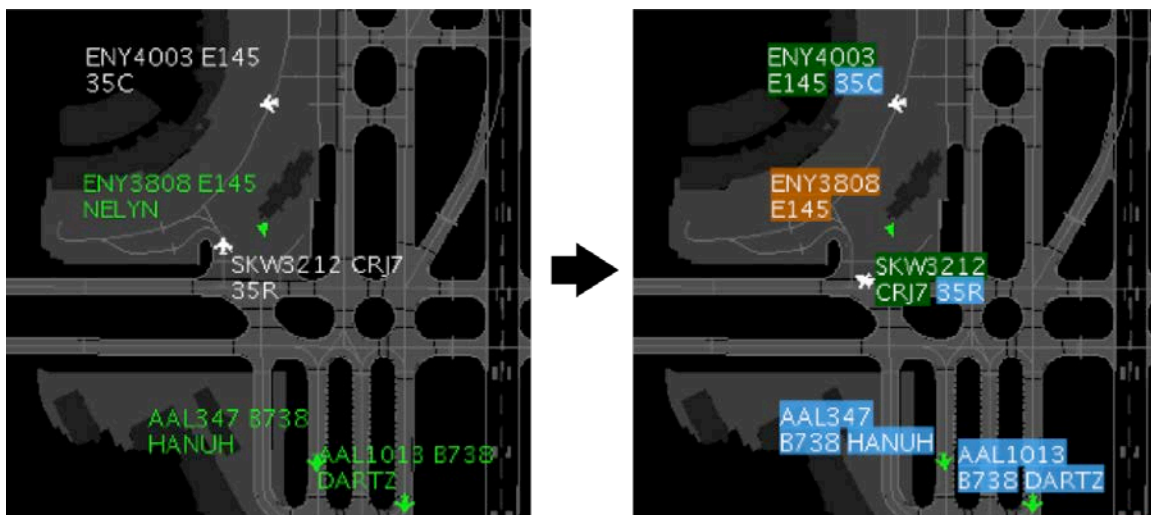


Figure 4.44. Extended Datablock Config: Default (left) and Ramp (right).

4.3.1.4 Declutter Tags

By default, the map allows flight datablocks in close proximity to overlap with one another. When “Declutter Tags” is selected, datablocks will be re-positioned so that they do not overlap with one another.

To Declutter datablocks:

Step 1: Select the “Setup Datablocks” icon from the Map Toolbar.

Step 2: Select the “Declutter Tags” checkbox to prevent datablocks from overlapping (Figure 4.45).

Note: When “Declutter Tags” is selected, datablocks are repositioned (Figure 4.46, right). Flight icons themselves, however, are not repositioned.

Step 3: Select “Ok” to apply the change or “Preview” to preview the changes on the map.

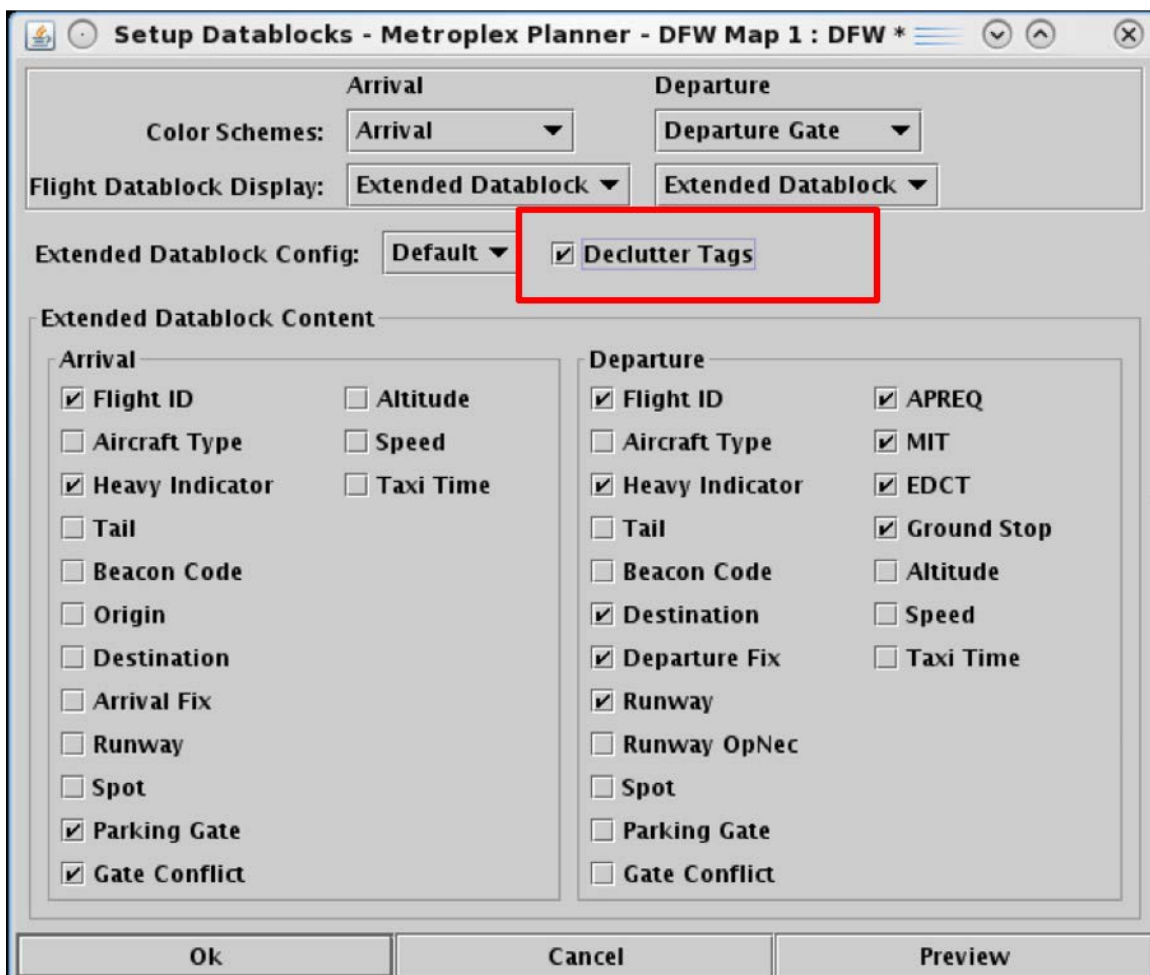


Figure 4.45. Setup Datablocks: Declutter Tags.

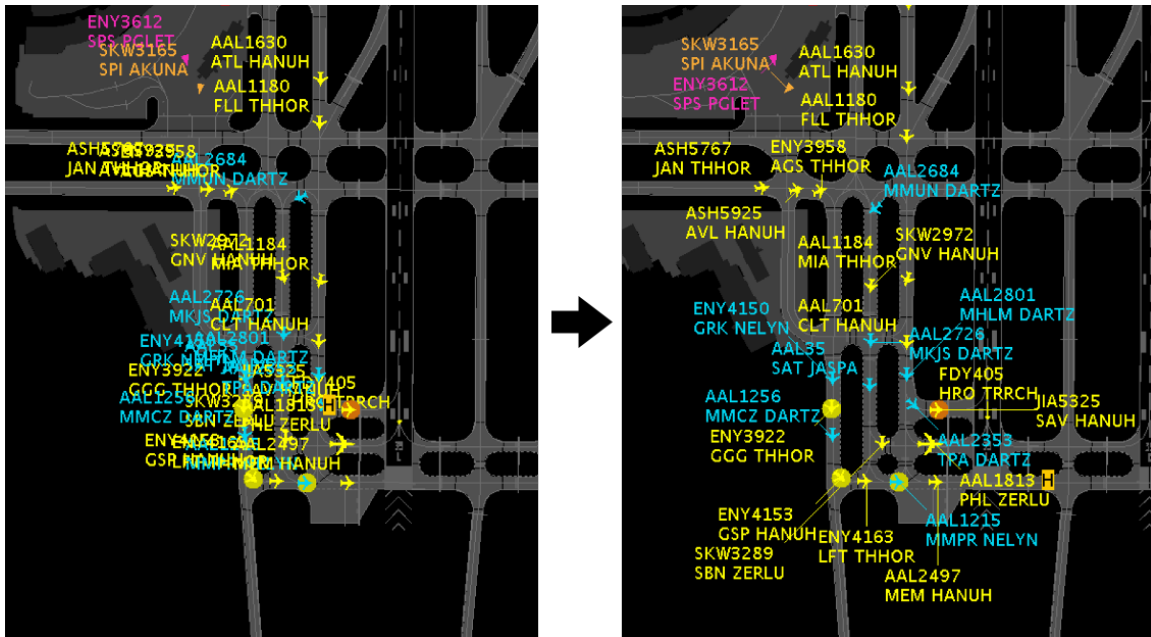


Figure 4.46. Declutter Tags: Unselected (left) and selected (right).

4.3.1.5 Map Datablock Content

Content displayed in extended datablocks can be configured for arrival and departure flights.

To change the content of Map Datablocks:

Step 1: Select the “Setup Datablocks” icon from the Map Toolbar.

Step 2: Select data elements to include in the Arrival or Departure flight datablocks (Figure 4.47).

Alternatively: Deselect items to exclude them from the Arrival or Departure flight datablocks.

Step 3: Select “Ok” to apply the change or “Preview” to preview the changes.

Note: *Selected content is only displayed when “Extended Datablock” is selected.*

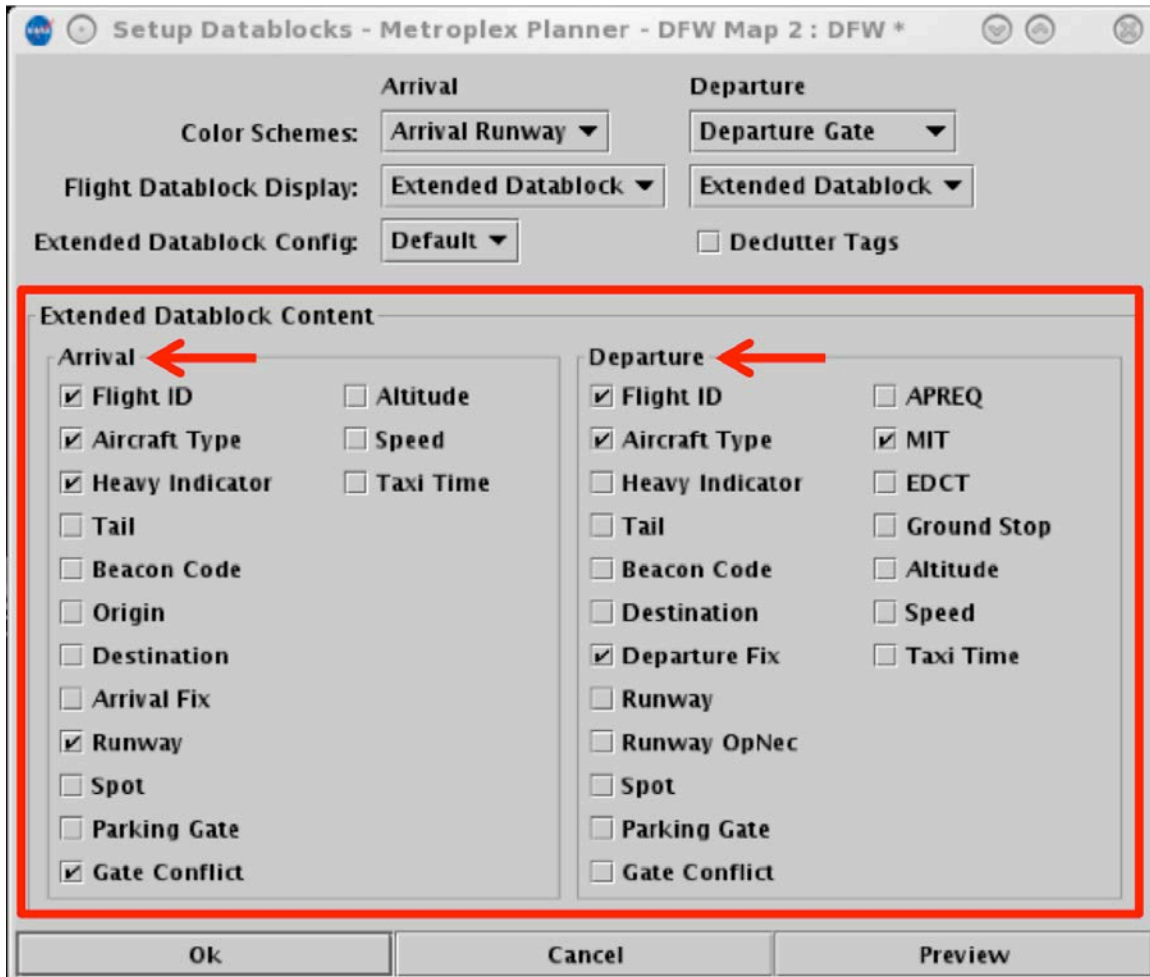


Figure 4.47. Map datablock content for Arrival and Departure flights.

4.3.2 Toggle Arrival / Departure Datablocks

Use “Toggle Arrival Datablocks” and “Toggle Departure Datablocks” on the Map Toolbar (Figure 4.37) to display no datablock, call sign only, or the extended datablock (Figure 4.48).



Figure 4.48. Toggle Datablocks: No Datablock (left), ID Only Datablock (middle), or Extended Datablock (right).

4.3.3 Zoom In/Out

Use the “Zoom In” and “Zoom Out” buttons (Figure 4.37) to change the map zoom level. To pan, or move, the map, press and hold the left mouse button.

4.3.4 Reset Zoom

Use “Reset Zoom” (Figure 4.37) to reset the map after changing the zoom level or panning the map. Note: The map resets to the selected airport and the previously loaded display option (see Section 3.6.5).

4.3.5 Setup Range Rings

Use “Setup Range Rings” (Figure 4.37) to display distance markers on the map.

To display and modify Range Rings:

- Step 1:** Select the “Setup Range Rings” icon in the Map Toolbar to access the Setup Range Rings window.
- Step 2:** Select the “Show Range Rings” checkbox to view range rings on map (Figure 4.49).
- Step 3 (Optional):** Select the “Show Range Distance Labels” checkbox to display the value of each range ring (Figure 4.49).
- Step 4 (Optional):** Click inside the box to select the color of the range rings.
- Step 5:** Enter the value of the maximum distance, in *nmi*, to show range rings in the box next to “Total Distance from Airport to Display Range Rings:”
- Step 6:** Enter the value of the distance between the range ring, in *nmi*, in the box next to “Distance Between Range Rings:”.
- Step 7:** Select “Apply”.

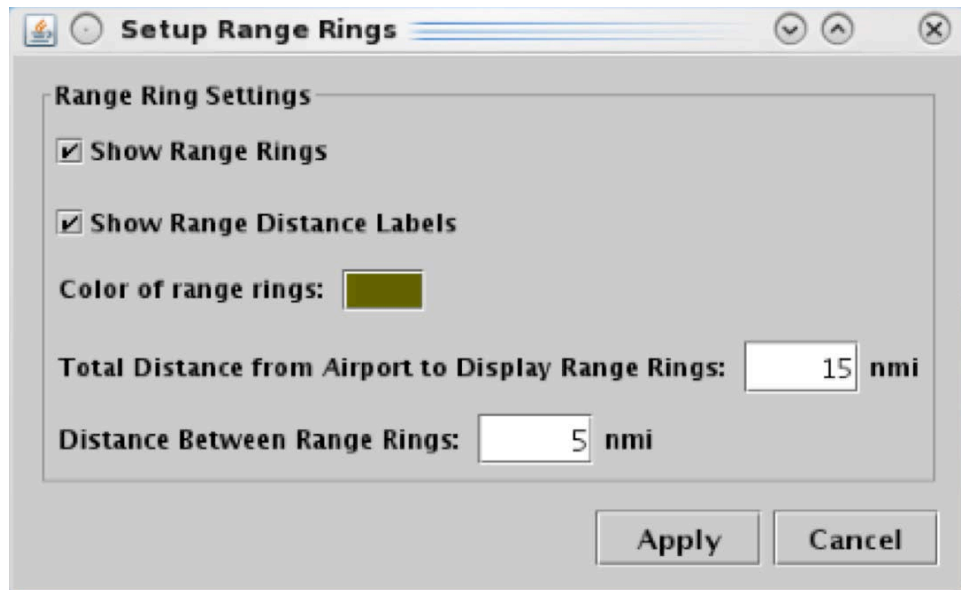


Figure 4.49. Map Toolbar: Setup Range Rings.

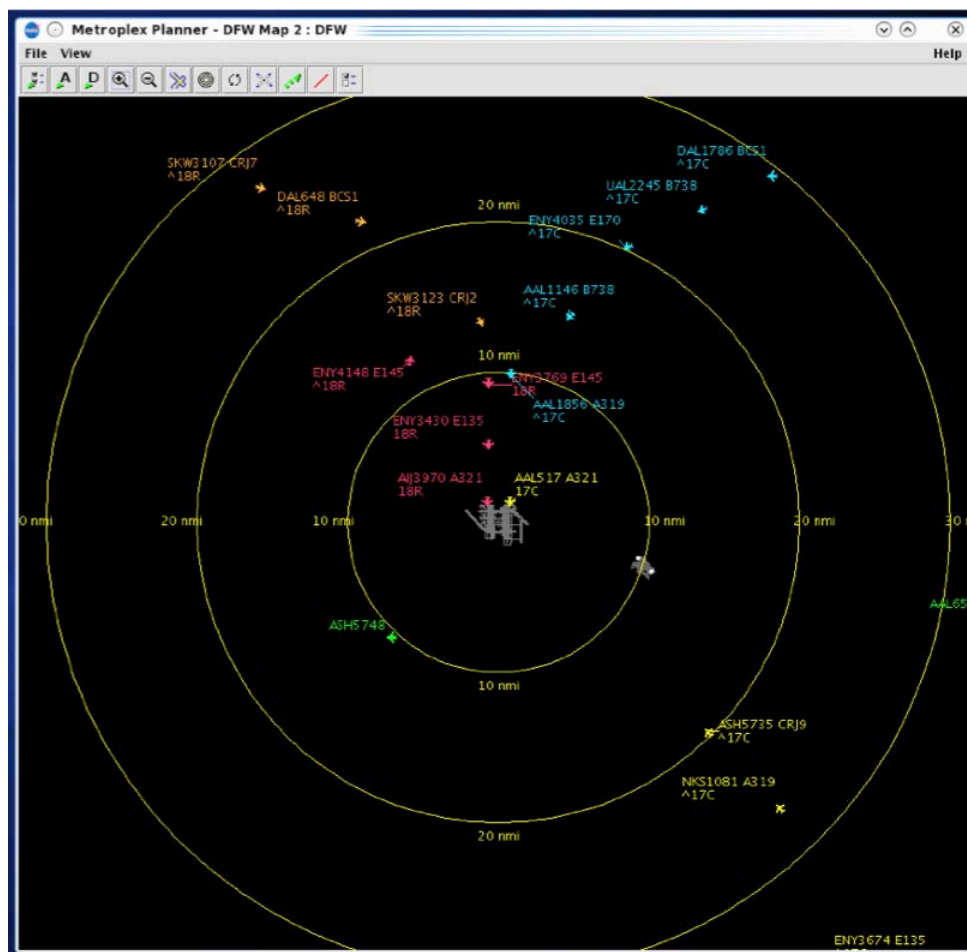


Figure 4.50. Map: Range Rings.

4.3.6 Rotate Map

Use the “Rotate Map” icon (Figure 4.37) to rotate the map clockwise 90, 180, or 270 degrees relative to the original orientation (Figure 4.51). Select 0 degrees to reset the map to the original position.

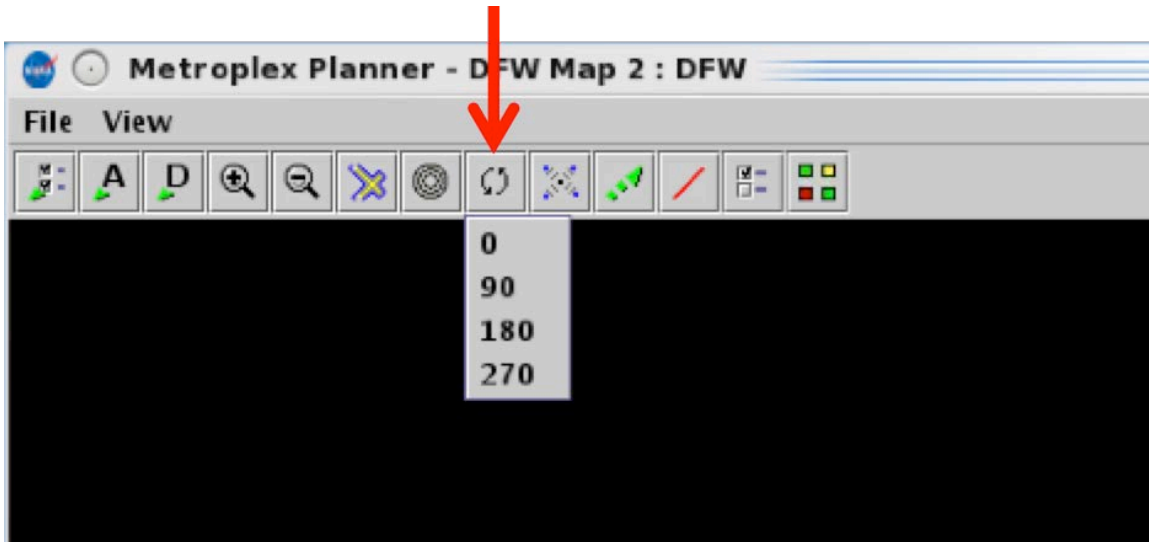


Figure 4.51. Map Toolbar: Rotate Map.

4.3.7 Setup Arrival/Departure Fixes and Airports

Select the “Setup Arrival/Departure Fixes and Airports” icon (Figure 4.37) to display Fixes, TRACON maps, and airport labels on the map.

4.3.7.1 Arrival Fix

On the “Arrival Fix” tab, select “Show Arrival Fix/Procedures” and enter distance parameters (Figure 4.52).

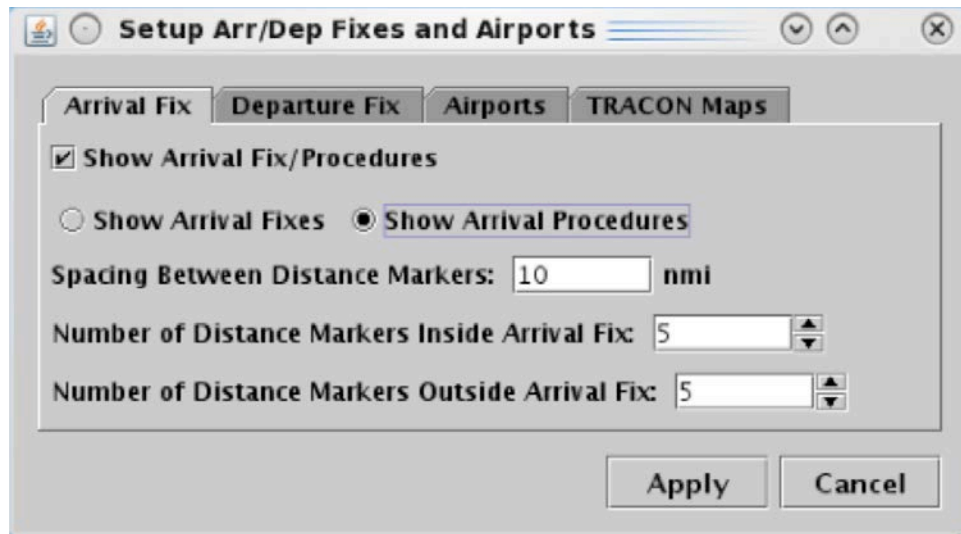


Figure 4.52. Map Setup Arrival/Departure Fixes and Airports: Arrival Fix.

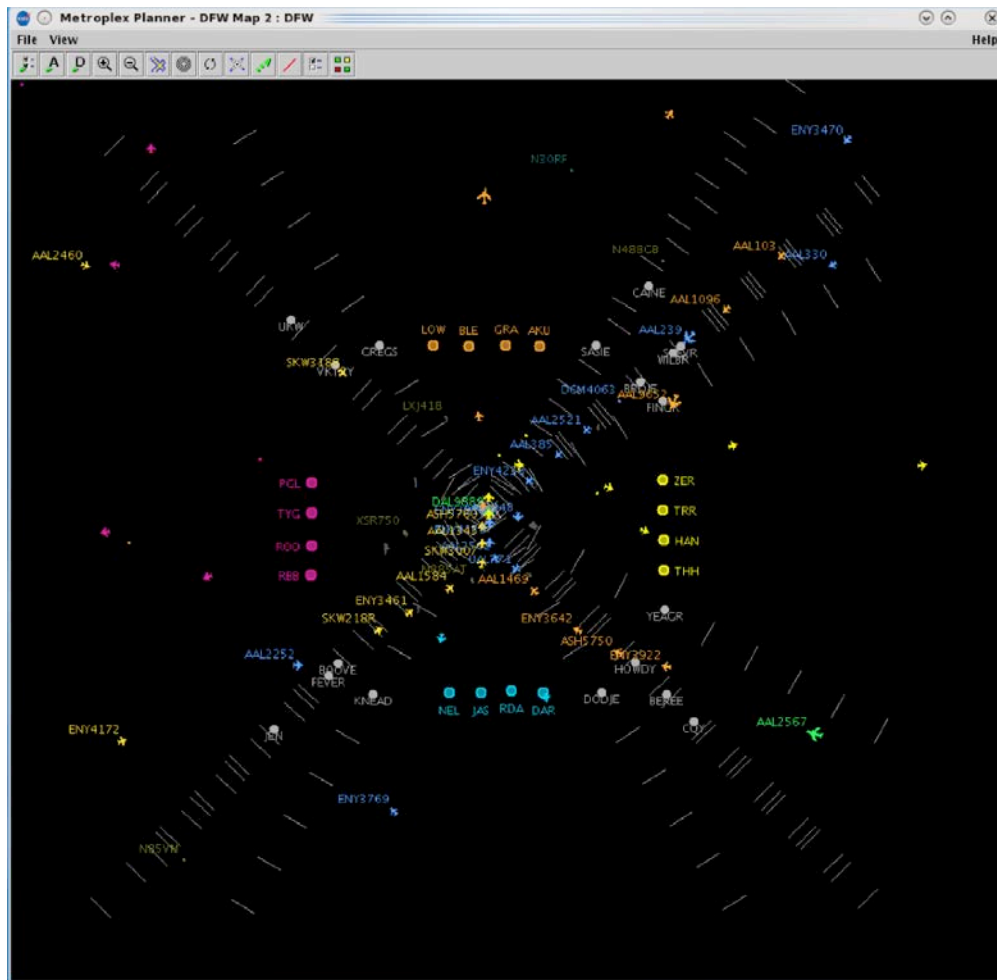


Figure 4.53. Map: Show Arrival Fix/Procedures (in this example, “Show Arrival Procedures” is selected).

4.3.7.2 Departure Fix

On the “Departure Fix” tab, select “Show Departure Fixes” and select naming format (i.e., full name or abbreviation) (Figure 4.54).

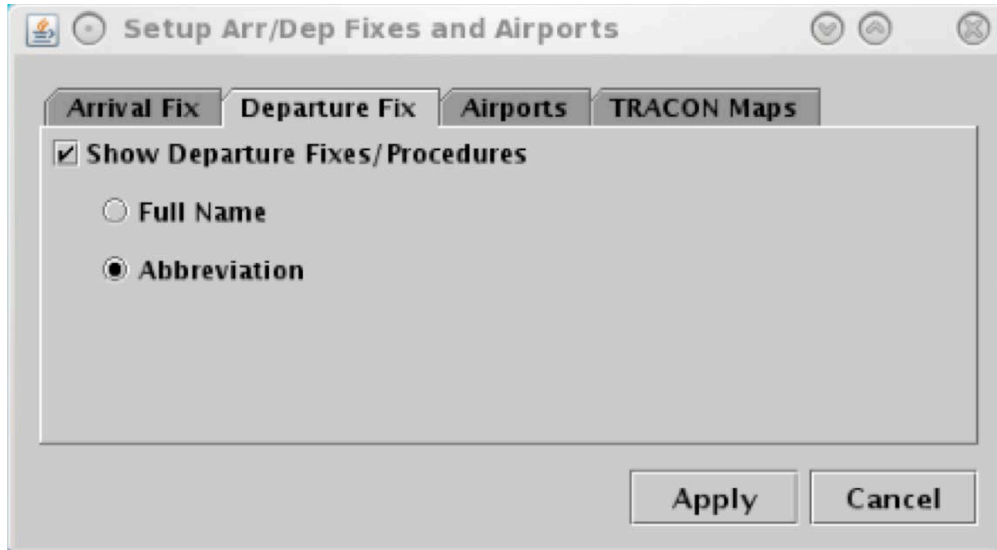


Figure 4.54. Map Setup Arrival/Departure Fixes and Airports: Departure Fix.

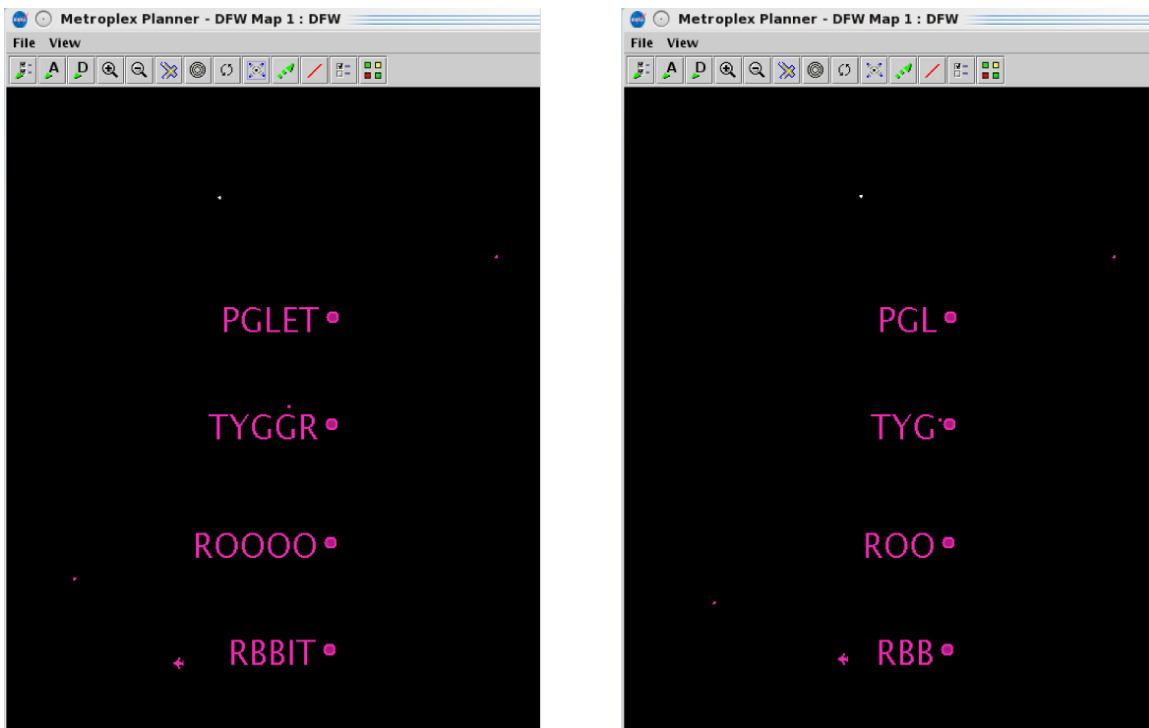


Figure 4.55. Map: Departure Fix Full Name (left) and Abbreviation (right) example.

4.3.7.3 Airports

On the “Airports” tab, select “Show Airports” and select, or enter, airports to label on the map (Figure 4.56 and Figure 4.57).

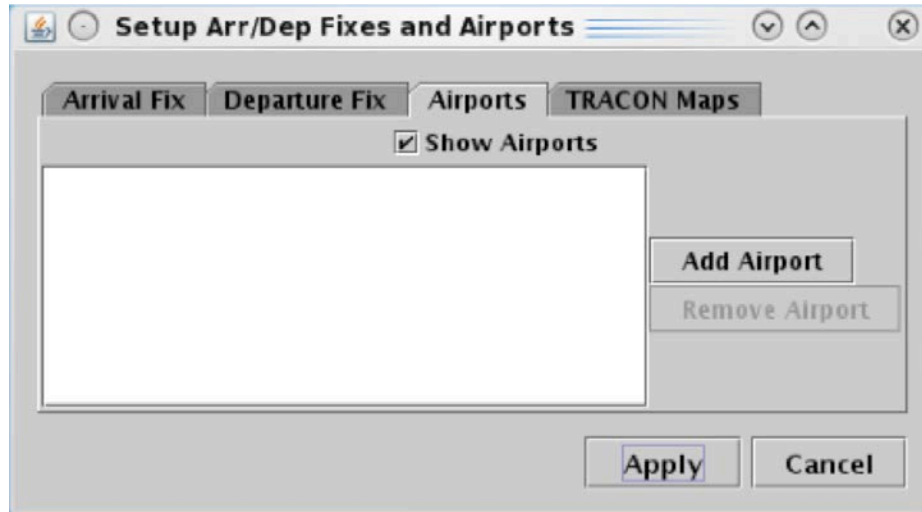


Figure 4.56. Map Setup Arrival/Departure Fixes and Airports: Airports.

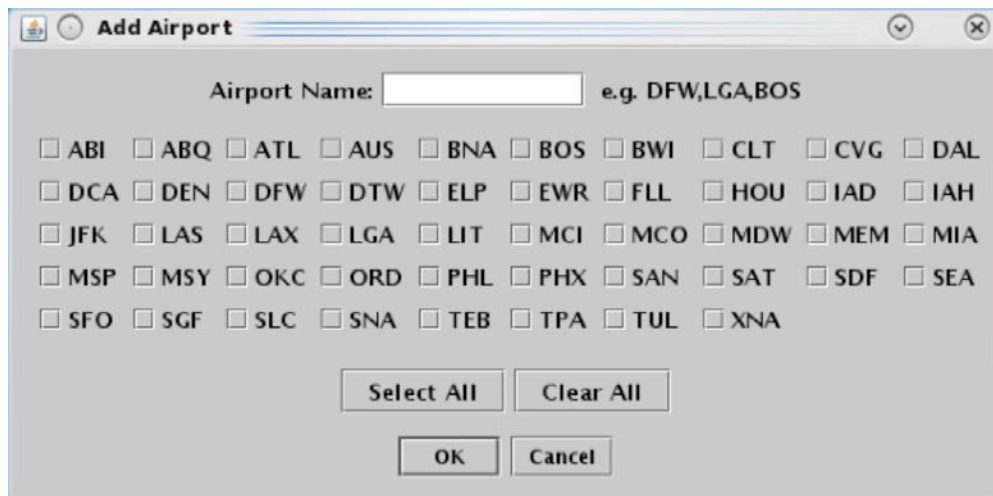


Figure 4.57. Map Setup Arrival/Departure Fixes and Airports: Airports.

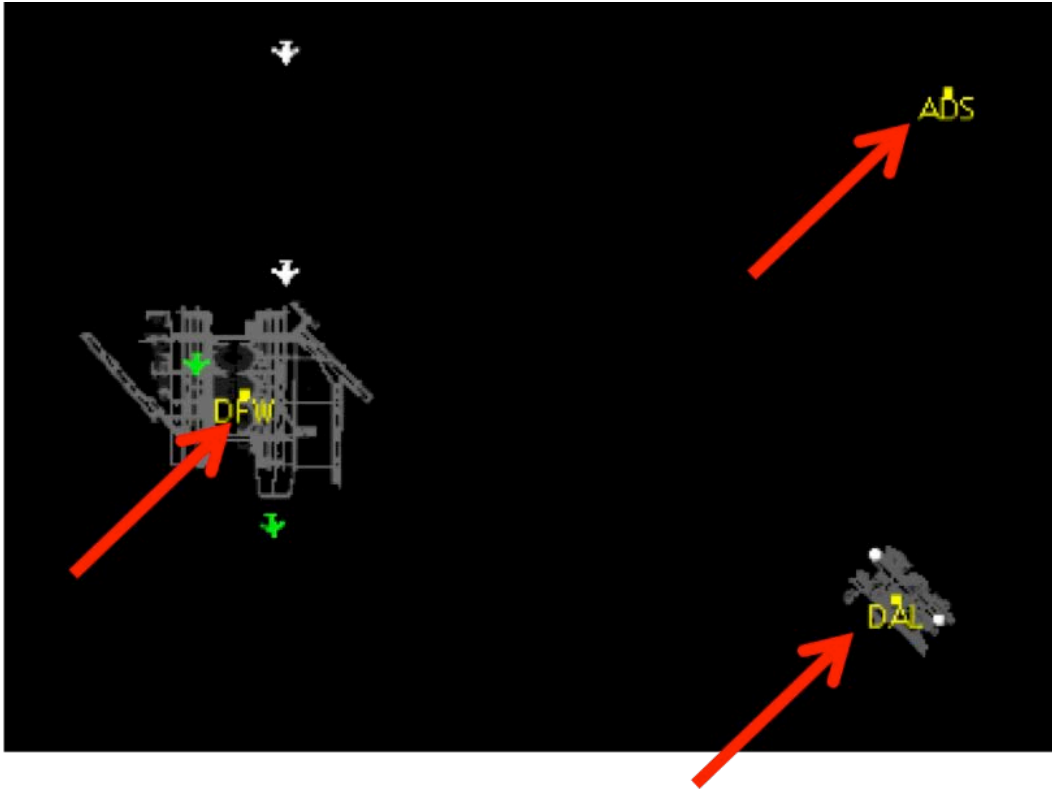


Figure 4.58. Map: Airport labels (example).

4.3.7.4 TRACON Maps

On the “TRACON Maps” tab, select a map from the dropdown menu (Figure 4.59).

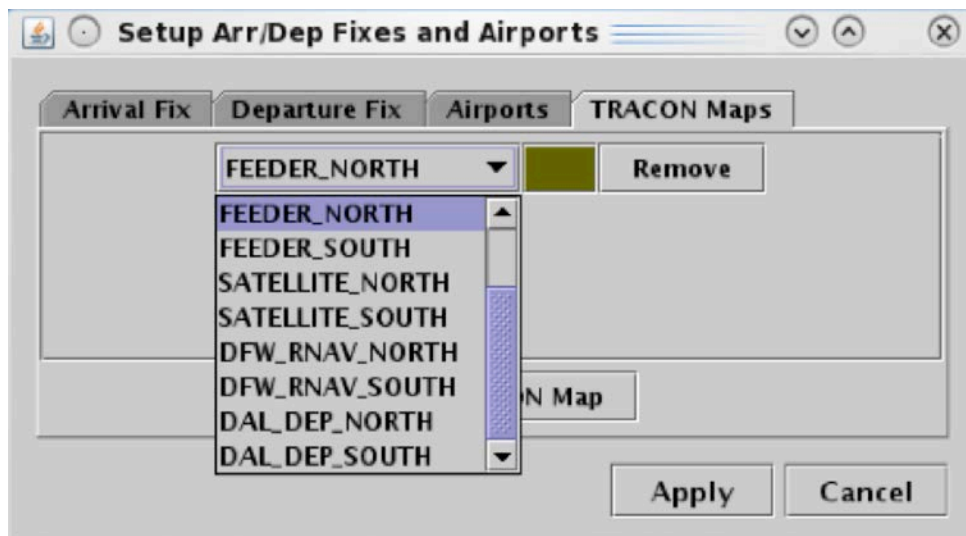


Figure 4.59. Map Setup Arrival/Departure Fixes and Airports: TRACON Maps.

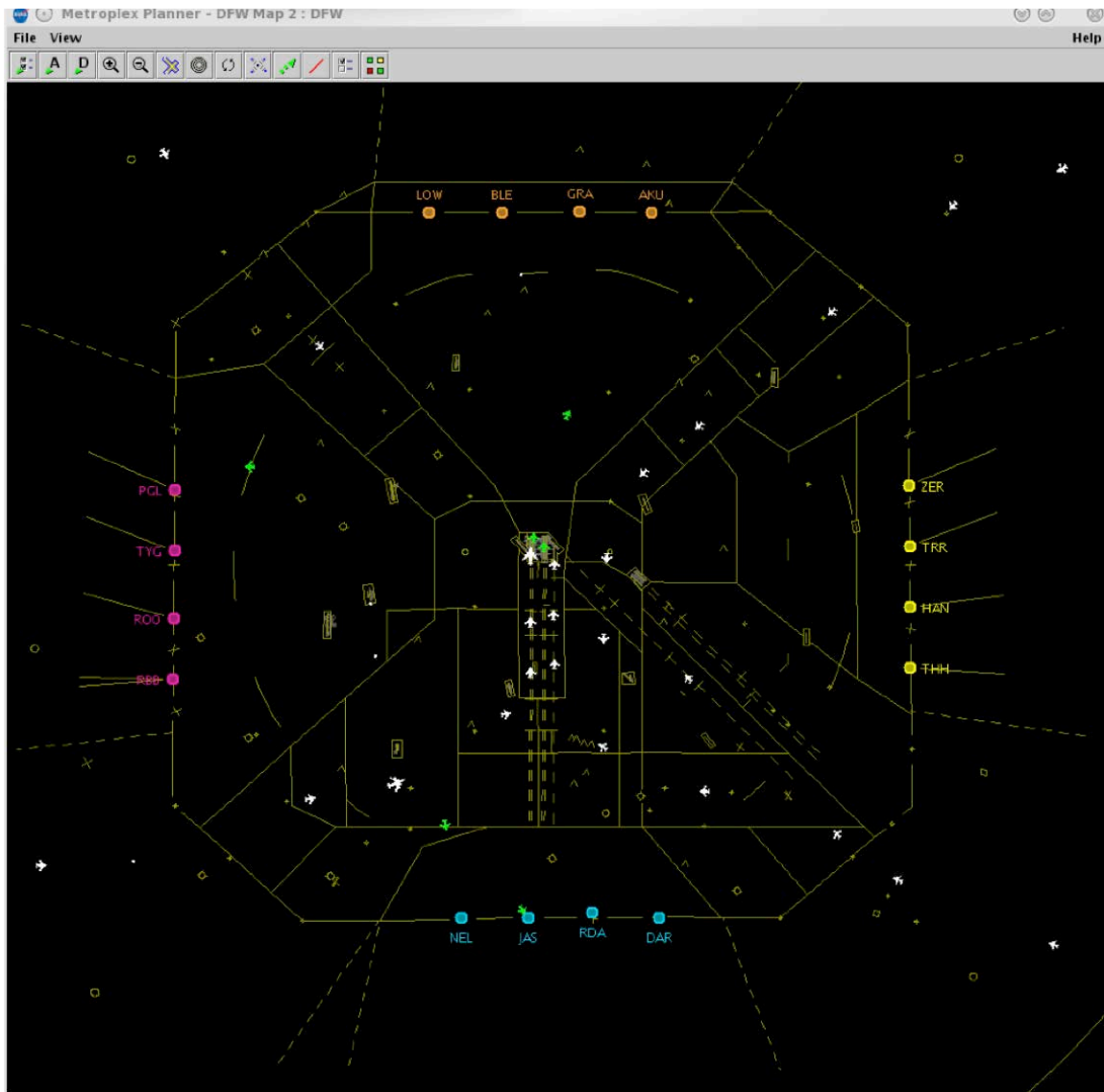


Figure 4.60. Map: TRACON map (example).

4.3.8 Setup Target Trails

Use the “Setup Target Trails” icon (Figure 4.37) to show/hide flight icon target trails (Figure 4.61). Target trails can help indicate the flight’s direction of movement on the surface or in the air.

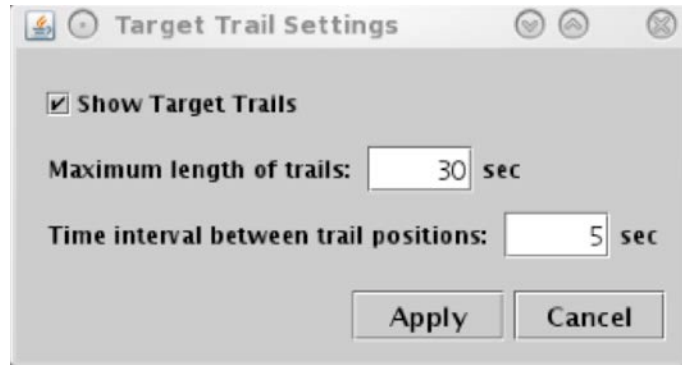


Figure 4.61. Map Toolbar: Setup Target Trails.

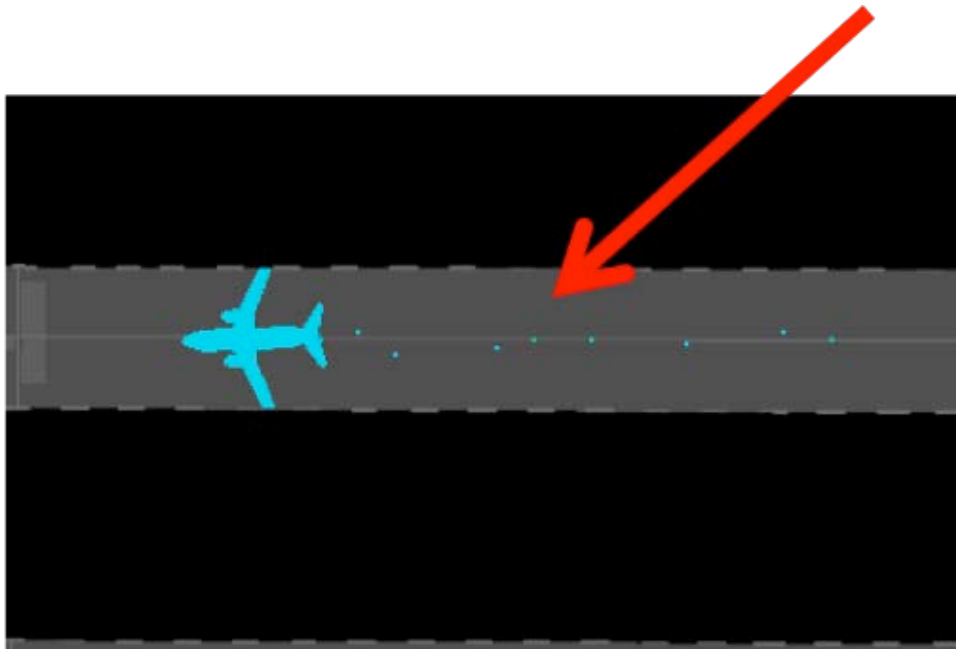


Figure 4.62. Target Trails on the surface.

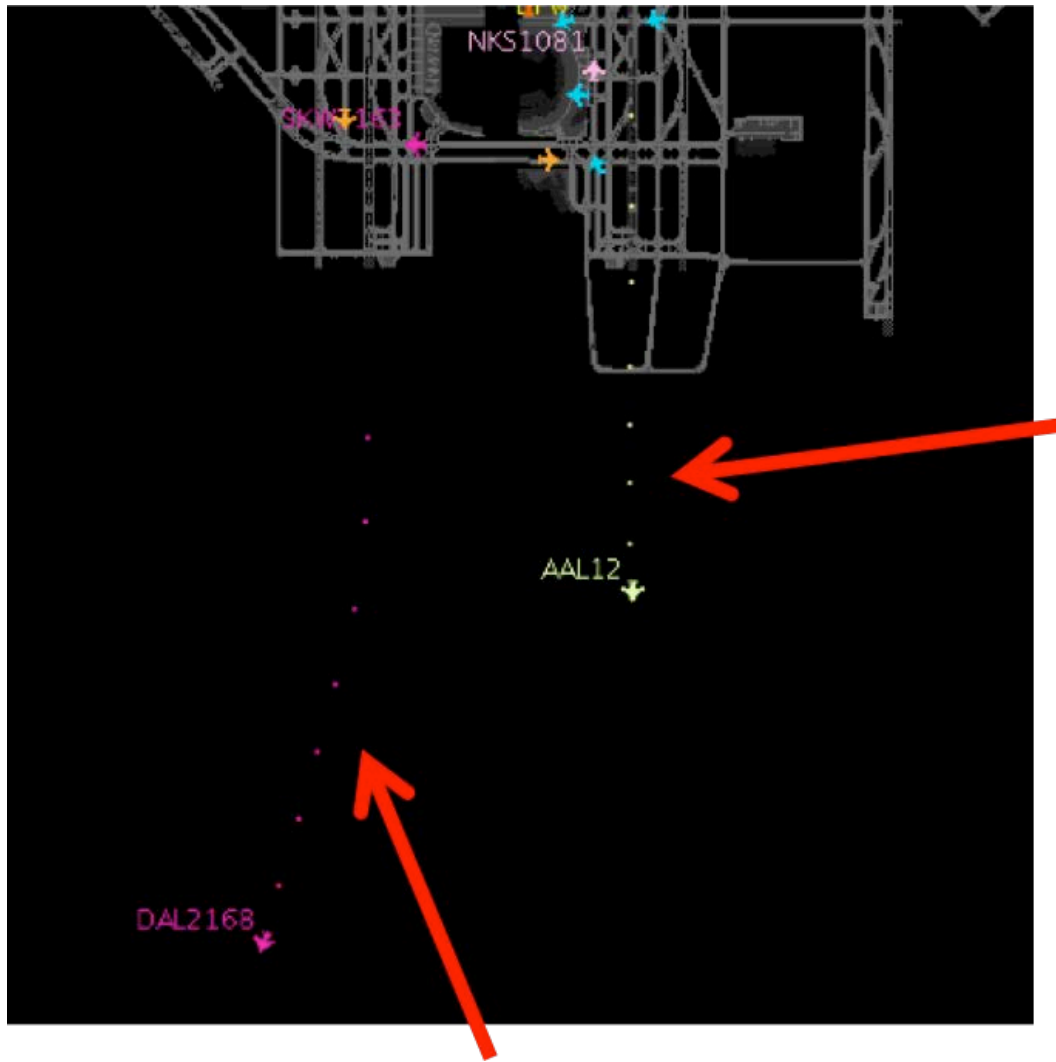


Figure 4.63. Target Trails in the air.

4.3.9 Open/Close Taxiway Links

Note: This feature is not available in all versions of the Metroplex Planner.

Use “Open/Close Links” (Figure 4.37) to enter taxiway closure information in the Metroplex Planner.

To Close Taxiways (links):

Step 1: Select the “Open/Close Links” icon in the Map Toolbar (Figure 4.37). All selectable taxiway links are shown in magenta. The brown background on the map indicates that Open/Close Links is currently selected (Figure 4.64).

Note: Each map is airport specific. The airport to which the map corresponds is identified in the title bar of the map window (e.g., “DFW” in Figure 4.64). An error message is displayed if the map is moved to a different airport while in the Open/Close Links mode (Figure 4.65). Create a new map to close taxiways for a different airport.

Step 2: Click and drag the mouse to select taxiways (links). Selected links are shown in yellow (Figure 4.66).

Step 3: At the prompt, “Close Links Highlighted in Yellow”, select “Okay” to confirm the taxiway closure (Figure 4.67).

Note: Closed taxiways are displayed in red (Figure 4.68).

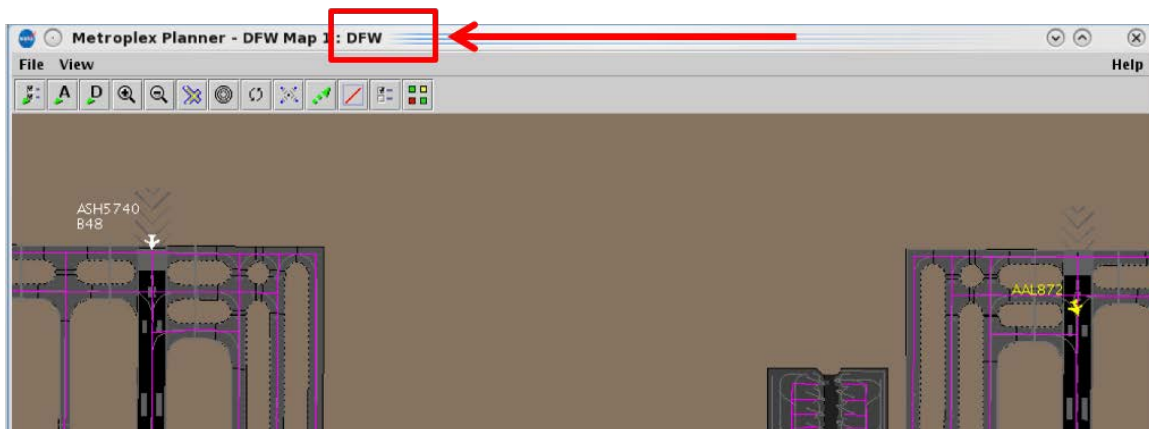


Figure 4.64. Open/Close Links: Selectable taxiways (links) are shown in magenta. The brown background indicates that Open/Close Links is currently selected.

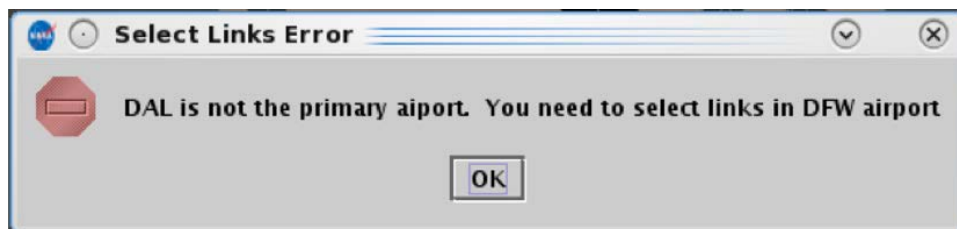


Figure 4.65. Open/Close Links Error: Only the primary airport (displayed in the Toolbar of the Map window) can be edited.

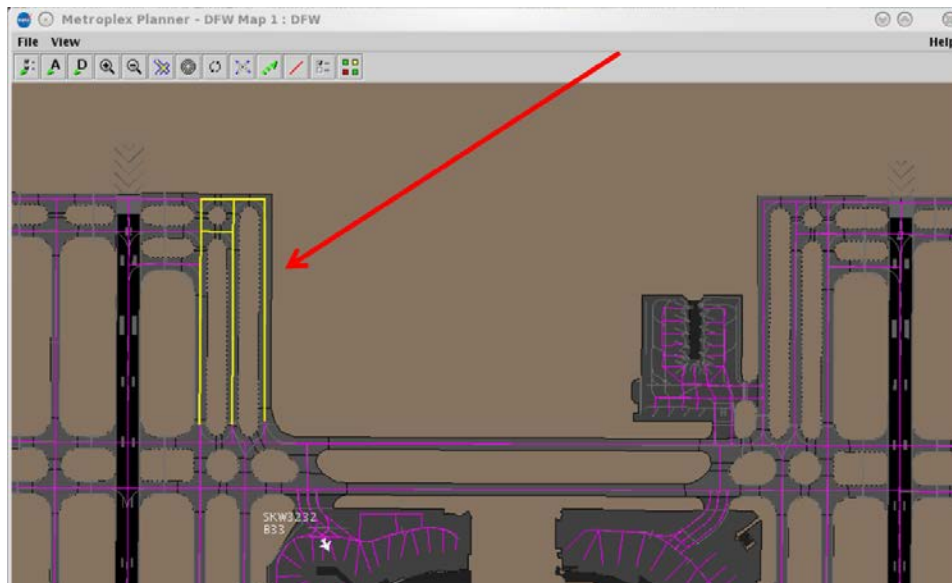


Figure 4.66. Open/Close Links: Selected taxiways are shown in yellow.

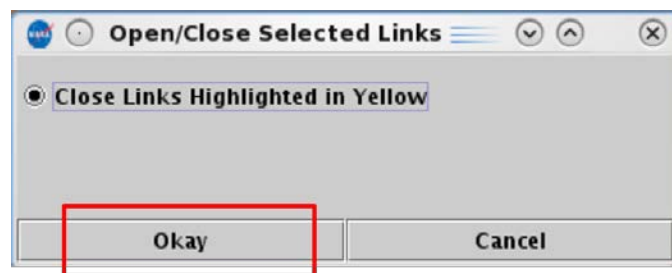


Figure 4.67. Open/Close Links: Confirm closed taxiways.

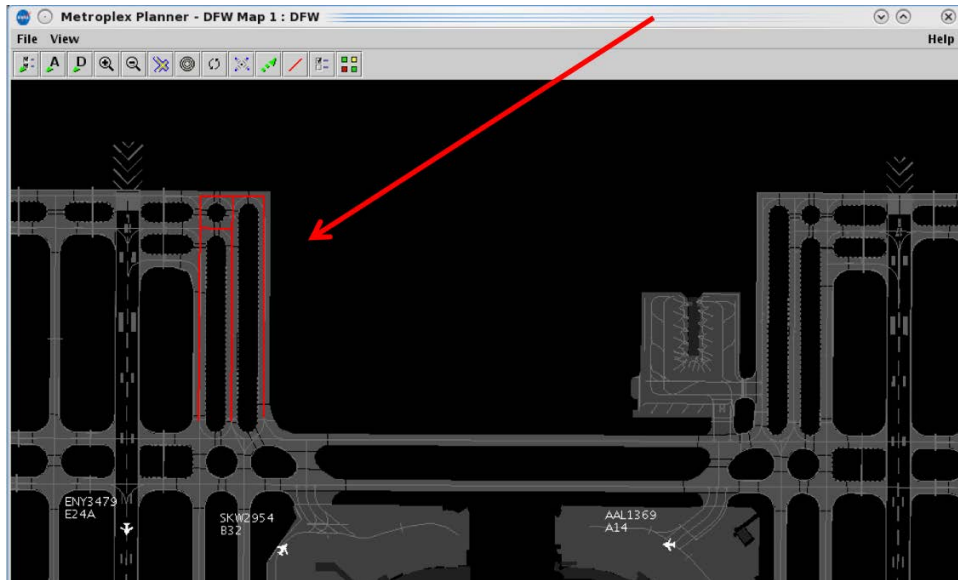


Figure 4.68. Open/Close Links: Closed taxiways shown in red.

To Open Taxiways (links):

- Step 1:** Select the “Open/Close Links” icon in the Map Toolbar (Figure 4.37). Closed taxiways are shown in red. The brown background on the map indicates that Open/Close Links is currently selected (Figure 4.69).
- Step 2:** Click and drag the mouse over the closed taxiway links (Figure 4.69). Selected taxiways are shown in blue (Figure 4.69).
- Step 3:** At the prompt, “Open Links Highlighted in Blue”, select “Okay” to confirm the taxiway opening.

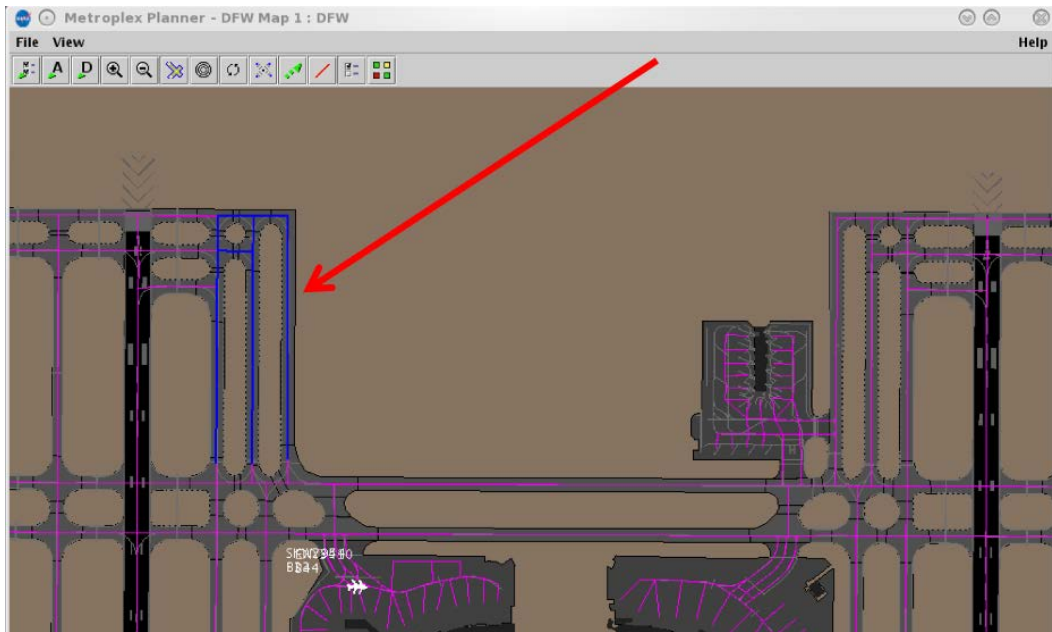


Figure 4.69. Open/Close Links: Closed taxiways are displayed in blue. The brown background indicates that Open/Close Links is currently selected.

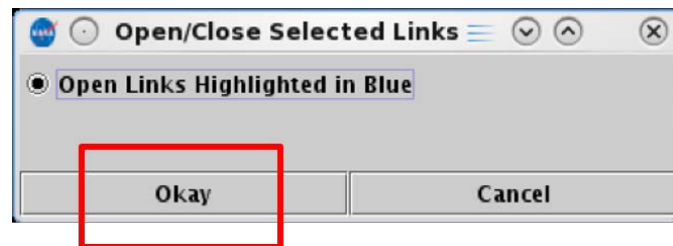


Figure 4.70. Open/Close Links: Confirm opened taxiways.

4.3.10 Setup Map

Use the “Setup Map” icon (Figure 4.37) to select features to be displayed on the map and assign colors to them (Figure 4.71 and Figure 4.72).



Figure 4.71. Map: Setup Map menu.

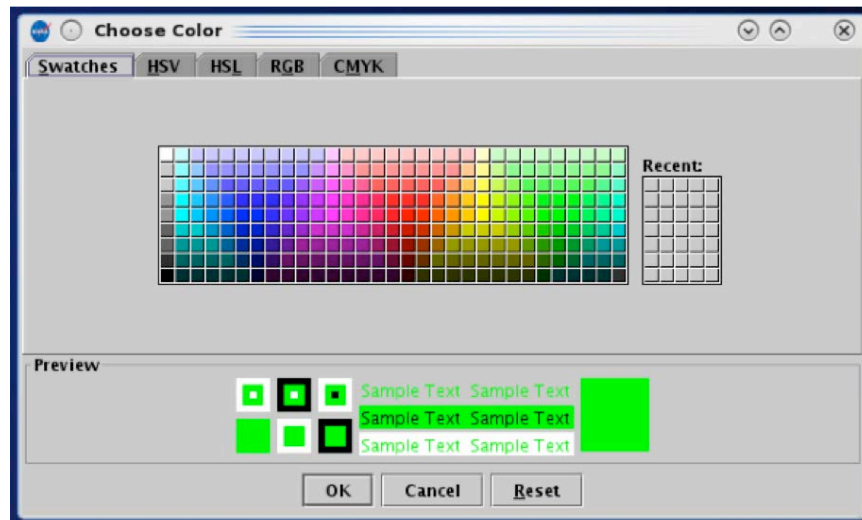


Figure 4.72. Setup Map: Color selection.

4.3.11 TOS Route Availability Labels

TOS route restrictions entered in the TOS Operation tab (see Section 3.1.8) can be displayed on the map.

To display TOS Route Availability Labels on the Map:

Note: *TOS Route Availability Labels are viewable only while TOS is active (see Section 3.1.9.1).*

Step 1: Select the “TOS Route Availability Labels” icon in the Map Toolbar.

Note: *Color-coded CDR labels are displayed near the Terminal Boundary (Figure 4.73) and correspond to the same color coding displayed on the TOS Operation tab:*

- **Green:** CDR is not restricted.
- **Yellow:** CDR is partially restricted for TOS submissions; destinations are included/excluded.
- **Red:** CDR is not available for TOS submissions.

Step 2 (Optional): Click on a yellow label to view which destinations are included/excluded from that CDR (e.g., “Exclude SFO” in Figure 4.74).

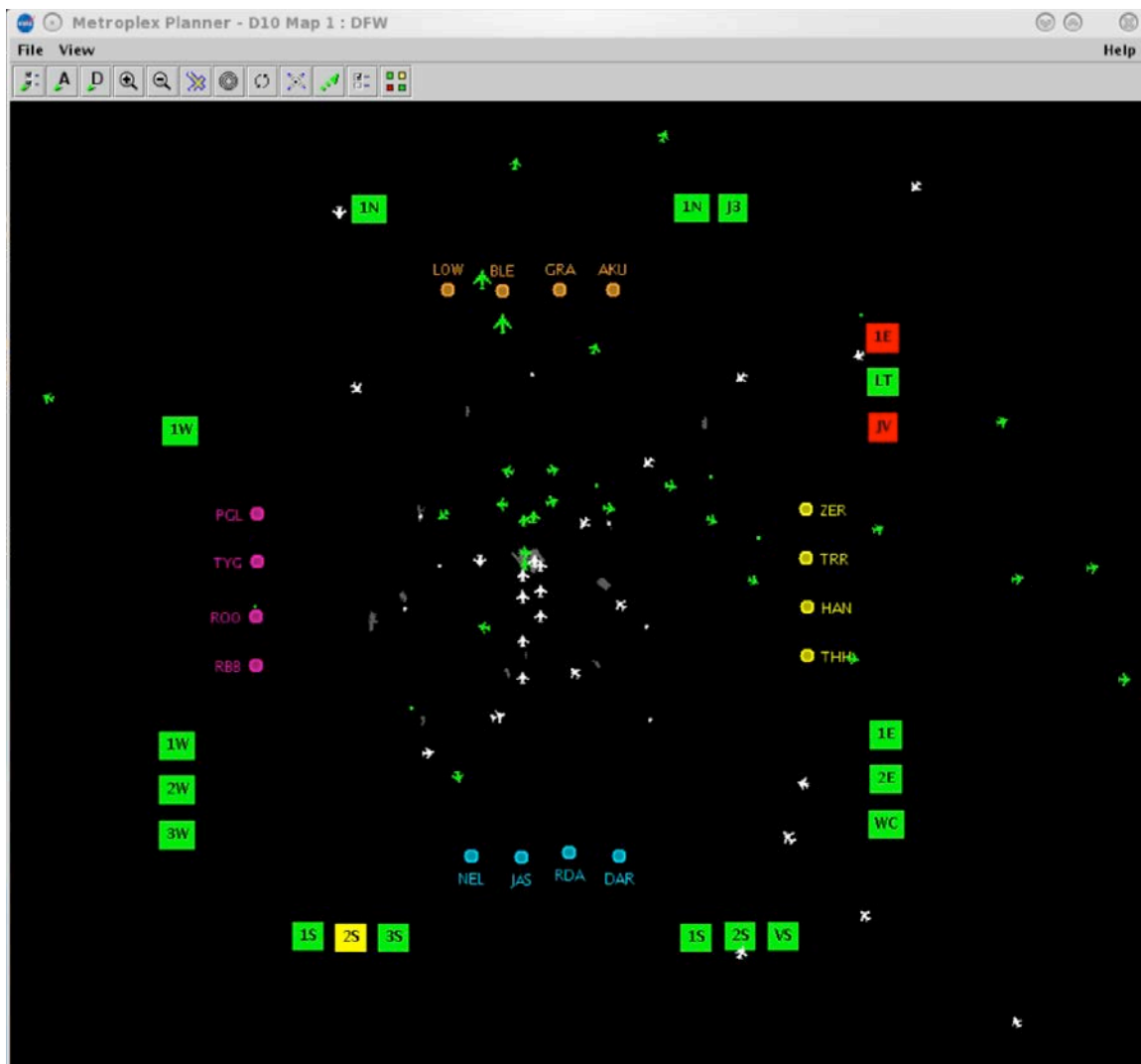


Figure 4.73. Map: TOS Route Availability Labels.

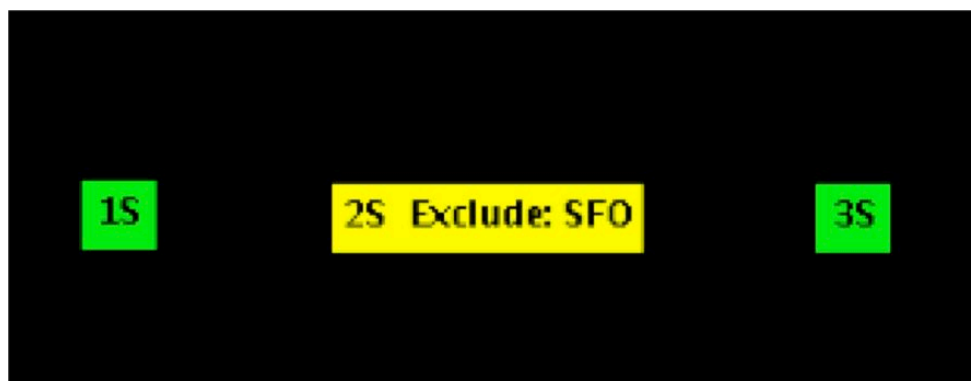


Figure 4.74. Map: CDR with exclusion (e.g., Exclude SFO).

4.4 Map: Other Flight/Airport Information

The map also displays other types of flight information.

4.4.1 Tarmac Rule / Long On Board

Tarmac Rule / Long On Board (LOB) information is displayed on the map using a colored disc behind the flight icon.

- For **departures**, the LOB timer starts at pushback and is continuously computed as current time minus the Actual Off-Block Time (AOBT) until the departure takes off.
- For **arrivals**, the LOB timer starts at touchdown and is continuously computed as the current time minus the Actual Landing Time (ALDT) until the arrival is in the gate.

Three different disc colors are used: yellow, orange, and red (Figure 4.75). Note, the color of the flight icon is determined by the selected color scheme and is unrelated to the LOB indicators below.

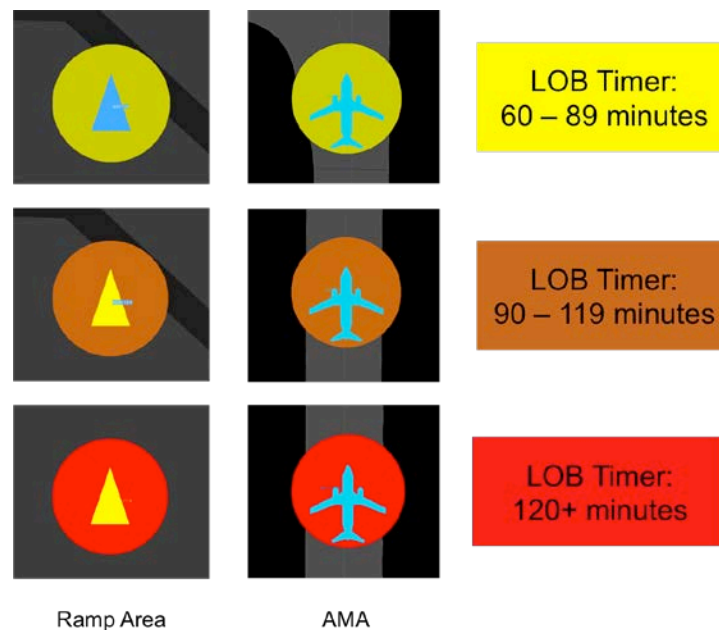


Figure 4.75. Map: Long On Board indicators (yellow, orange, and red discs).

4.4.2 Runway Closures

Closed runways are depicted by a red line, with a white “X” at each end.

4.5 Map: Right-Click Menu

Right-click menu options are described in Section 6.9.

5 Metroplex Planner: Tables

Tables are used to display information about individual flights, aircraft, departure fixes, as well as, TOS Operations. Five tables are described in this section:

- Flights Table (Section 5.1)
- Aircraft Table (Section 5.2)
- Departure Fix Status Table (Section 5.3)
- Trajectory Option Set (TOS) Departure Table (Section 5.4)
- Trajectory Option Set (TOS) Flight Menu (Section 5.5)

5.1 Flights Table

All known departures and arrivals within the next 8 hours are displayed in the Flights Table (Figure 5.1). More than one Flights Table can be open at the same time and each can be configured independently of the others. The Flights Table is updated every minute.

Number of Flights in the Table **Last Refresh Time (Zulu)**

Toolbar **Search**

Flight ID	AC	Origin	Dest	Beacon Code	AC Type	Gate	Rwy	Dep Fix	Dep Gate	Arr Fix	Flight Status	Gate	Spot Time
SKW2974	A	OKC	DFW	5230	CRJ7	B35	E36L			VKTRY	Scheduled_In	E09/22:15	E09/22:14
ENY3762	A	ICT	DFW	2157	E170	B4	13R			VKTRY	In	09/14:31	09/14:08
AAL1281	A	RSW	DFW	3657	B738	A16	17L	MOOKY		CQY	In	09/14:42	09/14:40
AAL1630	D	DFW	ATL	6241	A319	A16	17R	HANUH	EAST	HOBTT	Departed	09/17:30	09/17:35
ENY3937	D	DFW	BMI	UNK	E135	D11	E35L	AKUNA	NORTH		Scheduled_Out	E09/21:40	E09/21:48
SWA6812	D	DAL	ECP	2322	B738	17	E31L	HANUH	EAST		Departed	09/18:02	09/18:03
N741CT	A	KDF	DAL	1750	WW24	DAL_B	13R			SEEV	In	09/17:32	09/17:32
ENY4063	A	TYR	DFW	5110	E145	E25A	17L			BEREE	In	09/14:43	09/14:41
N424TV	A	CWC	DAL	5137	C525	DAL_B	13L			UKW	In	09/14:48	09/14:48
ENY3783	A	MMMM	DFW	3257	E135	D10	E36L			BOOVE	Enroute_Arr	E09/21:16	E09/21:13
N414M	D	FWS	TME	UNK	C414	GA1	E17R	NELYN	SOUTH		Departed	09/18:05	09/18:04
AAL2509	A	JAX	DFW	1036	A319	A10	E35R			BEREE	Scheduled_In	E09/23:17	E09/23:15
AAL2748	A	SEA	DFW	6631	B738	C22	17C	SUMMA		UKW	In	09/16:44	09/16:43
N26AW	A	HDO	TKI	UNK	C180	GA1				JEN	Suspended		
AAL387	A	MMGL	DFW	3210	A319	D29	E36L			BOOVE	Enroute_Arr	E09/21:19	E09/21:18
SWA12	A	HOU	DAL	4031	B737	17	13L	MAJJK		SEEV	In	09/15:03	09/15:03
N553RA	D	FTW	FTW	UNK	C172	GA2	E16				Scheduled_Out	E09/21:00	E09/21:01
AAL2824	D	DFW	TUS	2253	A319	A13	17R	RBBIT	WEST		Departed	09/17:15	09/17:19
SKW2983	A	SAF	DFW	2603	CRJ7	E37A	17C			UKW	In	09/15:25	09/14:59
N128AS	A	CRP	DAL	2707	BE20	DAL_B	13L			CQY	In	09/15:01	09/15:01
N8587H	A	MLI	DAL	6226	E35L	DAL_B	E31L			SEEV	Enroute_Arr	E09/21:28	E09/21:28
AAL1018	D	DFW	IND	3651	A319	A15	17R	AKUNA	NORTH	ANTTI	Departed	09/17:33	09/17:37
FDX410	D	DFW	MEM	2345	B763	FDX5	17R	HANUH	EAST	HOBRT	Departed	09/13:02	09/13:07
AAL1755	A	MMGL	DFW	3210	A319	D29	E36L			BEREE	In	09/14:48	09/14:48

Figure 5.1. Flights Table.

Use the “Create” menu on the Toolbar to create a new Flights Table (see Section 3.2.2). Use the “Show Window” menu on the Toolbar to bring a Flights Table to the front of other windows (see Section 3.3).

5.1.1 Flights Table: Select a Flight

Select a flight in the Flights Table to highlight the flight throughout the Metroplex Planner user interface.

To select a flight in the Flights Table:

Step 1: To select a flight, click on a row in the table. Once selected, the row is highlighted in cyan (e.g., SWA320 in Figure 5.2).

Note: When a flight is selected in the Flights Table (e.g., SWA320), it is highlighted throughout the Metroplex Planner user interface:

- Timeline (Figure 5.3)
- Map (Figure 5.4)
- TOS Departure Table, if applicable (Figure 5.5)

Alternatively: Click the same row again to deselect the flight.

Note: Hold the “Shift” key to select multiple flights at the same time.

Flight ID	Arr/Dep	Origin	Dest	Beacon Code	AC Type	Gate	Rwy	Dep Fix	Dep Gate	Arr Fix	Flight Status	Gate Time	Spot Time
ASH5731	D	DFW	SDF	UNK	CRJ9	B36	E35L	ZERLU	EAST	CHERI	Scheduled_Out	E09/23:40	E09/23:40
N31CA	D	DAL	SGR	UNK	CL30	DAL_B	E31R	ROOOO	WEST		Scheduled_Out	E09/23:15	E09/23:15
ENY3307	D	DFW	MMDO	2355	E135	B15	18L	NELYN	SOUTH		Departed	09/17:37	09/17:37
SIS648	D	AFW	SRB	2270	GALX	GA1	E16R	TRRCH	EAST		Departed	09/15:20	09/15:20
SWA437	A	DEN	DAL	1413	B737	12	13L	EPKEE		GREGS	In	09/15:24	09/15:24
LN490AM	A	SAT	DAL	2503	BE40	DAL_B	13L			SEEVN	In	09/15:15	09/14:55
SWA320	D	DAL	CMH	0527	B737	7	E31R	ZERLU	EAST		Scheduled_Out	E09/19:33	E09/19:33
N421SC	A	BED	DFW	3466	F2TH	R1E...	17L			SEEVN	In	09/15:45	09/15:45
AAL1769	D	DFW	LAX	3673	B738	C10	18L	RBBIT	WEST	HLWD	Departed	09/17:51	09/17:51
AAL1304	D	DFW	MMSD	0555	B738	C28	17R	RBBIT	WEST		Departed	09/13:23	09/13:23
BTQ553	D	DFW	CNM	UNK	PC12	R1E...	E36R	RBBIT	WEST		Scheduled_Out	E09/19:30	E09/19:30
AAL2354	A	LAX	DFW	2061	A321	C30	E36L			BOOVE	Enroute_Arr	E09/20:54	E09/20:54
ENY4267	D	DFW	GRR	UNK	E170	B44	E35L	AKUNA	NORTH		Scheduled_Out	E09/22:25	E09/22:25
SKW3118	D	DFW	PIB	2245	CRJ2	E37A	17R	THHOR	EAST		Departed	09/15:17	09/15:17
SWA1676	D	DAL	MDW	0514	B737	8	E13L	AKUNA	NORTH	JOT	Departed	09/12:41	09/12:41
N153TJ	A	HOU	ADS	2541	C25A	GA1	E15	GIFFA		CQY	In	09/12:24	09/12:24
AAL1326	A	AUS	DFW	2777	A321	A28	17L	ELOEL		CQY	In	09/16:43	09/16:43
AAL250	A	SAN	DFW	7232	B738	C12	17C	IPL		FEVER	In	09/16:52	09/16:52

Figure 5.2. Flights Table: Selected row is highlighted in cyan (e.g., SWA320).

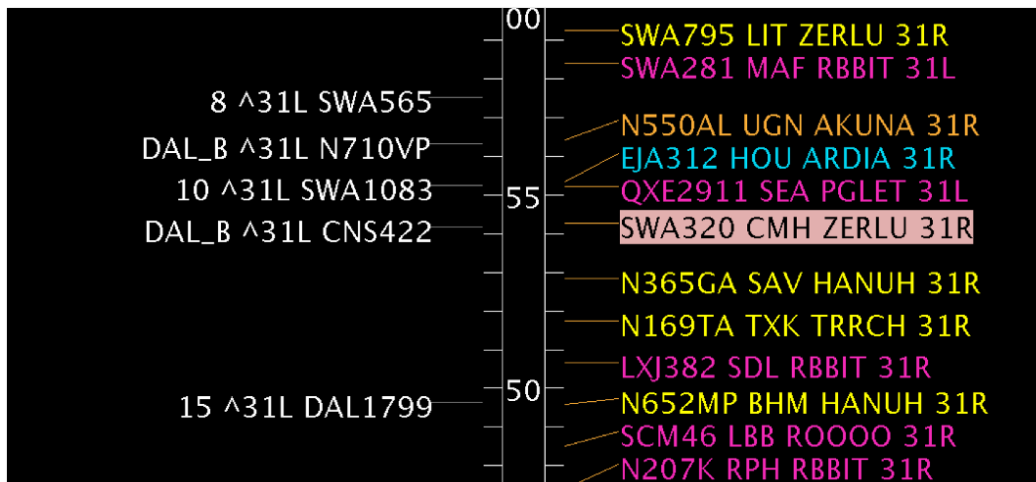


Figure 5.3. Selected flight highlighted on the Timeline (e.g., SWA320).



Figure 5.4. Selected flight highlighted on the Map (e.g., SWA320).

Metroplex Planner - DAL TOS Operations at 19:35 Z

Search Clear

TOS Departure - Runway = DAL:13L,DAL:13R,DAL:31L,DAL:31R

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	EOBT	ETOT	Top ETOT	Top CDR	Top Total Delay Savings OFF	Num TOS Sub	Eligibility State	Coord State
SWA1083	E31R	AUS	KDAL RAMBL5.WI...	SOUTH		09/21:09					Potential	Not Submitted
SWA795	E31R	LIT	KDAL EMMTT4.BS...	EAST	09/19:52	09/19:59	19:59	DALLIT1N	0		Potential	Not Submitted
SWA320	E31R	CMH	KDAL EMMTT4.BS...	EAST	09/19:40	09/19:48	19:48	DALCMH1N	0		Potential	Not Submitted
SWA401	E31L	ABQ	KDAL SNSET4.HU...	WEST	09/20:16	20:16	20:16	DALABQ1N	0		Potential	Not Submitted
SWA281	E31L	MAF	KDAL SNSET4.DO...	WEST	09/19:48	09/19:57	19:57	DALMAF1S	0		Potential	Not Submitted
SWA1014	E31R	ELP	KDAL SNSET4.CIK...	WEST	09/19:56	09/20:03	20:03	DALPLP1S	0		Potential	Not Submitted
SWA1283	E31R	PNS	KDAL EMMTT4.ZA...	EAST	09/19:56	09/20:04	20:04	DALPNS1S	0		Potential	Not Submitted
SWA366	E31L	LBB	KDAL SNSET4.BR...	WEST	09/20:05	09/20:15	20:15	DALLBB1N	0		Potential	Not Submitted
SWA1495	E31L	DEN	KDAL ESNYE4.RO...	NORTH		09/21:50					Potential	Not Submitted
SWA2076	E31L	AMA	KDAL SNSET4.HU...	WEST	09/19:51	09/20:01	20:01	DALAMA1N	0		Potential	Not Submitted
SWA712	E31R	BWI	KDAL EMMTT4.LO...	EAST	09/20:25	09/20:33	20:33	DALBWI3	0		Potential	Not Submitted
SWA1599	E31R	TUL	KDAL ESNYE4.FA...	NORTH	09/20:15	09/20:24	20:24	DALTUL1W	0		Potential	Not Submitted

Add Table

Figure 5.5. Selected flight highlighted in the TOS Departure Table (e.g., SWA320).

5.1.2 Flights Table: Sort

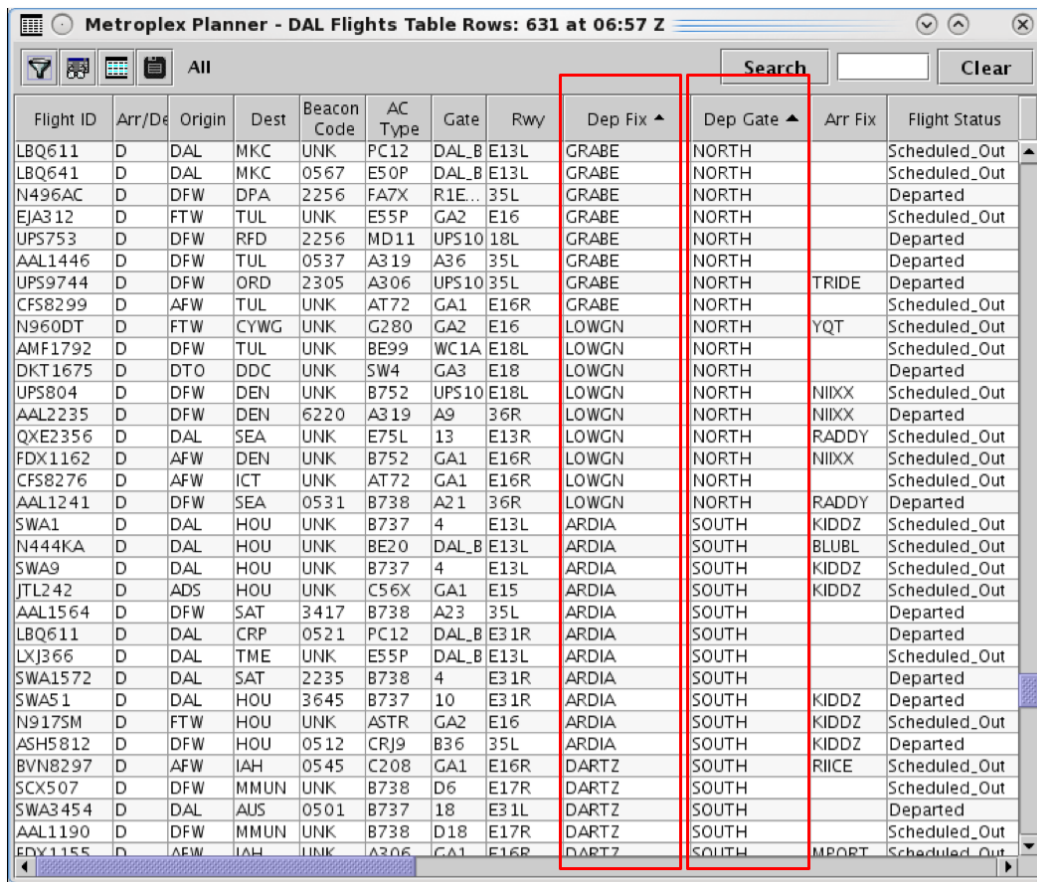
The Flights Table can be sorted by selecting column headers.

To Sort the Flights Table:

Step 1: Select a column header to sort by the data in that column.

- Click *once* in the column header to sort in *ascending* order. An up-arrow is displayed (e.g., “Departure Gate” in Figure 5.6).
- Click *twice* in the column header to sort in *descending* order. A down-arrow is displayed.
- Click a *third* time to cancel the sort.

Step 2 (Optional): Use the “Ctrl” key to add a secondary sort. While holding the “Ctrl” key, click on another column header. A *smaller* arrow is displayed in the second column (e.g., “Departure Fix” in Figure 5.6).



Flight ID	Arr/De	Origin	Dest	Beacon Code	AC Type	Gate	Rwy	Dep Fix ▲	Dep Gate ▲	Arr Fix	Flight Status
LBQ611	D	DAL	MKC	UNK	PC12	DAL_B	E13L	GRABE	NORTH		Scheduled_Out
LBQ641	D	DAL	MKC	0567	E50P	DAL_B	E13L	GRABE	NORTH		Scheduled_Out
N496AC	D	DFW	DPA	2256	FA7X	R1E...	35L	GRABE	NORTH		Departed
EJA312	D	FTW	TUL	UNK	E55P	GA2	E16	GRABE	NORTH		Scheduled_Out
UPS753	D	DFW	RFD	2256	MD11	UPS10	18L	GRABE	NORTH		Departed
AAL1446	D	DFW	TUL	0537	A319	A36	35L	GRABE	NORTH		Departed
UPS9744	D	DFW	ORD	2305	A306	UPS10	35L	GRABE	NORTH	TRIDE	Departed
CFS8299	D	AFW	TUL	UNK	AT72	GA1	E16R	GRABE	NORTH		Scheduled_Out
N960DT	D	FTW	CYWG	UNK	G280	GA2	E16	LOWGN	NORTH	YQT	Scheduled_Out
AMF1792	D	DFW	TUL	UNK	BE99	WC1A	E18L	LOWGN	NORTH		Scheduled_Out
DKT1675	D	DTO	DDC	UNK	SW4	GA3	E18	LOWGN	NORTH		Departed
UPS804	D	DFW	DEN	UNK	B752	UPS10	E18L	LOWGN	NORTH	NIDXX	Scheduled_Out
AAL2235	D	DFW	DEN	6220	A319	A9	36R	LOWGN	NORTH	NIDXX	Departed
QXE2356	D	DAL	SEA	UNK	E75L	13	E13R	LOWGN	NORTH	RADDY	Scheduled_Out
FDX1162	D	AFW	DEN	UNK	B752	GA1	E16R	LOWGN	NORTH	NIDXX	Scheduled_Out
CFS8276	D	AFW	ICT	UNK	AT72	GA1	E16R	LOWGN	NORTH		Scheduled_Out
AAL1241	D	DFW	SEA	0531	B738	A21	36R	LOWGN	NORTH	RADDY	Departed
SWA1	D	DAL	HOU	UNK	B737	4	E13L	ARDIA	SOUTH	KIDDZ	Scheduled_Out
N444KA	D	DAL	HOU	UNK	BE20	DAL_B	E13L	ARDIA	SOUTH	BLUBL	Scheduled_Out
SWA9	D	DAL	HOU	UNK	B737	4	E13L	ARDIA	SOUTH	KIDDZ	Scheduled_Out
JTL242	D	ADS	HOU	UNK	C56X	GA1	E15	ARDIA	SOUTH	KIDDZ	Scheduled_Out
AAL1564	D	DFW	SAT	3417	B738	A23	35L	ARDIA	SOUTH		Departed
LBQ611	D	DAL	CRP	0521	PC12	DAL_B	E31R	ARDIA	SOUTH		Departed
LXJ366	D	DAL	TME	UNK	E55P	DAL_B	E13L	ARDIA	SOUTH		Scheduled_Out
SWA1572	D	DAL	SAT	2235	B738	4	E31R	ARDIA	SOUTH		Departed
SWA51	D	DAL	HOU	3645	B737	10	E31R	ARDIA	SOUTH	KIDDZ	Departed
N917SM	D	FTW	HOU	UNK	ASTR	GA2	E16	ARDIA	SOUTH	KIDDZ	Scheduled_Out
ASH5812	D	DFW	HOU	0512	CRJ9	B36	35L	ARDIA	SOUTH	KIDDZ	Departed
BVN8297	D	AFW	IAH	0545	C208	GA1	E16R	DARTZ	SOUTH	RIICE	Scheduled_Out
SCX507	D	DFW	MMUN	UNK	B738	D6	E17R	DARTZ	SOUTH		Scheduled_Out
SWA3454	D	DAL	AUS	0501	B737	18	E31L	DARTZ	SOUTH		Departed
AAL1190	D	DFW	MMUN	UNK	B738	D18	E17R	DARTZ	SOUTH		Scheduled_Out
FDY1155	D	AFW	IAH	UNK	A306	GA1	E16R	DARTZ	SOUTH	MPORT	Scheduled_Out

Figure 5.6. Flights Table: Sort. In this example, the table is first sorted alphabetically by Departure Gate, and then sorted alphabetically by Departure Fix.

5.1.3 Flights Table: Toolbar

Four icons are displayed on the Flights Table toolbar (Figure 5.7):

- Edit Filters (Section 5.1.3.1)
- Show/Hide Columns (Section 5.1.3.2)
- Table Color Settings (Section 5.1.3.3)
- Save for Quick Create (Section 5.1.3.4)

When filters are applied to the Flights Table, the filter criteria are displayed on the toolbar next to the icons. When no filters are being applied, “All” is displayed (Figure 5.7).

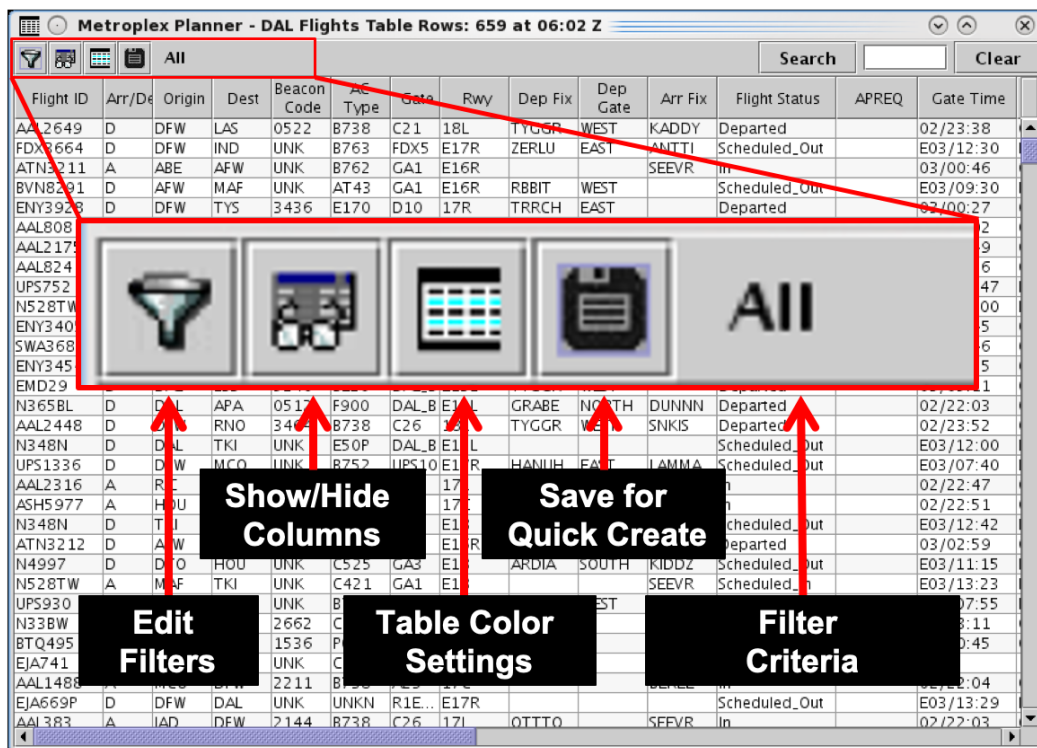


Figure 5.7. Flights Table: Toolbar.

5.1.3.1 Edit Filters

Use “Edit Filters” (Figure 5.7) to include/exclude flights in the Flights Table. Fields that can be used as filters are listed in Table 5.1.

Fields are associated with an *operator*:

- equal “=”
- not equal “!=
- less than “<”
- less than or equal to “<=

- greater than “>”
- greater than or equal to “>=”
- “BETWEEN”

Multiple fields can be used in combination by selecting “AND” or “OR” as a *qualifier*.

Table 5.1. Flights Table: Filter Fields

Field	Description	Options
Actual Delay	Delay accrued by a flight in the AMA (in minutes). = Current Duration of AMA Time – Undelayed AMA Time. <i>*Not available at all airports.</i>	[mm]
AIBT	Actual In-Block Time (AIBT)	[mm] Relative [hhmm] Zulu
ALDT	Actual Landing Time (ALDT)	[mm] Relative [hhmm] Zulu
AOBT	Actual Off-Block Time (AOBT)	[mm] Relative [hhmm] Zulu
ATOT	Actual Takeoff Time (ATOT)	[mm] Relative [hhmm] Zulu
Airline	Airline code	Enter: 3-digit airline code or “GA”
Arr/Dep	Flight type	Enter or select: <i>Arrival</i> <i>Departure</i>
Arr Fix	Arrival Fix	Enter or select from dropdown list.
ArrFix Time	Predicted or actual Arrival Fix crossing time.	[mm] Relative [hhmm] Zulu
Dep Fix	Departure Fix	Enter or select from dropdown list.
DepFix Time	Predicted or actual Departure Fix crossing time. This field is populated based on the availability of data, in the following order: • Actual Departure Fix time, if available. • Or, Estimated Departure Fix Time (from TFMS). • Or, Target Departure Fix Time (from ATD-2 Tactical Scheduler) • Or, Estimated “OUT” time (from FlightStats) + 20 min.	[mm] Relative [hhmm] Zulu

Dep Gate	Terminal-area Departure Gate	Enter or select from dropdown list.
Dest	Destination airport for arrivals and departures.	Enter or select from dropdown list.
Destination has APREQ	Destination is subject to APREQ	Select: Yes No
Engine Type	Aircraft engine type	Enter or Select: Prop Turbo Jet
Flight Status	Flight Status	Enter or Select: Scheduled_Out Pushback Out Taxiing_AMA In_Queue Departured Scheduled_In Enroute_Arr Term_Area_Arr On_Final On In_Ramp In Return_to_Gate Suspended Cancelled Unknown
Gate	Parking gate	Enter or select from dropdown list.
Gate Time	Predicted or actual gate time for arrivals and departures.	[mm] Relative [hhmm] Zulu
Has Acknowledged APREQ	APREQ has been acknowledged in the ATD-2 system.	Select: Yes No
Has AIBT	Actual In-Block Time (AIBT)	Select: Yes No
Has ALDT	Actual Landing Time (ALDT)	Select: Yes No
Has AOFF	Actual Off Time (AOFF)	Select: Yes No
Has AOUT	Actual Out Time (AOUT)	Select:

		Yes No
Has Closed Dep Fix	Assigned Departure Fix is closed.	Select: Yes No
Has EDCT	Flight is subject to an Expect Departure Clearance Time (EDCT).	Select: Yes No
Has Ground Stop	Destination is subject to a Ground Stop.	Select: Yes No
Has Entered AMA	Flight is in the Airport Movement Area: - For departures, Flight Status = "Taxiing_AMA" or "In_Queue". - For arrivals, Flight Status = "On".	Select: Yes No
Has Entered Ramp	Flight is in the Ramp Area: - For departures, Flight Status = "Pushback" or "Out". - For arrivals, Flight Status = "In_Ramp".	Select: Yes No
Has Gate Conflict	Assigned parking gate has a conflict.	Select: Yes No
Has MIT	Flight is subject to a Miles-in-Trail restriction (Fix, Destination, or Jet Route).	Select: Yes No
Has Fix MIT	Departure Fix is subject to a Miles-in-Trail restriction.	Select: Yes No
Has Destination MIT	Destination is subject to a Miles-in-Trail restriction.	Select: Yes No
Has Jet Route MIT	Jet Route is subject to a Miles-in-Trail restriction.	Select: Yes No
Is Active	Flight is active.	Select: Yes No
Is Hidden	Flight is hidden.	Select: Yes No
Is Cancelled	Flight Status = "Cancelled"	Select: Yes No
Is Suspended	Flight Status = "Suspended"	Select: Yes

		<i>No</i>
Major Carrier	Major Carrier includes mainline and subsidiaries (fleet).	Enter: <i>3-digit airline code</i>
OPSNET	User input for Operations Network (OPSNET) delay reporting.	Select: <i>Yes</i> <i>No</i>
Origin	Origin airport for arrivals and departures.	Enter or select from dropdown list.
Runway	Predicted or actual runway.	Enter or select from dropdown list.
Spot	Predicted or actual spot.	Enter or select from dropdown list.
Spot Time	Predicted or actual time: - An arrival flight crosses the Spot to enter the Ramp Area. - A departure flight crosses the Spot to enter the AMA.	[<i>mm</i>] Relative [<i>hhmm</i>] Zulu
SDT-TBFM	Scheduled Departure Time (SDT) as accepted in TBFM by the Center TMC. This is the scheduled wheels-up time.	[<i>mm</i>] Relative [<i>hhmm</i>] Zulu
STA-TBFM	Scheduled Time of Arrival (STA) assigned by TBFM.	[<i>mm</i>] Relative [<i>hhmm</i>] Zulu
Tail	Aircraft tail number.	Select: <i>Is Set</i> <i>Not Set</i>
TIBT	Target In-Block Time (TIBT). Predicted in-block time.	[<i>mm</i>] Relative [<i>hhmm</i>] Zulu
TOBT	Target Off-Block Time (TOBT). Advised pushback time for surface-metered departure flights.	[<i>mm</i>] Relative [<i>hhmm</i>] Zulu
TLDT	Target Landing Time (TLDT). Predicted landing time.	[<i>mm</i>] Relative [<i>hhmm</i>] Zulu
TMAT	Target Movement Area entry Time (TMAT). The time at which a surface-metered departure is expected to enter the AMA.	[<i>mm</i>] Relative [<i>hhmm</i>] Zulu
TTOT	Target Takeoff Time (TTOT). Predicted takeoff time, accounting for: - Undelayed taxi time, plus - Predicted delay from surface traffic competing for the runway.	[<i>mm</i>] Relative [<i>hhmm</i>] Zulu
Weight Class	Aircraft weight class.	Select: <i>A, B, C, D, E, F</i>

To Filter the Flights Table:

Step 1: Select the “Edit Filters” icon (Figure 5.7) in the toolbar to open the Filter window.

Step 2: Select a variable from the dropdown list in the “Field” column (e.g., “Runway” in Figure 5.8).

Step 3: Select a modifier from the dropdown list in the “Operator” column (e.g., “=” in Figure 5.8).

Step 4: Select an option(s) from the dropdown list or enter criteria in the text box to populate the “Values” field (e.g., “DAL:13L, DAL:13R, DAL:31L, DAL:31R” in Figure 5.8). Separate multiple entries with a comma.

Step 5 (Optional): Additional filters can be applied by making entries on a new row. Select “Add Fields” (Figure 5.8) if more rows are not visible. Begin additional rows by selecting a qualifier (i.e., “AND” or “OR”).

Note: Select “Show Query” to view a list of selected criteria.

Step 6: When complete, select “OK” to apply the filter(s) and close the Filter window.

Alternatively: Select “Cancel” to cancel the pending change and close the Filter window.

Note: An existing filter can be modified by changing the selections in the Field, Operator, or Values columns. Select “Clear” (Figure 5.8) to clear entries from the “Values” field -- “Operator” and “Field” selections remain populated.

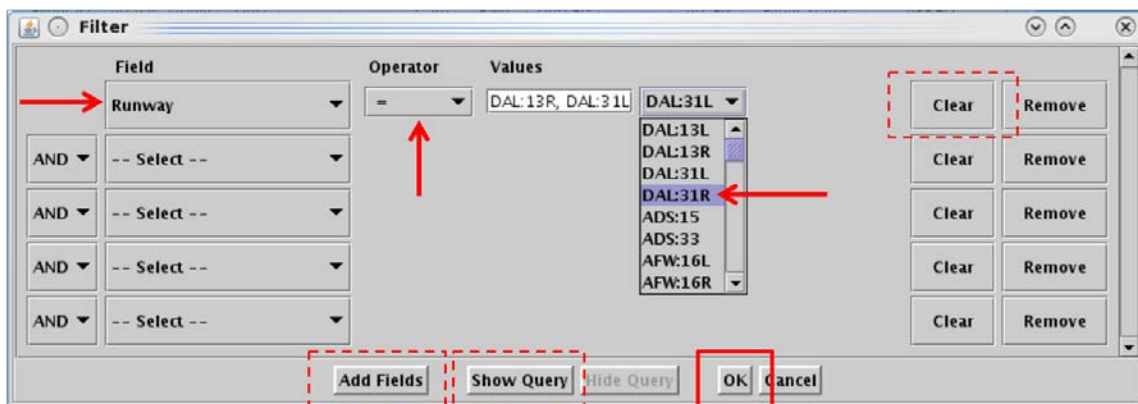


Figure 5.8. Flights Table: Filter.

Filter criteria are displayed in the toolbar (e.g., “Runway = DAL:13L, DAL:13R, DAL:31L, DAL:31R” in Figure 5.9). The number of results and the last refresh time (hh:mm Zulu) are displayed in the title bar (e.g., 301 flights at 21:04 Z in Figure 5.9).

Number of Flights in the Table

Last Refresh Time (Zulu)

Flight ID	Arr/De	Origin	Dest	Beacon Code	AC Type	Gate	Rwy	Dep Fix	Dep Gate	Arr Fix	Flight Status	Gate Time	Spot
WA6812	D	DAL	ECP	2322	B738	17	E31L	HANUH	EAST		Departed	09/18:02	09/18
N241CT	A	IXD	DAL	1750	WW24	DAL_B	13R			SEEV	In	09/17:22	09/17
N424TV	A	CWC	DAL	5137	C525	DAL_B	13L			UKW	In	09/14:48	09/14
WA12	A	HOU	DAL	4031	B737	17	13L	MAJJK		SEEV	In	09/15:03	09/15
N128AS	A	CRP	DAL	2707	BE20	DAL_B	13L			CQY	In	09/15:01	09/15
N8587H	A	MLI	DAL	6226	E35L	DAL_B	E31L			SEEV	Term_Arr	E09/21:29	E09/2
AS3	A	ICT	DAL	1703	C25C	DAL_B	13L			GREGS	In	09/16:40	09/16
WA493	A	MDW	DAL	1342	B738	20	E31L	ACITO		SEEV	Scheduled_In	E09/23:48	E09/2
WA1434	D	DAL	TUL	2332	B737	16	E13R	GRABE	NORTH		Departed	09/16:48	09/16
EJA753	A	COS	DAL	0671	CL35	DAL_B	E31L			SEEV	Scheduled_In	E09/23:15	E09/2
N375CP	A	T89	DAL	2521	B350	DAL_B	31R			KNEAD	In_Ramp	E09/21:08	09/20
CM46	D	DAL	LBB	5106	C56X	DAL_B	E31R	RGLET	WEST		Departed	09/19:41	09/19
N866VP	A	SGF	DAL	1702	C560	DAL_B	13L			SEEV	In	09/13:20	09/13
WA1083	A	MDW	DAL	3117	B737	16	31R	ACITO		SEEV	In	09/20:10	09/19
N595CB	A	ABI	DAL	5201	CL30	DAL_B	31R			FEVER	In_Ramp	E09/20:55	09/20
WA43	A	DEN	DAL	3742	B737	9	E31L	EPKEE		SEEV	Enroute_Arr	E09/21:51	E09/2
WA176	D	DAL	PHX	2205	B738	8	E13L	RBBIT	WEST	PINNG	Departed	09/15:07	09/15
WA465	A	ABQ	DAL	0733	B737	9	13L			UKW	In	09/14:34	09/14
WA1563	A	MDW	DAL	6535	B737	20	13L	ACITO		SEEV	In	09/15:31	09/15
WA1599	A	BNA	DAL	1674	B737	9	31R			SEEV	In	09/19:24	09/19
N365GA	D	DAL	GAO	2333	G150	DAL_B	E13L	THHOR	EAST		Departed	09/15:15	09/15
WA1363	D	DAL	LAS	0532	B737	20	E13R	TYGGR	WEST	KADDY	Departed	09/13:26	09/13
TL118	D	DAL	FTW	UNK	H25B	DAL_B	E31R				Scheduled_Out	E09/23:07	E09/2
CM24	D	DAL	IWS	UNK	PC12	DAL_B	E31R	ARDIA	SOUTH		Scheduled_Out	E09/21:04	E09/2
KAPBT	A	MMAN	DAL	1157	H25B	DAL_B	13R			KNEAD	In	09/15:53	09/15
XJ382	D	DAL	SDL	2241	E55P	DAL_B	E31R	ROOOO	WEST		Departed	09/20:21	09/20
WA512	D	DAL	AMA	0523	B737	19	E13R	RGLET	WEST		Departed	09/14:47	09/14
WA8657	A	CAE	DAL	0763	B738	2	E31L			SEEV	Enroute_Arr	E09/21:53	E09/2

Figure 5.9. Flights Table: Flights matching filter criteria are included in the table.

To remove a Filter in the Flights Table:

Step 1: Select the “Edit Filters” icon (Figure 5.7) in the toolbar to open the Filter window.

Step 2: In the dropdown menu in the “Field” column, select “-- Select --” to clear selections from that row (Figure 5.10).

Alternatively: Select “Remove” to delete that row entirely (Figure 5.10).

Step 3: When complete, select “OK” to close the Filter window.

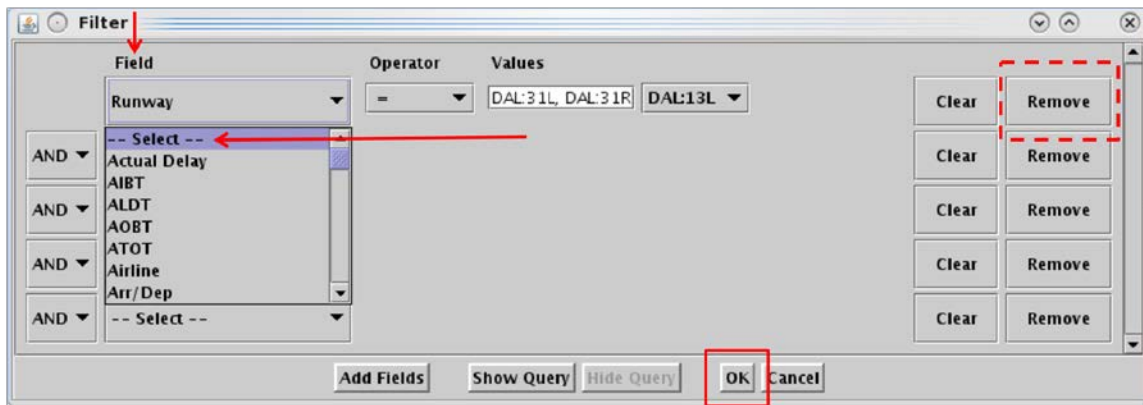


Figure 5.10. Flights Table: Remove filters.

5.1.3.2 Show/Hide Columns

Use “Show/Hide Columns” (Figure 5.7) to select which columns of information will be included, and the order in which they will be shown, in the Flights Table.

The information columns that can be included in the Flights Table are listed in Table 5.2.

Table 5.2. Flights Table: Show/Hide Columns

Column Header	Description
----- General -----	
Actual Delay	Delay accrued by a flight in the AMA (in minutes). = Current Duration of AMA Time – Undelayed AMA Time. <i>*Not available at all airports.</i>
AC Type	International Civil Aviation Organization (ICAO) type of aircraft (i.e., B738: Boeing model 737-800).
Airline	Airline code
AIBT	Actual In-Block Time (AIBT) at the gate, recorded by the airline or the ATD-2 system.
ALDT	Actual Landing Time (ALDT) recorded by the airline or the ATD-2 system.
AMAT	Actual Movement Area entry Time (AMAT): Actual spot-crossing time.
AOBT	Actual Off-Block Time (AOBT) at the gate.
ATOT	Actual Takeoff Time (ATOT).
Altitude	Altitude in feet/100.
APREQ	APREQ status: • “APRQ” to indicate that the flight needs an APREQ time • “APRQ: REQUESTED” to indicate negotiation is in progress. • “APRQ: REJECTED” to indicate the request time was not accepted. A new time may be negotiated.

	• “FREE RELEASE” to indicate the flight has a floating release time.
APREQ Mode	Modes of handling the APREQ requests in TBFM by the Center Traffic Management Coordinator (TMC): • UNDETERMINED – Mode has not been set. • MANUAL - Requests from the Tower needs to be made over the phone. • SEMI - Requests are made via IDAC, but still require electronic approval by the Air Route Traffic Control Center (ARTCC) TMC. • AUTO - Requests are made via IDAC and are automatically approved by TBFM. • OFF - TBFM is not being used to schedule APREQ release times. Requests must be made by telephone.
APREQ Requested Roll	Requested APREQ release time, minus 38 seconds to adjust to the start of the takeoff roll.
APREQ Scheduled Roll	Scheduled APREQ release time, minus 38 seconds to adjust to the start of the takeoff roll.
APREQ Scheduled Wheels-Off	Scheduled APREQ release time at wheels-up (corresponds to the scheduled release time set in TBFM).
APREQ State	Status of the APREQ negotiation: • UNSCHEDULED - The APREQ release time has not been requested yet. • PENDING_SCHEDULE – The APREQ release time has been requested by ATCT but not accepted yet by ARTCC. • SCHEDULED – The APREQ release time as scheduled by the ARTCC and sent to the ATCT. • PENDING_ACCEPT – ATCT start of negotiation for accepting the ARTCC scheduled release time. • ACCEPTED - The APREQ request time has been accepted by ATCT. • PENDING_CANCEL – The ATCT has issued a request to cancel APREQ negotiation. • CANCELLED – The APREQ negotiation has been cancelled by the ATCT or ARTCC.
APREQ PreSchedule	APREQ release time is prescheduled.
Arr/Dep	Displays: • “A” for arrival • “D” for departure
Arr Fix	Arrival Fix
ArrFix Time	Predicted or actual Arrival Fix crossing time.

Beacon Code	Aircraft beacon code.
Dep Fix	Departure Fix
Swap	Alternate Departure Fix assignment.
DepFix Time	Predicted or actual Departure Fix crossing time. This field is populated based on the availability of data, in the following order: • Actual Departure Fix time, if available. • Or, Estimated Departure Fix Time (from TFMS). • Or, Target Departure Fix Time (from ATD-2 Tactical Scheduler). • Or, Estimated “OUT” time (from FlightStats) + 20 min.
Dep Gate	Terminal-area Departure Gate.
Dest	Destination airport for arrivals and departures.
EDCT	Expected Departure Clearance Time (EDCT) assigned to the flight as part of a Ground Delay Program (GDP), Airspace Flow Program (AFP), or Collaborative Trajectory Options Program (CTOP).
EOBT	Earliest Off-Block Time (EOBT) provided by the airline. Earliest predicted push back time.
ETA	Estimated Time of Arrival (ETA) provided by TBFM, TFMS, the airline, or other external sources.
ETD	Estimated Time of Departure (ETD) at wheels-up provided by TBFM, Traffic Flow Management System (TFMS), the airline, or other external sources.
Flight ID	Flight number (call sign). For General Aviation (GA) flights, tail number is used.
Flight Status	Flight Status: • Scheduled Out: A departure flight that has not yet pushed back from the gate. • Pushback: A departure flight that is pushing back. • Out: A departure flight that is taxiing in the Ramp Area. • Taxiing AMA: A departure flight that is taxiing in the Airport Movement Area (AMA). • In Queue: A departure flight inside the queue detection box of the assigned runway. • Departed: A departure flight that is airborne. • Scheduled In: An arrival flight that is not yet being tracked. • Enroute Arr: An arrival flight that is in the enroute airspace. • Term Area Arr: An arrival flight that is inside the terminal airspace. • On Final: An arrival flight that is on final approach. • On: An arrival flight that has landed. • In Ramp: An arrival flight that is taxiing in the Ramp. • In: An arrival flight that is parked at the gate.

	• Return to Gate: A departure that is returning to the gate, after pushing back. • Suspended: A departure flight that was scheduled to have already departed, but no updates have been received. • Cancelled: A flight that has been cancelled by the airline. • Unknown: A flight with an unknown status. <i>*Not all types are available at all airports.</i>
Gate	Parking gate.
Gate Time	• For arrivals, the TIBT prior to reaching the gate and the AIBT once the flight arrives at the gate. • For departures, the TOBT prior to pushing back from the gate (<i>where available</i>) and the AOBT after pushback. Prior to the <i>actual</i> time, the Gate Time is prefixed by an “E” to indicate estimated time.
Gate Conflict	Gate Conflict information: • Parking Gate • Start time • Duration in minutes
Ground Stop	Destination is subject to a Ground Stop.
IOBT	Initial Off-Block Time (IOBT) set by TFMS. The first EOBT received for the flight.
LIBT	Latest In-Block Time (LIBT). Predicted time the flight will arrive at the gate, sent by the airline either directly or through a Collaborative Decision Making (CDM) message to TFMS.
LOBT	Latest Off-Block Time (LOBT), “L-time”. Predicted pushback time received from an airline either directly or through a CDM message to TFMS.
Long On Board	Long on Board indicator: • For arrivals, the LOB timer starts at touchdown and is continuously computed as the current time minus the Actual Landing Time (ALDT) until the arrival is in the gate. • For departures, the LOB timer starts at pushback and is continuously computed as the current time minus the Actual Off-Block Time (AOBT) until the flight takes off.
Major Carrier	Major Carrier includes mainline and subsidiaries (fleet).
MIT	Flight is subject to a Miles-in-Trail restriction (Fix, Destination, or Jet Route).
OPSNET	User input for Operations Network (OPSNET) delay reporting.
Origin	Origin airport for arrivals and departures.
Route of Flight	Planned route of flight.
Rwy	Predicted (e.g., “E18L”) or actual runway (e.g., “18L”) based on flight plan, departure fix, actual location of aircraft, or user input. Predicted runway is prefixed by an “E” to indicate estimate.

Rwy Time	Departures: <i>Predicted:</i> Estimated Takeoff Time (ETOT) <i>Actual:</i> Actual Takeoff Time (ATOT) Arrivals: <i>Predicted:</i> Estimated Landing Time (TLDT) <i>Actual:</i> Actual Landing Time (ALDT)
RwyOpNec	“OpNec” is indicated when the runway is changed for operational necessity.
SIBT	Scheduled In-Block Time (SIBT). Time the flight is scheduled by the airline to arrive at the gate.
SLDT	Scheduled Landing Time (SLDT). TFMS estimate of when the flight is scheduled to land based on the SIBT and future SOBT.
SOBT	Scheduled Off-Block Time (SOBT). Time the flight is scheduled by the airline to leave the departure gate.
STOT	Scheduled Takeoff Time (STOT). TFMS estimate of when the flight will take off based on the SOBT.
Spot	Predicted or actual spot.
Spot Time	Predicted or actual time: - A departure flight crosses the Spot to exit the Ramp Area. - An arrival flight crosses the Spot to enter the Ramp Area. Prior to the <i>actual</i> time, the Spot Time is prefixed by an “E” to indicate estimated time.
Tail	Aircraft tail number.
Taxi Route	Remaining route for taxiing in the AMA.
Taxi Time	Predicted or actual time spent taxiing on the airport surface, including the Ramp Area: - For departures, from pushback to takeoff. - For arrivals, from landing to parking at the gate. Prior to the <i>actual</i> time, the Taxi Time is prefixed by an “E” to indicate estimated time.
AMA Taxi Duration	Predicted or actual duration of time in the AMA: - For departures, from Spot time to takeoff. - For arrivals, from landing to Spot time.
TCLT	Terminal Controlled Landing Time (TCLT).
Time in Queue	Duration of time that a departure flight has spent in the runway queue detection box.
TIBT	Target In-Block Time (TIBT). Predicted in-block time.
TLDT	Target Landing Time (TLDT). Predicted landing time.
TMAT	Target Movement Area entry Time (TMAT). The time at which a surface-metered departure is expected to enter the AMA.
TOBT	Target Off-Block Time (TOBT). Advised pushback time for surface-metered departure flights.
TTOT	Target Takeoff Time (TTOT). Predicted takeoff time, accounting for: Undelayed taxi time, plus

	2. Predicted delay from surface traffic competing for the runway.
UIBT	Undelayed In-Block Time (UIBT). Predicted in-gate time for a single aircraft without consideration of other traffic on the surface.
ULDT	Undelayed Landing Time (ULDT). Predicted landing time.
UMAT	Undelayed Movement Area entry Time (UMAT). Predicted spot time for a single aircraft without consideration of other traffic on the surface.
UOBT	Undelayed Off-Block Time (UOBT). Predicted push back time in the absence of all external constraints (e.g., surface departure metering, EDCTs, Ground Stops, or APREQ release times).
UTOT	Undelayed Takeoff Time (UTOT). Predicted takeoff time for a single aircraft without consideration of surface delay caused by other traffic competing for the runway or terminal delay caused by terminal-area restrictions.
----- Less Common -----	
TCOT	Terminal Controlled Time (TCOT). Predicted takeoff time , accounting for: 1. Undelayed taxi time, plus 2. Predicted delay from surface traffic competing for the runway, and 3. Predicted delay from terminal-area restrictions being passed back to the surface.
Actual Time In Queue	Actual Takeoff Time (ATOT) – Undelayed Takeoff Time (UTOT). This field populates once the flight takes off.
APREQ Changed Ack Status	“Needs ACK” is displayed when the requested APREQ release time sent by the Air Traffic Control Tower (ATCT) through the ATD-2 system is not equal to the scheduled APREQ release time received from the ARTCC TBFM. Equality is determined in minutes.
APREQ Release Req Allowed	Indicates whether an APREQ release request can be made through the ATD-2 system. Currently, release requests are always allowed through the ATD-2 system for IDAC flights.
APREQ Forced	Indicates whether or not the APREQ time was set using the Integrated Departure Arrival Capability (IDAC) negotiation process through the ATD-2 system. • FALSE if the APREQ time was negotiated through IDAC. • TRUE if the APREQ time was manually set by a user or was received through System Wide Information Management (SWIM) apart from IDAC.
APREQ Source	Data source from which the APREQ release time originates.
ArrFix Source	Data source of the Arrival Fix: • SOURCE – The arrival fix was received from an external source based on the flight plan.

	• DECISION_TREE – ATD-2 system is predicting the arrival fix based on the most commonly used arrival fix for flights flying between the origin and destination airports. • MODEL – ATD-2 system is predicting the arrival fix to be the one closest to straight line between the origin and departure airport; or the arrival fix is based on a fix closure and a set of alternate fixes. • SURFACE – The arrival fix was detected based on track data. • UNKNOWN – The arrival fix is unknown.
CID	ERAM generates a new computer ID (CID) for each flight plan. CIDs are unique and constant for each flight. However, each ARTCC has one ERAM, so a flight may have multiple CIDs when it is located at the borderline of multiple ARTCCs.
DepFix Source	Data source of the Departure Fix: • SOURCE – The departure fix was received from an external source based on the flight plan. • DECISION_TREE – Metroplex Planner is predicting the departure fix based on the most commonly used departure fix for flights flying between the origin and destination airports. • MODEL – Metroplex Planner is predicting the departure fix based on a fix closure and a set of alternate fixes. • SURFACE: the departure fix was detected based on track data. • UNKNOWN – the departure fix is unknown.
EstIBT	Estimated In-Block Time (EstIBT) provided by an external source other than the airline.
EstOBT	Estimated Off-Block Time (EstOBT) provided by an external source other than the airline.
Filed Route	Filed route for a flight.
Flight Key	Unique identifier for the flight that contains the call sign, the origin, destination, flight creation time, and flight creation source (e.g., Airline, TFM, Traffic Management Advisor (TMA; TBFM)).
Gate Source	Data source of the gate: • AIRLINE – Data comes from the airline. • DECISION_TREE – The default gate assignment from a decision tree. • USER – The gate was assigned by a user.
Gate Conflicting Key	Unique identifier of the aircraft that is in conflict with the given aircraft.
Hidden	The value is “Hidden” if the flight is removed from the display via “Delete Datablock” or via “Remove Flight Strip” on the Ramp Traffic Console (RTC). Otherwise, blank.
Latitude	Latitude of the aircraft’s position in decimal degrees.

Longitude	Longitude of the aircraft's position in decimal degrees.
Local Route	Filed route adapted to the current ARTCC's airspace; used by TFMS.
Metering Group	Tactical scheduler group to which the departure flight is assigned based on its EOBT and flight status: • UNCERTAIN - The data for the departure is less certain (i.e., No EOBT is available, EOBT is more than 4 hours in the future, or EOBT is more than 13 minutes in the past and did not call ready). • PLANNING – The departure has an EOBT and it is within 4 hours. • READY – Flight put on Gate Hold. • OUT – The departure has started pushback but has not yet begun taxiing. • TAXI – The departure is taxiing in the Ramp area or AMA. • QUEUE – The flight is in the queue. • OFF – The departure has taken off. • ARRIVAL – The group for all arrival flights.
ModeS	International Civil Aviation Organization (ICAO) transponder code for Mode-S equipped aircraft.
Multiple CIDs	A flight may have multiple CIDs when it is located at the borderline of multiple ARTCCs.
Position Source	Data source of the aircraft position: • TZ – The track data was received from TFMS. • SMA – The track data was received from TMA. • FUSION – The track data was received from ASDE-X or surface surveillance data.
Ramp Area	Planned or actual Ramp area where the flight is expected to park or is currently located.
Repositioned	This flag will be set by a flight when it is repositioned, which will typically be repositioning the flight away from a gate.
Rwy Source	Data source of the runway: • MODEL – The runway is determined by the Metroplex Planner. • DECISION_TREE – Runway is determined by a decision tree. • STARS – The runway is determined by scratch pad entries made in the Standard Terminal Automation Replacement System (STARS). • UNKNOWN – Source of the runway determination is unknown.
SDT:TBFM	Scheduled Departure Time as accepted in TBFM by the Center TMC. This is the scheduled wheels-up time.
STA:TBFM	Scheduled Time of Arrival by TBFM.
Sector List	List of all sectors that a flight has or will travel through from the

	data available to the ATD-2 system.
Spot Source	Data source of the spot: • SURFACE – The spot is determined by the actual spot the aircraft used based on surface surveillance. • DECISION_TREE – The spot is predicted based on flight's gate and runway.
Super Stream Artcc	ARTCC of the scheduling point from TBFM.
Super Stream Point	Scheduling point constraint satisfaction point from TBFM. Scheduling point is the CSP to which the flight can be scheduled by IDAC. This indicates to IDAC where dept. negotiation occurs.
Super Stream Tracon	TRACON of the scheduling point from TBFM.
Super Stream Class Name	Name of the super stream class from TBFM.
Sched Suspended	Display "SUSPENDED" if a flight has been suspended. A suspended flight is expected to proceed at problem resolution.
TTOT-UTOT	The delay (in minutes) that the flight is predicted to encounter, at the runway , caused by: • Predicted delay from surface traffic competing for the runway. = Target Takeoff Time (TTOT) – Undelayed Takeoff Time (UTOT).
Undlyd OFF at Queue Entry	Undelayed Takeoff Time (UTOT) at the time at which the flight enters the departure runway queue.

To Add Columns to the Flights Table:

Step 1: Select the “Show/Hide Columns” icon (Figure 5.7) in the toolbar to open the Column Settings window.

Note: Two lists are shown in the Column Settings window (Figure 5.11):

- **Available:** Columns not currently displayed in the Flights Table.
- **Shown:** Columns currently displayed in the Flights Table.

Step 2: Select a column name from the Available list (e.g., “EOBT” in Figure 5.11).

Step 3: Select the right arrow to move the column name to the Shown list (Figure 5.11).

Step 4 (Optional): Select the column name in the Shown list and use “Move Up” and “Move Down” to reorder columns (Figure 5.12).

Step 5: When complete, select “OK” to close the Column Settings window (Figure 5.12).

Alternatively: Select “Cancel” to cancel the pending changes and close the Column Settings window.

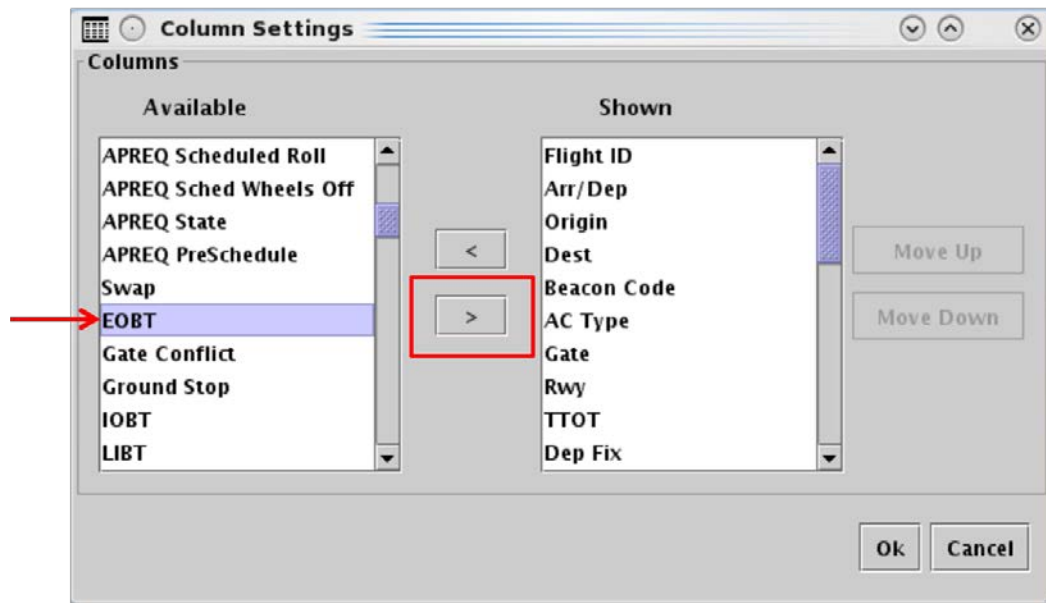


Figure 5.11. Flights Table: Column Settings. Select the right arrow to move a column name to the Shown list.

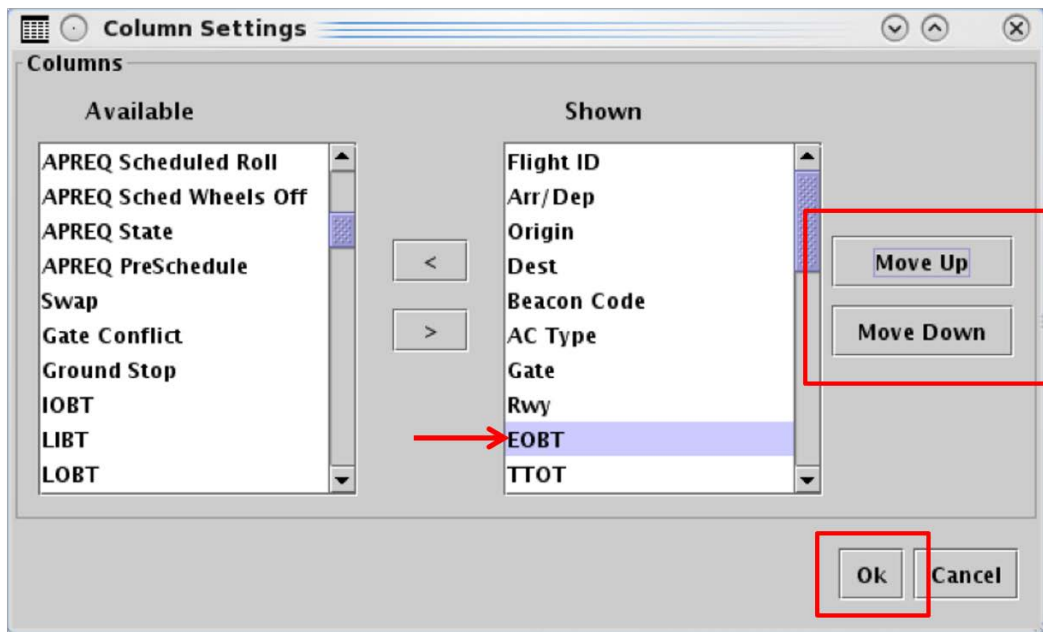


Figure 5.12. Flights Table: Column Settings. Use “Move Up” and “Move Down” to reorder columns.

Flight ID	Arr/Dep	Origin	Dest	Beacon Code	AC Type	Gate	Rwy	EOBT	TTOT	Dep Fix	Dep Gate
ATN3410	A	TPA	AFW	3611	B763	GA1	E16R			ENDED	
ENY3765	D	DFW	ICT	3404	E135	B24	18L	06/15:21	06/15:38	BLECO	NORTH
DAL2745	D	DFW	LGA	0517	BCS1	E15	17R		06/17:08	TRRCH	EAST
SWA6905	D	DAL	SAN	2342	B738	16	E13R	06/14:58	06/15:03	RBBIT	WEST
ASH5789	D	DFW	ECP	UNK	CRJ9	B38	E17R	06/22:40	06/22:52	THHOR	EAST
AAL2531	D	DFW	PHL	UNK	B738	A39	E17R	07/00:11	07/00:24	TRRCH	EAST
N877PD	A	PWG	DAL	5246	RV7	DAL_B	13R				
ENY3937	D	DFW	BMI	UNK	E135	E28	E17R	06/21:40	06/22:03	AKUNA	NORTH
SWA795	A	PNS	DAL	2651	B738	8	E13R				
AAL37	A	LEMD	DFW	0725	B788	D36	E17L	06/09:00			
N917GA	A	GPI	DAL	UNK	GLF5	DAL_B	E13R				
SKW2950	A	COS	DFW	UNK	CRJ7	B28	E17L	06/20:30			
AAL2079	D	DFW	MEM	UNK	A319	A19	E17R	06/23:50	07/00:08	HANUH	EAST
N15VA	A	IND	AFW	UNK	E145	GA1	E16R			ROCKY	
SWA2076	A	MCI	DAL	2120	B737	19	E13R			DOSOA	
AAL2177	A	CLE	DFW	UNK	A319	A20	E17L	06/19:30			
SKW3289	D	DFW	SBN	0537	CRJ7	E23A	E17R	06/18:17	06/18:30	AKUNA	NORTH
N560AD	D	ADS	MKO	UNK	C56X	GA1	E15		06/16:48	GRABE	NORTH
ENY3449	D	DFW	CMI	UNK	E135	B3	E17R	06/23:35	06/23:56	AKUNA	NORTH

Figure 5.13. Flights Table: Newly added column (in this example, “EOBT”) is shown in the Flights Table.

To remove a column from the Flights Table:

Step 1: Select the “Show/Hide Columns” icon (Figure 5.7) in the toolbar to open the Column Settings window.

Step 2: Select a column name from the Shown list.

Step 3: Select the *left* arrow to move the column name to the Available list.

Step 4: When complete, select “OK” to close the Column Settings window.

Alternatively: Select “Cancel” to cancel the pending changes and close the Column Settings window.

5.1.3.3 Table Color Settings

Use “Table Color Settings” (Figure 5.7) to set an alternate row color and field color alerts for variables in the Flights Table.

5.1.3.3.1 Set Row Colors

Use the “Set Row Colors” tab in the Flights Table Color Settings window to set an alternate row color in the Flights Table.

To Set Row Colors in the Flights Table:

Step 1: Select the “Table Color Settings” icon (Figure 5.7) in the toolbar to open the “Flights Table Color Settings” window.

Step 2: Select the “Set Row Colors” tab (Figure 5.14).

Note: *The default color for both odd and even rows in the Flights Table is white (Figure 5.14).*

Step 3: Select either the “Odd Row” or “Even Row” color box to open the “Choose Row Color” window (e.g., “Odd Row Color” in Figure 5.14).

Step 4: On the “Swatches” tab, use the mouse to select a color (e.g., green in Figure 5.15).

Step 5 (Optional): If necessary, use the other four color-palette tabs (HSV, HSL, RGB, CMYK) to refine the color selection.

Note: *In the “Preview” section below the color chart, the previous color (white in Figure 5.15) and a preview of the newly selected color (green in Figure 5.15) are displayed.*

Step 6: Select “OK” to return to the “Set Row Colors” tab to see a preview of the selected color (Figure 5.16).

Note: *If preferred, follow the same steps to select a second color for the alternating odd/even row.*

Step 7: When finished modifying colors, select “OK” to close the Flights Table Color Settings window and apply the color change(s) (Figure 5.16). Updated color selections are shown in the Flights Table (Figure 5.17).

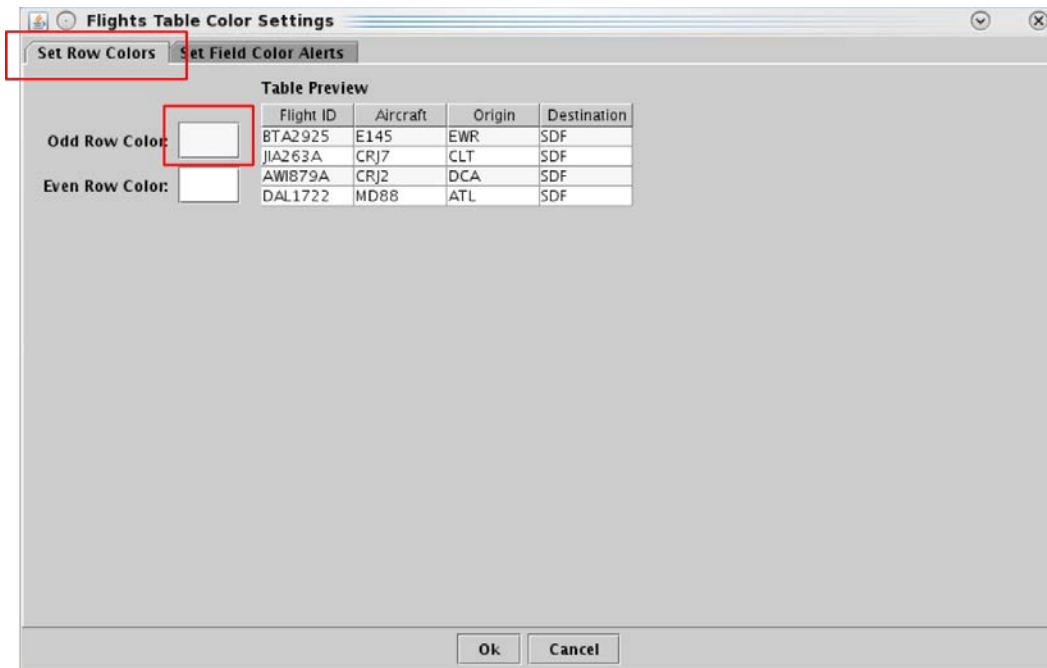


Figure 5.14. Flights Table Color Settings: Set Row Colors tab.

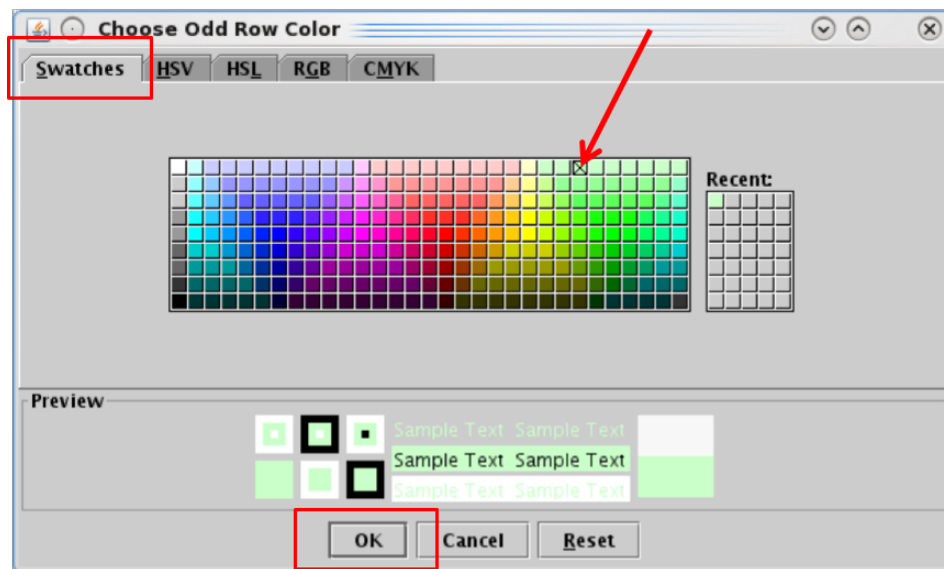


Figure 5.15. Use the “Swatches” tab to select a color. Use the HSV, HSL, RGB, or CMYK color palettes to refine the color selection.

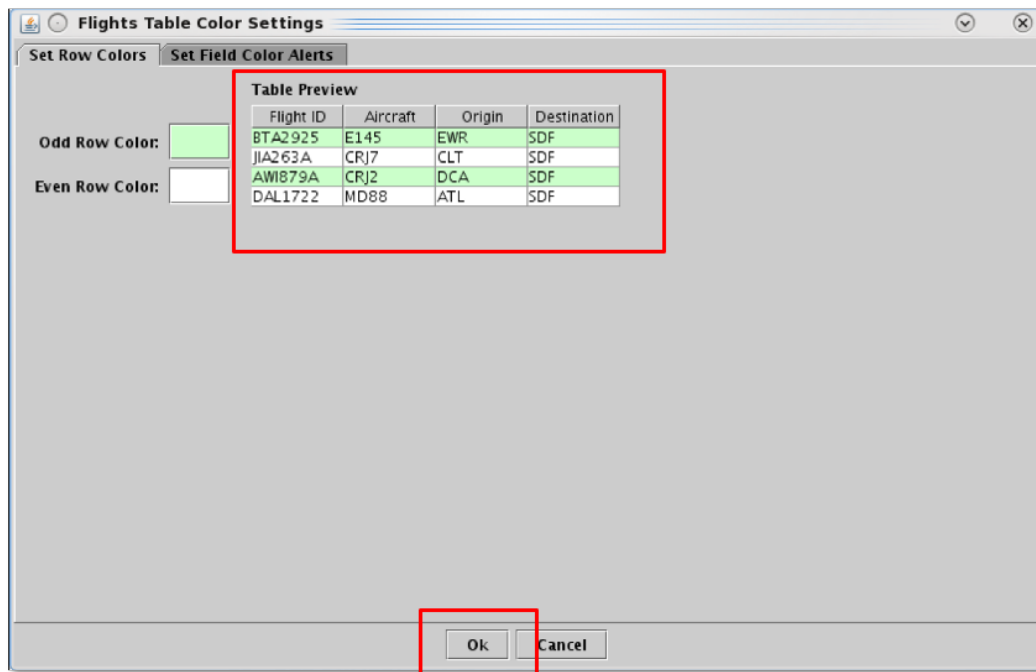


Figure 5.16. Set Row Colors: Alternating row color preview.

Metroplex Planner - DAL Flights Table Rows: 1273 at 22:57 Z

Search Clear

Flight ID	Arr/De	Origin	Dest	Beacon Code	AC Type	Gate	Rwy	Dep Fix	Dep Gate	Arr Fix	Flight Status	Gate Time	Sp
SKW2974	A	OKC	DFW	5230	CRJ7	B35	35C			VKTRY	In	09/22:30	09
AAL1630	D	DFW	ATL	6241	A319	A16	17R	HANUH	EAST	HOBTT	Departed	09/17:30	09
ENY3937	D	DFW	BMI	3676	E135	D11	35L	AKUNA	NORTH		Departed	09/21:35	09
SWA393	A	PHX	DAL	UNK	B737	2	E31L	ECLPS		SEEV	Scheduled_In	E10/02:58	E10
SWA6812	D	DAL	ECP	2322	B738	17	E31L	HANUH	EAST		Departed	09/18:02	09
N241CT	A	IXD	DAL	1750	WW24	DAL_B	13R			SEEV	In	09/17:22	09
AAL1450	A	PHL	DFW	7145	B738	A10	35R	MXE		SEEV	In	09/20:30	09
AAL684	A	PHX	DFW	2666	A321	A18	E36L	BROAK		VKTRY	Enroute_Arr	E10/00:50	E10
AAL1310	D	DFW	DCA	3467	A319	A8	17R	TRRCH	EAST	WEEDU	Departed	09/15:23	09
AAL1233	A	SMF	DFW	3356	B738	C11	17C	RALEY		UKW	In	09/16:18	09
DLX92	A	DAL	FTW	5172	LJ60	GA2	E16				Term_Area_Arr	E09/23:09	E09
ENY3783	A	MMMM	DFW	3257	E135	D10	35C			FEVER	In	09/21:30	09
N414M	D	FWS	TME	UNK	C414	GA1	E17R	NELYN	SOUTH		Departed	09/18:05	09
AAL2509	A	JAX	DFW	1036	A319	A9	E35R			BEREE	On_Final	E09/23:11	E09
AAL2748	A	SEA	DFW	6631	B738	C22	17C	SUMMA		UKW	In	09/16:44	09
AAL387	A	MMGL	DFW	3210	A319	D29	35C			FEVER	In	09/21:26	09
SWA12	A	HOU	DAL	4031	B737	17	13L	MAJJK		SEEV	In	09/15:03	09
SWA1122	D	DAL	LAS	UNK	B738	7	E31R	TYGGR	WEST	KADDY	Scheduled_Out	E10/00:55	E10
N553RA	A	FTW	FTW	UNK	C172	GA2	E16	TYGGR	WEST	JEN	In	09/22:43	09
AAL2824	D	DFW	TUS	2253	A319	A13	17R	RBBIT	WEST		Departed	09/17:15	09
SKW2983	A	SAF	DFW	2603	CRJ7	E37A	17C			UKW	In	09/15:25	09
N128AS	A	CRP	DAL	2707	BE20	DAL_B	13L			CQY	In	09/15:01	09

Figure 5.17. Flights Table: Alternating row colors.

5.1.3.3.2 Set Field Color Alerts

Use the “Set Field Color Alerts” tab in the Flights Table Color Settings window to set cell colors for selected fields.

Fields to which color alerts can be applied are listed in Table 5.3.

Table 5.3. Flights Table: Set Field Color Alerts

Field	Description	Options
Flight Status	Flight Status	Enter or Select: <i>Scheduled_Out</i> <i>Pushback</i> <i>Out</i> <i>Taxiing_AMA</i> <i>In_Queue</i> <i>Departured</i> <i>Scheduled_In</i> <i>Enroute_Arr</i> <i>Term_Area_Arr</i> <i>On_Final</i> <i>On</i> <i>In_Ramp</i> <i>In</i> <i>Return_to_Gate</i> <i>Suspended</i> <i>Cancelled</i> <i>Unknown</i>
Has Closed Dep Fix	Assigned Departure Fix is closed.	Select: <i>Yes</i> <i>No</i>
Has Gate Conflict	Assigned parking gate has a conflict.	Select: <i>Yes</i> <i>No</i>
Has Ground Stop	Destination is subject to a Ground Stop.	Select: <i>Yes</i> <i>No</i>
Is Hidden	Flight is hidden	Select: <i>Yes</i> <i>No</i>
Has MIT	Flight is subject to a Miles-in-Trail restriction (Fix, Destination, or Jet Route).	Select: <i>Yes</i> <i>No</i>
Has Fix MIT	Departure Fix is subject to a Miles-in-Trail restriction.	Select: <i>Yes</i> <i>No</i>
Has Destination MIT	Destination is subject to a Miles-in-Trail restriction.	Select: <i>Yes</i> <i>No</i>

Has Jet Route MIT	Jet Route is subject to a Miles-in-Trail restriction.	Select: Yes No
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To Set Field Color Alerts in the Flights Table:

Step 1: Select the “Table Color Settings” icon (Figure 5.7) in the toolbar to open the “Flights Table Color Settings” window.

Step 2: Select the “Set Field Color Alerts” tab (Figure 5.18).

Note: *Color selections for several fields may be preset but can be modified (Figure 5.18).*

Step 3: On a new row, select a variable from the dropdown list in the “Field” column (e.g., “Flight Status” in Figure 5.18).

Note: *If a new row is not available, select “Add Fields” (Figure 5.18).*

Step 4: Select an operator from the dropdown list in the “Operator” column (e.g., “=” in Figure 5.19).

Step 5: Select a value from the dropdown list in the “Value” column (e.g., “Taxiing_AMA” in Figure 5.19).

Step 6: Select the color box to open the “Choose Color” window (Figure 5.19).

Step 7: On the “Swatches” tab in the “Choose Color” window, use the mouse to select a color (e.g., green in Figure 5.20).

Step 8 (Optional): If necessary, use the other four color-palette tabs (HSV, HSL, RGB, CMYK) to refine the color selection.

Note: *In the “Preview” section below the color chart, the previous color (white in Figure 5.20) and a preview of the newly selected color (green in Figure 5.20) are displayed.*

Step 9: Select “OK” to return to the “Set Field Color Alerts” tab (Figure 5.20).

Note: *The selected color is shown on the Set Field Color Alerts tab (green in Figure 5.21).*

Note: *If preferred, follow the same steps to add/modify other field color alerts.*

Step 10: Select “OK” to close the Flights Table Color Settings window and apply the color change(s) (Figure 5.21). Updated color selections are shown in the Flights Table (Figure 5.22).

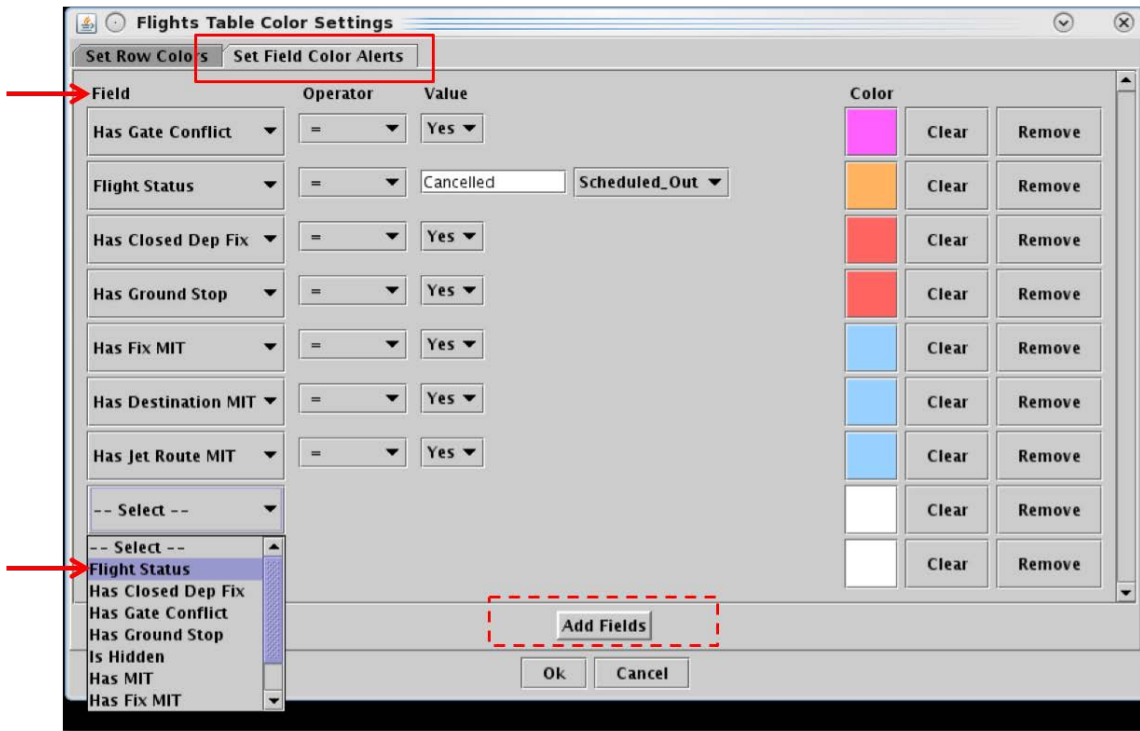


Figure 5.18. Flights Table Color Settings: Set Field Color Alerts tab.

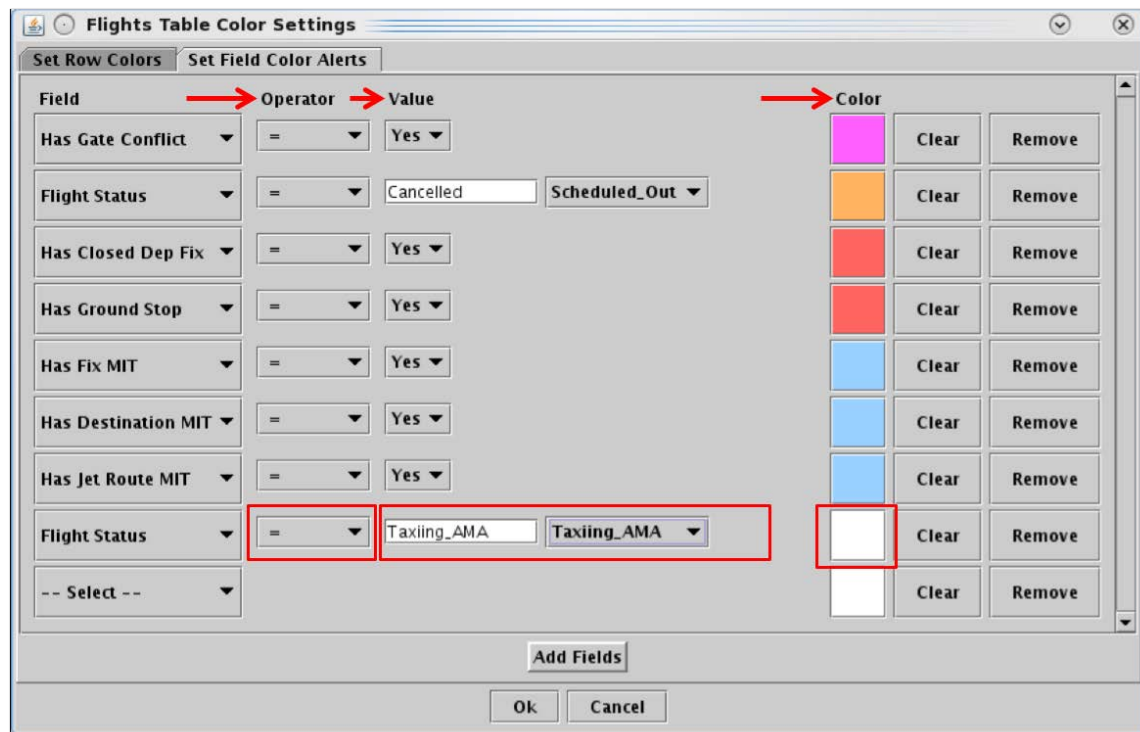


Figure 5.19. Set Field Color Alerts: Select Field, Operator, and Value.

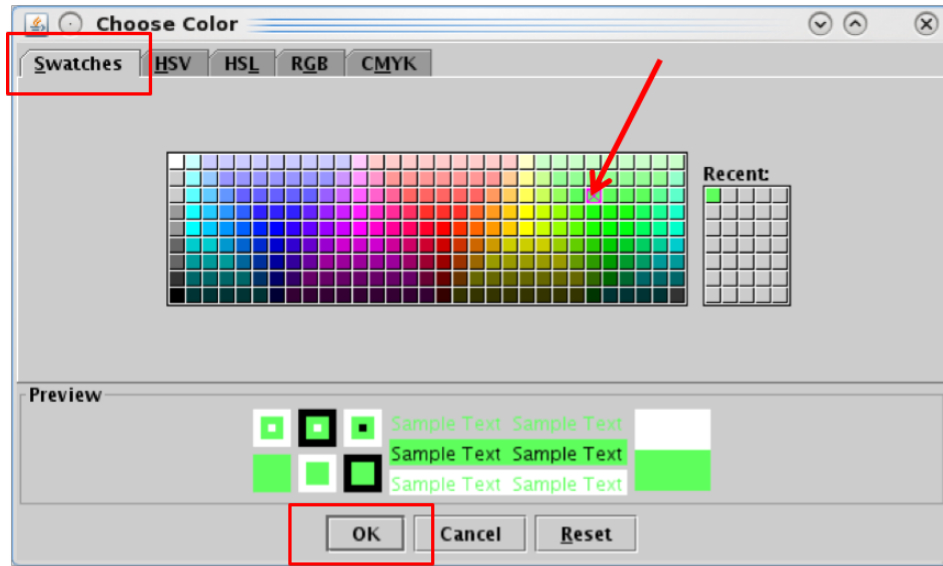


Figure 5.20. Use the “Swatches” tab to select a color. Use the HSV, HSL, RGB, or CMYK color palettes to refine the color selection.

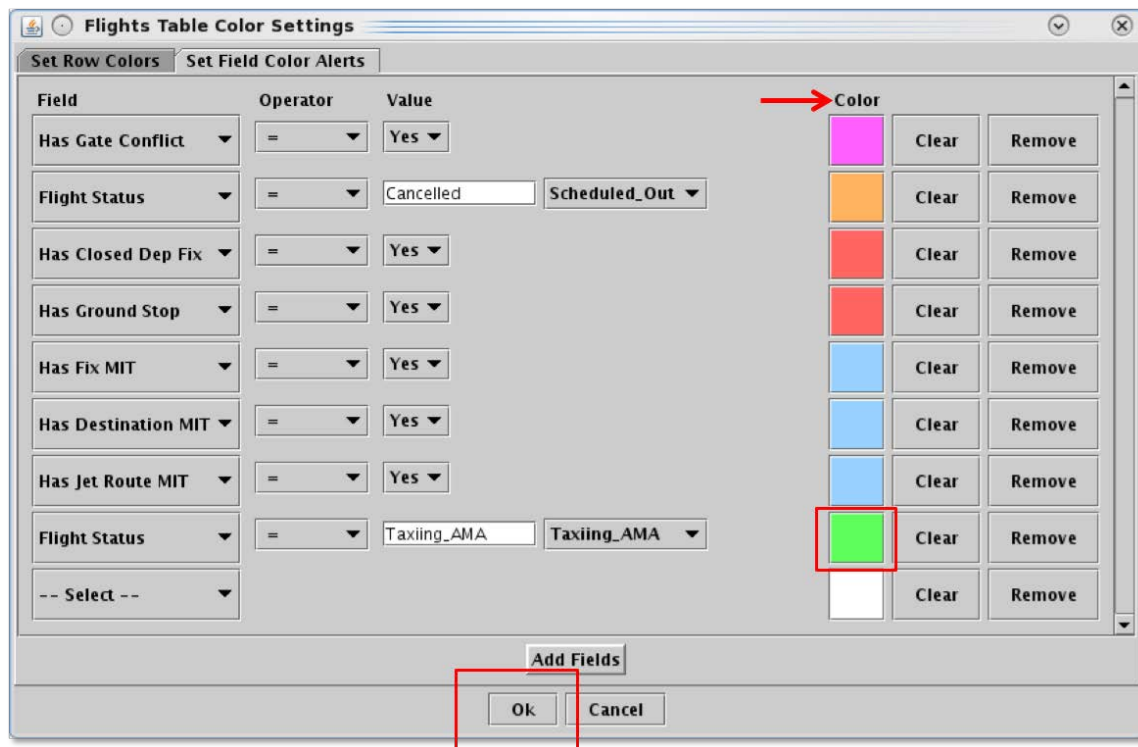


Figure 5.21. Set Field color Alerts: Newly selected color is displayed (in this example, green).

Metroplex Planner - DAL Flights Table Rows: 1332 at 17:48 Z

Search Clear

Flight ID	Arr/Dep	Origin	Dest	Beacon Code	AC Type	Gate	Rwy	Dep Fix	Dep Gate	Arr Fix	Flight Status ▲	Gate Time
EJA428	D	TKI	MTH	0540	E55P	GA1		ZERLU	EAST		Suspended	
N6081E	D	TKI	MEZ	UNK	P46T	GA1		TRRCH	EAST		Suspended	
N310U	A	BED	TKI	UNK	F2TH	GA1				SEEV	Suspended	
N926JS	D	DAL	LAL	UNK	E55P	DAL_B		THHOR	EAST		Suspended	
ENY3627	D	DFW	SDF	3623	E135	B31	E17R	ZERLU	EAST	CHER	Taxiing_AMA	13/17:34
AAL701	D	DFW	CLT	2320	A321	A20	E17R	TRRCH	EAST	FILPZ	Taxiing_AMA	13/17:41
AAL2684	D	DFW	MMUN	2312	B738	C8	E18L	DARTZ	SOUTH		Taxiing_AMA	13/17:33
SKW3031	D	DFW	EGE	3427	CRJ7	E23B	E18L	BLECO	NORTH		Taxiing_AMA	13/17:32
ENY3740	D	DFW	DSM	3653	E135	D6	E18L	BLECO	NORTH		Taxiing_AMA	13/17:29
AAL2736	D	DFW	EW	3453	B738	A11	E17R	HANUH	EAST	ARD	Taxiing_AMA	13/17:40
AAL2314	D	DFW	MCO	3655	A321	C31	E17R	THHOR	EAST	LAMMA	Taxiing_AMA	13/17:38
AAL1599	D	DFW	SNA	3401	B738	D31	E18L	RBBIT	WEST		Taxiing_AMA	13/17:42
AAL2635	D	DFW	DEN	3662	A319	A39	E18L	PGLET	WEST	NIIXX	Taxiing_AMA	13/17:39
EJM88	D	DFW	LAS	0513	GLF4	R1E...	E18L	TYGGR	WEST	KADDY	Taxiing_AMA	13/17:45
AAL1115	D	DFW	SFO	0571	B738	C17	E18L	TYGGR	WEST	CEDES	Taxiing_AMA	13/17:36
N995ML	A	MMSD	DFW	2104	GLEX	R1E...	E17C			FEVER	Term_Area_Arr	E13/18:00
ENY4205	A	ABI	DFW	5164	E135	E26	E17C			FEVER	Term_Area_Arr	E13/18:02
SKW2978	A	OMA	DFW	2344	CRJ7	E36	E17C			VKTRY	Term_Area_Arr	E13/18:06
N2378B	A	ASE	DAL	6502	F2TH	DAL_B	E13R	LINDZ		GREGS	Term_Area_Arr	E13/18:12
SWA8812	A	LAS	DAL	1013	B737	2	E13R	COWBY		GREGS	Term_Area_Arr	E13/18:14
N506DR	A	SWI	GKY	UNK	C310	GA1	E16			SEEV	Term_Area_Arr	E13/18:07
DAL1501	A	SLC	DFW	0607	BCS1	E14	E17C			UKW	Term_Area_Arr	E13/18:10
GAJ859	A	APA	DAL	1426	B350	DAL_B	E13R			GREGS	Term_Area_Arr	E13/18:01
SWA6869	A	TPA	DAL	5770	B738	20	E13R			SEEV	Term_Area_Arr	E13/18:00
N537LB	A	EDC	RBD	UNK	SR22	GA1	E13			SEEV	Term_Area_Arr	E13/17:32
ENY3674	A	TYR	DFW	5105	E145	E27A	E17L			BEREE	Term_Area_Arr	E13/18:05
ASH5754	A	ABQ	DFW	2664	CRJ9	B29	E18R	MNZNO		VKTRY	Term_Area_Arr	E13/18:09

Figure 5.22. Flights Table: Field Color Alerts (in this example, Flight Status = Taxiing_AMA is highlighted green).

5.1.3.4 Save for Quick Create

Use “Save for Quick Create” (Figure 5.7) to save Flight Table configuration settings.

To save Flights Table settings:

Step 1: Select the “Save for Quick Create” icon (Figure 5.7) in the toolbar.

Step 2: Enter a file name (e.g., “Tower” Figure 5.23).

Step 3: Select “Save” (Figure 5.23).

Step 4: Select “OK” in the pop-up window (Figure 5.23).

Note: To open a saved configuration, use Create on the Toolbar (Figure 5.24).

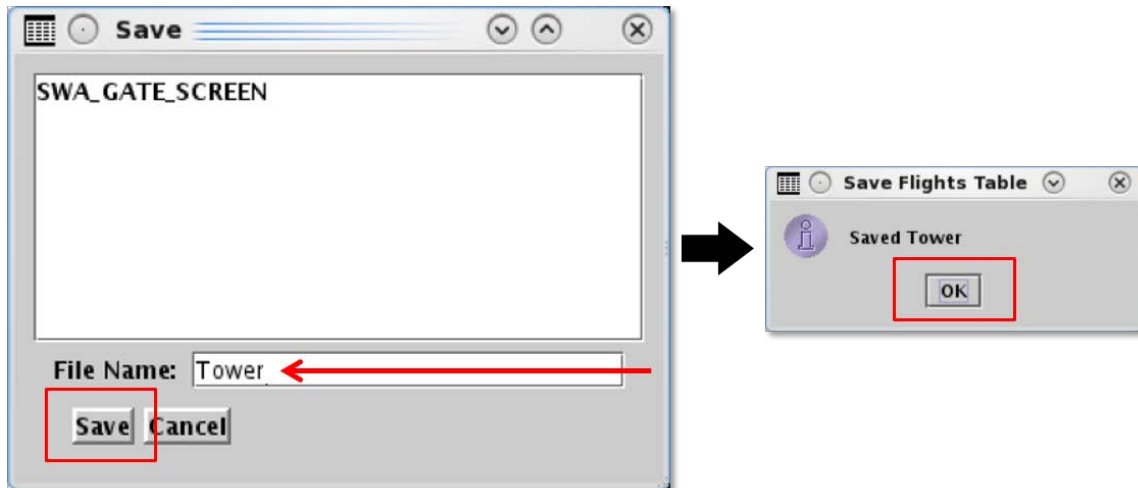


Figure 5.23. Flights Table: Save for Quick Create.

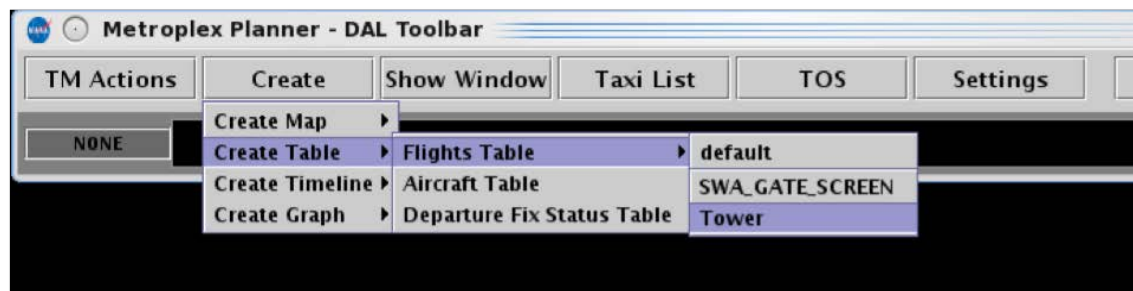


Figure 5.24. Create a Flights Table using a saved configuration (in this example, “Tower”).

5.1.4 Flights Table: Search

Use the “Search” function to search for flights in the Flights Table. Search criteria are listed in Table 5.4.

Table 5.4. Flights Table: Search Criteria

Search Criteria	Example
Departure and Arrival Flights	
Flight number	1456
Air Carrier	AAL
Call Sign	AAL1456
Tail Number	N123AB
“GA” for General Aviation flights	GA
Departure Flights	
3-letter Destination Airport	BOS
Departure Fix <i>*Procedure Names cannot be used for Search.</i>	TRRCH
Departure Gate	EAST
Arrival Flights	
Arrival Fix	SEEVN
3-letter Arrival Airport	DFW

To Search for Flights in the Flights Table:

Step 1: Enter search criteria in the “Search” field on the toolbar (e.g., “North” Departure Gate in Figure 5.25). Flights matching the search criteria are highlighted in the Flights Table, as well as, the:

- Timeline
- Map
- TOS Departure Table (if applicable)

Note: *As text/digits are entered in the search field, flights matching that criteria (full or partial) will be highlighted.*

Alternatively: Select “Clear” to clear the Search field.

Flight ID	Arr/Dep	Origin	Dest	Beacon Code	AC Type	Gate	Rwy	Dep Fix	Dep Gate	Arr Fix	Flight Status	Gate Time
AAL2357	D	DFW	SLL	UNK	B738	A16	E36R	PGLET	WEST	SPANE	Scheduled_Out	E11/00:05
AAL2308	D	DFW	SMF	3661	B738	A22	35L	TYGGR	WEST	SLMMR	Departed	10/15:16
AAL2554	D	DFW	SMF	UNK	B738	C11	E36R	TYGGR	WEST	SLMMR	Scheduled_Out	E10/22:15
N817RA	D	FTW	SNA	2212	GLF4	GA2	E16	ROOOO	WEST		Departed	10/15:06
AAL2779	D	DFW	SNA	UNK	B738	A36	E36R	ROOOO	WEST		Scheduled_Out	E10/23:45
AAL2659	D	DFW	SNA	UNK	B738	A28	E36R	ROOOO	WEST		Scheduled_Out	E10/21:40
AAL1599	D	DFW	SNA	3425	B738	A17	36R	PGLET	WEST		Departed	10/17:38
AAL1158	D	DFW	SNA	3660	B738	A10	36R	ROOOO	WEST		Departed	10/15:36
N921MT	D	DAL	SNA	2267	GLEK	DAL_8	31R	TYGGR	WEST		Departed	10/18:32
EJA609	D	DFW	SPI	2345	C56X	R1E31	35L	AKUNA	NORTH		Departed	10/16:15
ENY3353	D	DFW	SPI	3652	E145	E30	35L	AKUNA	NORTH		Departed	10/17:24
ENY4204	D	DFW	SPS	UNK	E135	E248	E36R	PGLET	WEST		Scheduled_Out	E10/21:50
MRA660	D	DFW	SPS	5104	C208	UPS10	35L	PGLET	WEST		Departed	10/13:10
N6154W	D	ADS	SRC	UNK	SR22	GA1	E15	ZERLU	EAST		Departed	10/19:19
SWA835	D	DAL	STL	2224	B737	17	E31L	AKUNA	NORTH	KOOOP	Departed	10/18:32
AAL812	D	DFW	STL	3663	B738	C6	35L	AKUNA	NORTH	KOOOP	Departed	10/17:33
SWA1450	D	DAL	STL	2236	B737	19	E31L	AKUNA	NORTH	KOOOP	Departed	10/14:11
AAL1381	D	DFW	STL	3663	A319	A13	35L	AKUNA	NORTH	KOOOP	Departed	10/15:19
AAL2761	D	DFW	STL	UNK	B738	A14	E35L	AKUNA	NORTH	KOOOP	Scheduled_Out	E10/23:29
AAL1616	D	DFW	STL	2235	A319	A13	35L	AKUNA	NORTH	KOOOP	Departed	10/19:52
N888WY	D	DAL	STP	6231	H258	DAL_8	E31R	BLECO	NORTH		Departed	10/17:00
N525KJ	D	DFW	STS	UNK	C25C	R1E31	E36R	TYGGR	WEST		Scheduled_Out	E10/23:30
N566KA	D	TKJ	SUX	UNK	BE30	GA1	E18	GRABE	NORTH		Scheduled_Out	E10/22:30
ENY3588	D	DFW	SWO	UNK	E145	E27B	E36R	ROOOO	WEST		Scheduled_Out	E10/23:25
N214MD	D	ADS	T89	3421	GL5T	GA1	E15	RBBIT	WEST		Departed	10/14:07
N110M	D	DTO	TDW	UNK	BE9L	GA3	E18	PGLET	WEST		Departed	10/19:36
N123HL	D	FTW	TEX	UNK	C441	GA2	E16	PGLET	WEST		Departed	10/13:45
N214TG	D	ADS	TEX	0515	LJ45	GA1	E15	PGLET	WEST		Departed	10/12:56
AAL2190	D	DFW	TJSJ	UNK	B738	A19	E36R	ROOOO	WEST	SAALR	Scheduled_Out	E10/23:40
N122EP	A	3E3	TKJ	UNK	SR22	GA1	E18			YEACR	Enroute_Arr	E10/21:03

Figure 5.25. Flights Table: Search results highlighted in cyan (in this example, “North” Departure Gate flights).

5.1.5 Flights Table: Right-Click Menu

Right-click menu options are described in Section 6.9.

5.2 Aircraft Table

**Note: The Aircraft Table is not available for all airports.*

The Aircraft Table displays information about aircrafts, their current status, and current location (Figure 5.26). Only one Aircraft Table can be open at a time. Like the Flights Table, it is updated every minute.

Number of Aircraft in the Table

Last Refresh Time (Zulu)

Toolbar

Tail	AC Type	Use	Active	Current Id	Next Id	Current Gate	Next Gate	Current Status	Next Status	At Operating Airport
N763US	A319	Arrival	false	AAL1067	AAL888	C27	C27	Schedule...	Schedule...	false
N940AN	B738	Arrival	false	AAL1927	AAL2395	D20	D20	Schedule...	Schedule...	false
N445UP	B752	Arrival	true	UPS1349		UPS10		Enroute_Arr		false
N288NN	E170	Arrival	false	ENY3354	ENY3473	B14	B14	Schedule...	Schedule...	false
N597NN	UNKN	Arrival	false	JIA5548	JIA5211	B27	B27	Schedule...	Schedule...	false
N277NN	E170	Arrival	false	ENY3762	ENY3400	B14	B14	Schedule...	Schedule...	false
N...			true	AAL2366		C33		Enroute_Arr		false
N...			false	AAL1094	AAL2471	A38	A38	Schedule...	Schedule...	false
N...			false	ENY3527	ENY4178	B7	B7	Schedule...	Schedule...	false
N...			true	DAL31		E14		On		true
N...			false	ENY3986	ENY3497	D33	D33	Schedule...	Schedule...	false
N596NN	UNKN	Arrival	false	JIA5279	JIA5517	B19	B19	Schedule...	Schedule...	false
N771SK	CRJ7	Arrival	false	SKW3007	SKW3045	E30	E30	Schedule...	Schedule...	false
N343PN	B738	Arrival	false	AAL1670	AAL1556	A17	A17	Schedule...	Schedule...	false
N605KS	E145	Arrival	false	ENY3315	ENY3963	E27B	E28	Schedule...	Schedule...	false
N707SK	CRJ7	Arrival	false	SKW3013	SKW3031	E37A	E37A	Schedule...	Schedule...	false
N812NN	B738	Departure	true	AAL1219	AAL2345	C7	A8	Pushback	Schedule...	true
N851AE	E135	Departure	false	ENY3783	ENY3783	B37	D8	Schedule...	Schedule...	true
N800NN	B738	Departure	false	AAL2533		A14		Schedule...		true
N813NN	B738	Departure	false	AAL2014		A39		Schedule...		true
N841AE	E135	Departure	false	ENY3307	ENY3318	B1	B2	Schedule...	Schedule...	true
N268NN	E170	Departure	false	ENY3399		B22		Schedule...		true
N402AN	A21N	Departure	true	AAL788		C8		Departed		false
N852AE	E135	Departure	false	ENY3898		E25B		Schedule...		true
N9011P	A319	Departure	true	AAL2587	AAL2316	A8	C12	Departed	Schedule...	false
N9029F	A319	Departure	false	AAL1018	AAL1018	A15	C11	Schedule...	Schedule...	true
N810NN	B738	Departure	false	AAL2240		A11		Schedule...		true
N223NN	E170	Departure	false	ENY3320	ENY3320	B5	B15	Schedule...	Schedule...	true

Figure 5.26. Aircraft Table.

Use the “Create” menu on the Toolbar to create a new Aircraft Table (see Section 3.2.2). Use the “Show Window” menu on the Toolbar to bring the Aircraft Table to the front of other windows (see Section 3.3).

5.2.1 Aircraft Table: Select an Aircraft

To select an aircraft, click on a row in the Aircraft Table. If the aircraft is associated with a current flight, the flight will be highlighted throughout the Metroplex Planner user interface, including the timeline, map, Flights Table, and TOS Departure Table (if applicable). See Section 5.1.1 for an example in the Flights Table.

5.2.2 Aircraft Table: Sort

Data in the Aircraft Table can be sorted using the same procedure described for the Flights Table (see Section 5.1.2).

5.2.3 Aircraft Table: Toolbar

Two icons are displayed on the Aircraft Table toolbar (Figure 5.27):

- Show/Hide Columns (Section 5.2.3.1)
- Table Color Settings (Section 5.2.3.2)

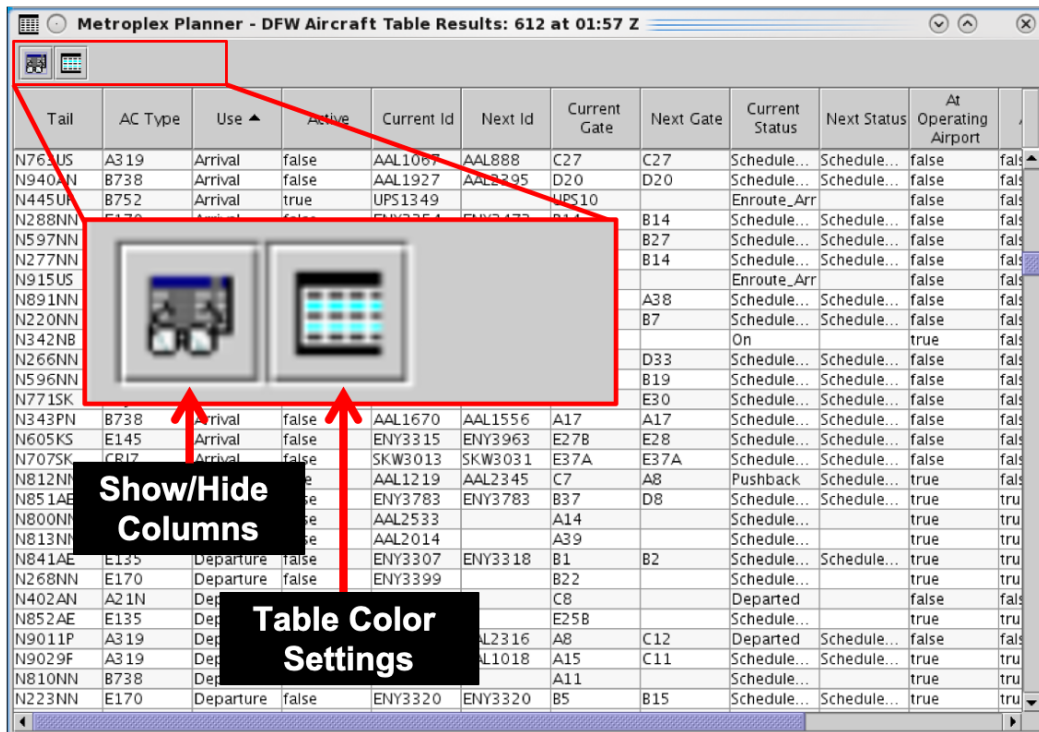


Figure 5.27. Aircraft Table: Toolbar.

5.2.3.1 Show/Hide Columns

Use “Show/Hide Columns” (Figure 5.27) to select which columns of information will be included, and in what order they will be shown, in the Aircraft Table. Columns can be added, removed, and reordered using the same procedure described for the Flights Table (see Section 5.1.3.2).

The information columns that can be included in the Aircraft Table are listed in Table 5.5.

Table 5.5. Aircraft Table: Show/Hide Columns

Column Header	Description
AC Type	International Civil Aviation Organization (ICAO) type of aircraft (i.e., B738: Boeing model 737-800).
Tail	Aircraft tail number.

Last Known Gufi	Last known Globally Unique Flight Identifier (GUFID).	
Repositioned	“True” if the flight is repositioned to another part of the airport in the Ramp Traffic Console (RTC) interface (<i>where available</i>). “False” if not.	
Reposition Destination	Location on the airport surface, if selected in the Ramp Traffic Console (RTC) interface (<i>where available</i>).	
Last Known Gate	Last known parking gate.	
Last Known State	• Scheduled • Pushback • Ramp_Txi • Taxi_Out • In_Queue • Off • En_Route • Terminal_Airspace • On_Final • Taxi_In • In_Gate • Suspended	
At Operating Airport	“True” if current flight status is: • Scheduled_Out • Pushback • Taxiing_AMA • In_Queue • On • Out • Taxi_In • In • In_Ramp • Retrun to Gate	“False” if current flight status is: • Departed • Enroute_Arr • On_Final • Scheduled_In • Suspended • Term_Area_Arr • Cancelled • Unknown
At Gate	“True” if aircraft is at parking gate; otherwise “False”.	
Last Known Lat	Aircraft’s last known Latitude.	
Last Known Lon	Aircraft’s last known Longitude.	
Use	Flight use: • Arrival • Departure • None	
Active	“True” if flight is Active: <i>Active Arrivals:</i> • Enroute_Arr	“False” if flight is Inactive: • Scheduled_Out • Scheduled_In

	• Term_Area_Arr • On_Final • Taxi_In • In_Ramp <i>Active Departures:</i> • Pushback • Out • Taxiing_AMA • In_Queue • Departed • Return_to_Gate	• In • Suspended • Cancelled • Unknown
Previous Id	Call sign of previous flight.	
Next Id	Call sign of future flight.	
Current Id	Call sign of current flight.	
Current Status	Flight Status: • Scheduled Out: A departure flight that has not yet pushed back from the gate. • Pushback: A departure flight that is pushing back. • Out: A departure flight that is taxiing in the Ramp Area. • Taxiing AMA: A departure flight that is taxiing in the Airport Movement Area (AMA). • In Queue: A departure flight inside the queue detection box of the assigned runway. • Departed: A departure flight that is airborne. • Scheduled In: An arrival flight that is not yet being tracked. • Enroute Arr: An arrival flight that is in the enroute airspace. • Term Area Arr: An arrival flight that is inside the terminal airspace. • On Final: An arrival flight that is on final approach. • On: An arrival flight that has landed. • In Ramp: An arrival flight that is taxiing in the Ramp. • In: An arrival flight that is parked at the gate. • Return to Gate: A departure that is returning to the gate, after pushing back. • Suspended: A departure flight that was scheduled to have already departed, but no updates have been received. • Cancelled: A flight that has been cancelled by the airline. • Unknown: A flight with an unknown status. <i>*Not all types are available at all airports.</i>	
Next Status	Flight Status of next flight.	

Previous Status	Flight Status of previous flight.
Previous Gate	Previous parking gate
Next Gate	Future parking gate
Current Gate	Current parking gate
Current Key	Current Key: Call sign, origin airport, destination airport, date, departure time, arrival time.
Previous Key	Current Key: Call sign, origin airport, destination airport, date, departure time, arrival time.
Next Key	Current Key: Call sign, origin airport, destination airport, date, departure time, arrival time.
Hidden	The value is “Hidden” if the flight is removed from the display via “Delete Datablock” or via “Remove Flight Strip” on the Ramp Traffic Console (RTC). Otherwise, blank.

5.2.3.2 Table Color Settings

Use “Table Color Settings” (Figure 5.27) to set an alternate row color in the Aircraft Table. Unlike other tables, Field Color Alerts are not available in the Aircraft Table.

5.2.3.2.1 Set Row Colors

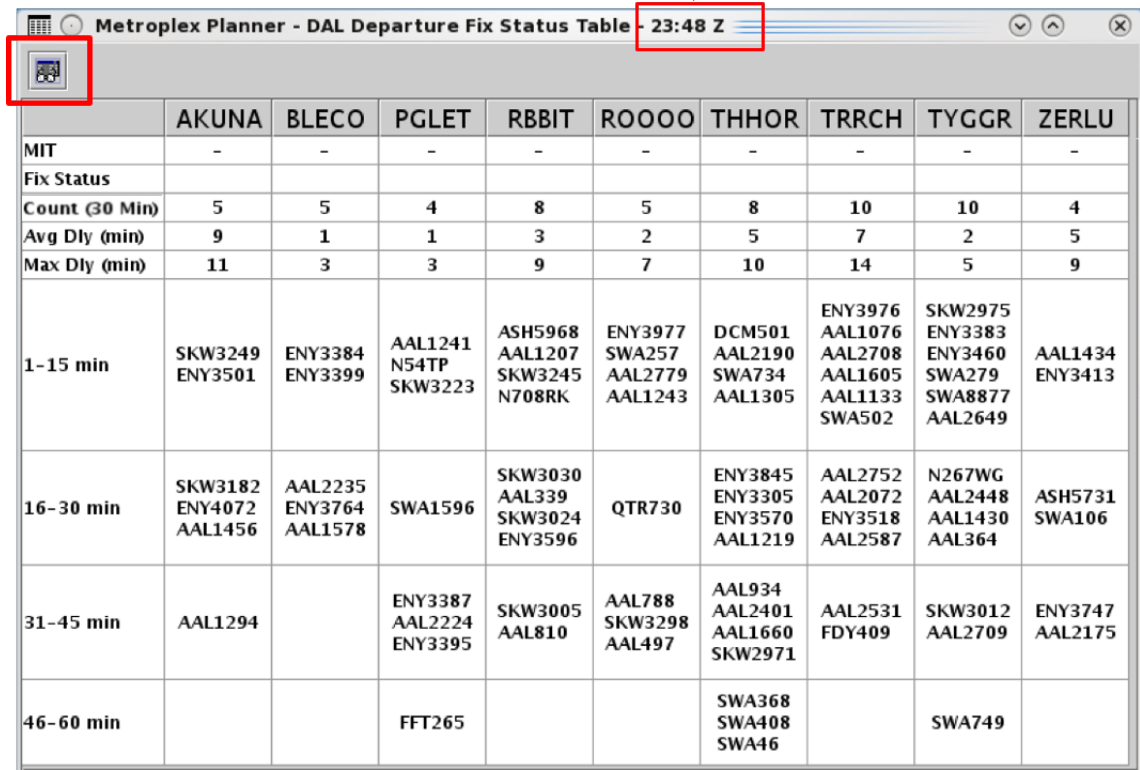
Use the “Set Row Colors” tab in the Aircraft Table Color Settings window to set an alternate row color in the Aircraft Table. Follow the same steps described for the Flights Table (see Section 5.1.3.3.1).

5.3 Departure Fix Status Table

The Departure Fix Status Table displays predicted demand at each Departure Fix in the terminal area. The number of flights expected at each Departure Fix, identified by their call sign, are displayed in 15-minute increments, for up to two hours (Figure 5.28).

Like the Flights and Aircraft Tables, the Departure Fix Table updates every minute. Only one Departure Fix Status Table can be opened at a time.

Last Refresh Time (Zulu)



	AKUNA	BLECO	PGLET	RBBIT	ROOOO	THHOR	TRRCH	TYGGR	ZERLU
MIT	-	-	-	-	-	-	-	-	-
Fix Status									
Count (30 Min)	5	5	4	8	5	8	10	10	4
Avg Dly (min)	9	1	1	3	2	5	7	2	5
Max Dly (min)	11	3	3	9	7	10	14	5	9
1-15 min	SKW3249 ENY3501	ENY3384 ENY3399	AAL1241 N54TP SKW3223	ASH5968 AAL1207 SKW3245 N708RK	ENY3977 SWA257 AAL2779 AAL1243	DCM501 AAL2190 SWA734 AAL1305	ENY3976 AAL1076 AAL2708 AAL1605 AAL1133 SWA502	SKW2975 ENY3383 ENY3460 SWA279 SWA8877 AAL2649	AAL1434 ENY3413
16-30 min	SKW3182 ENY4072 AAL1456	AAL2235 ENY3764 AAL1578	SWA1596	SKW3030 AAL339 SKW3024 ENY3596	QTR730	ENY3845 ENY3305 ENY3570 AAL1219	AAL2752 AAL2072 ENY3518 AAL2587	N267WG AAL2448 AAL1430 AAL364	ASH5731 SWA106
31-45 min	AAL1294		ENY3387 AAL2224 ENY3395	SKW3005 AAL810	AAL788 SKW3298 AAL497	AAL934 AAL2401 AAL1660 SKW2971	AAL2531 FDY409	SKW3012 AAL2709	ENY3747 AAL2175
46-60 min			FFT265			SWA368 SWA408 SWA46		SWA749	

Figure 5.28. Departure Fix Status Table.

5.3.1 Configure Window

Use “Configure Window” (Figure 5.28) to select Departure Fixes and set color alerts in the Departure Fix Status Table.

To Configure the Departure Fix Status Table:

Step 1: Select the “Configure Window” icon in the toolbar (Figure 5.28) to open the Departure Fix Configuration window.

Step 2: Show/Hide Fixes: Select Departure Fixes to include in the table (Figure 5.29).

Step 3: Show/Hide Properties: Select properties to display in table. Choose from (Figure 5.29):

- Departure Fix subject to a Miles-in-Trail (MIT) restriction
- Fix Status (closed/alternate) (automatically highlighted in red)
- Count (in the next 30 minutes)
- Average Delay (in minutes)
- Maximum Delay (in minutes)

Step 4: Time Interval: Set the time interval (up to 120 minutes). Time is displayed in 15-minute increments (Figure 5.29).

Step 5: Select “Add Numeric Threshold” to set the criteria for color-coding (Figure 5.29):

- Select to which Fix (or, all Fixes) to apply the color-coding.
- Select a Property (MIT, Count, Avg Delay, or Max Delay).
- Enter minimum and maximum values (in units of *nm*, count of flights, or minutes of delay)
- Click on the color box to select a color.

Step 6: Select “Ok” to close the Configuration window (Figure 5.29).

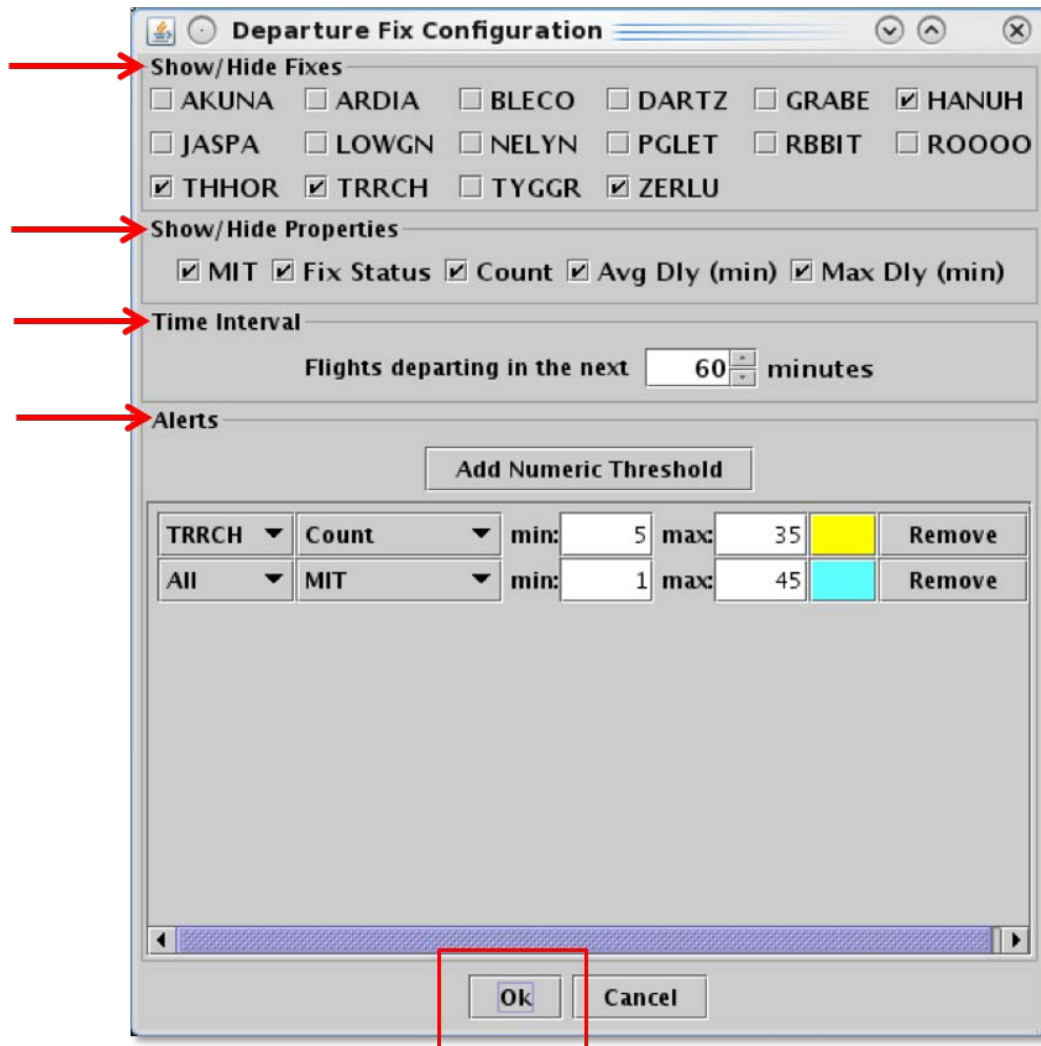


Figure 5.29. Departure Fix Status Table: Configuration Window.

For example, in Figure 5.30, based on the color alert selected in the Configuration window: Departure Fixes subject to MIT restrictions are highlighted in cyan and departure counts between 5 and 35 flights are highlighted in yellow. Departure Fix closures, shown with the alternate fix, are automatically highlighted in red.

Metroplex Planner - DAL Departure Fix Status Table - 00:01 Z				
	HANUH	THHOR	TRRCH	ZERLU
MIT	-	-	25	-
Fix Status	->TRRCH	->TRRCH		
Count (30 Min)	0	0	15	3
Avg Dly (min)	0	0	5	4
Max Dly (min)	0	0	10	9
1-15 min			AAL2752 AAL2072 ENY3845 AAL2401 ENY3518 DCM501 AAL1660 SWA502 FDY409 ENY3570 AAL1219	AAL2175 ASH5731
16-30 min			AAL2531 AAL934 SKW2971 AAL2587	ENY3747
31-45 min			SWA368 SWA956 SWA408 SWA46	
46-60 min				

Figure 5.30. Departure Fix Status Table: Shown with color alerts for MIT restrictions, Departure Counts, and Departure Fix closures.

5.4 Trajectory Option Set (TOS) Departure Table

Note: TOS functionality varies by version of the Metroplex Planner.

In Trajectory Option Set (TOS) Operations, the ATD-2 system evaluates alternative departure routes and facilitates coordination between the Flight Operator and ATC to select flights for rerouting.

A TOS Departure Table displays information about flights, their “top” reroute option, and coordination status between the Flight Operator and ATC. TOS Departure Tables are available whether TOS Submissions are active or not.

To open the TOS Departure Table, select “TOS” on the Toolbar (Figure 5.31).

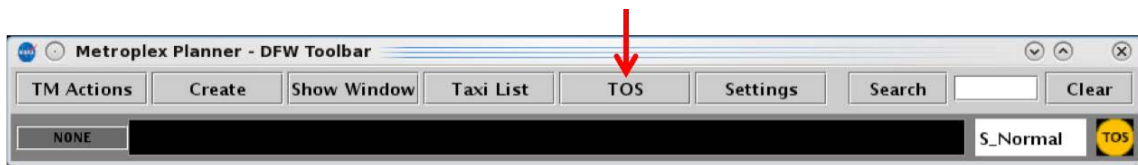


Figure 5.31. Trajectory Option Set (TOS).

When multiple TOS Departure Tables are open at once, they are displayed within a *single* TOS Operations window. Each table is sorted, filtered, and color-coded independently of the others. In this example, *three* TOS Departure tables are open in the TOS window (Figure 5.32).

Last Refresh Time (Zulu)

↓

Metroplex Planner - DFW TOS Operations at 17:26 Z

Search Clear

Table 1

TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R AND Eligibility State = Potential

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	CPDLC	EOBT	ETOT	Top CDR	Top ETOT	Top Total Delay Savings Off	Top Agg DFW Del Sav	Flight Status	TMI Info	Eligibility State	Coord State
AAL1331	E18L	LAX	KDFW KAT Z22 BRH	WEST		12/17/10	12/17	DFWLAX1N	17:31	0	0.0	Taxiing_A		Potential	Not Submitted
ENY3777	E17R	LEX	KDFW TRYTN3 LOOS	EAST		12/17/10	12/17	DFWLAX1N	17:29	-10	-149.1	Taxiing_A	25M FixCld	Potential	Not Submitted
JAS211	E17R	DAY	KDFW ZACHH3 BSKA	EAST		12/17/10	12/17	DFWDAY1N	17:31	-19	-146.8	Taxiing_A	25M FixCld	Potential	Not Submitted
JAS216	E17R	PHS	KDFW MRSSH2 ZALE	EAST		12/17/10	12/17	DFWPHS1S	17:29	-5	-149.4	Taxiing_A	25M	Potential	Not Submitted
ENY3403	E17R	MSY	KDFW MRSSH2 ZALE	EAST		12/17/10	12/17	DFWMSY1S	17:31	-14	-147.1	Taxiing_A	25M	Potential	Not Submitted
AAL701	E17R	CLT	KDFW TRYTN3 LOOS	EAST		12/17/10	12/17	DFWCLT1N	17:28	0	-138.3	Taxiing_A	25M FixCld	Potential	Not Submitted
AAL125B	E17R	ORD	KDFW AKUNA7 MLC	NORTH	Y	12/17/10	12/17	DFWORD1W	17:35	+1	-17.5	Pushback		Potential	Not Submitted
ENY3306	E17R	GRR	KDFW AKUNA7 MLC	NORTH		12/17/10	12/17	DFWGRR1W	17:37	-9	-18.5	Pushback		Potential	Not Submitted
ENY362B	E17R	JAN	KDFW MRSSH2 MRSS	EAST		12/17/10	12/17	DFWJAN1S	17:32	-25	-146.2	Taxiing_A	25M	Potential	Not Submitted
ENY4162	E18L	LRD	KDFW NELYN6 SAT	SOUTH		12/17/10	12/17	DFWLDR1W	17:38	0	0.0	Pushback		Potential	Not Submitted

Table 2

TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R AND Eligibility State = Candidate

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	CPDLC	EOBT	ETOT	Top CDR	Top ETOT	Top Total Delay Savings Off	Top Agg DFW Del Sav	Flight Status	TMI Info	Eligibility State	Coord State
AAL1009	E17R	BHA	KDFW TRYTN3 L	EAST		12/17/40	12/19/40	DFWBNA1N	17:58	-103	-132.1	Scheduled	25M FixCld	Candidate	Not Submitted
AAL1018	E17R	IND	KDFW ZACHH3 BS	EAST		12/17/34	12/19/06	DFWIND1N	17:48	-78	-135.2	Scheduled	25M FixCld	Candidate	Not Submitted
AAL1148	E17R	BOS	KDFW AKUNA7 M	NOR	Y	12/17/25	12/18/14	DFWBOS1J	17:36	-37	0.0	Pushback	25M FixCld	Candidate	ATC Approved
AAL1630	E17R	ATL	KDFW TRYTN3 L	EAST	Y	12/17/32	12/18/54	DFWATL1N	17:48	-66	-135.2	Scheduled	25M FixCld	Candidate	FO Submitted
AAL1768	E17R	LGA	KDFW TRYTN3 L	EAST	Y	12/17/28	12/18/43	DFWLGA1J	17:47	-56	-135.2	Scheduled	25M FixCld	Candidate	FO Submitted
AAL2025	E17R	MIA	KDFW MRSSH2 ZA	EAST	Y	12/17/29	12/18/48	DFWMIA1S	17:48	-60	-135.2	Scheduled	25M	Candidate	Not Submitted
AAL2114	E17R	MCO	KDFW MRSSH2 ZA	EAST		12/17/39	12/19/11	DFWMCO1S	17:49	-83	-124.3	Scheduled	25M	Candidate	Not Submitted
AAL2420	E17R	TFA	KDFW MRSSH2 ZA	EAST	Y	12/17/40	12/19/29	DFWTFA1S	17:53	-96	-124.2	Scheduled	25M	Candidate	Not Submitted
AAL2509	E17R	JAX	KDFW ZACHH3 BS	EAST		12/17/17	12/18/20	DFWJAX1S	17:37	-42	-129.4	Pushback	25M FixCld	Candidate	Not Submitted
AAL2533	E17R	PHL	KDFW AKUNA7 M	NOR	Y	12/17/40	12/19/35	DFWPHL1J	17:53	-102	0.0	Scheduled		Candidate	ATC Approved
AAL2559	E17R	DTW	KDFW ZACHH3 BS	EAST	Y	12/17/52	12/20/04	DFWDTW1N	18:04	-119	-136.6	Scheduled	25M FixCld	Candidate	FO Submitted
AAL2736	E17R	EWB	KDFW FORCK2 FO	EAST	Y	12/17/41	12/19/23	DFWEWB1J	17:53	-90	-124.2	Scheduled	25M FixCld	Candidate	FO Submitted
ASH5767	E17R	VPS	KDFW FORCK2 FO	EAST		12/17/26	12/18/25	DFWVPS1S	17:43	-42	-129.4	Scheduled	25M FixCld	Candidate	Not Submitted
ENY3345	E17R	CMH	KDFW ZACHH3 BS	EAST		12/17/16	12/18/08	DFWCMH1N	17:32	-36	-146.0	Taxiing_A	25M FixCld	Candidate	Not Submitted

Table 3

TOS Departure - Coord State = ATC Approved

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	EOBT	ETOT	Total Delay Off	Flight Status	TMI Info	Eligibility State	Coord State	Scratch Pad
AAL1148	E17R	BOS	KDFW AKUNA7 MLC R2	NORTH	12/17/25	12/18/14	+41	Pushback		Candidate	ATC Approved	
AAL2533	E17R	PHL	KDFW AKUNA7 MLC R2	NORTH	12/17/40	12/19/35	+102	Scheduled_Out		Candidate	ATC Approved	
ENY3752	E17R	MEM	KDFW AKUNA7 MLC R2	NORTH	12/17/50	12/20/04	+121	Scheduled_Out		Candidate	ATC Approved	

Add Table

Figure 5.32. TOS Operations Window with multiple TOS Departure Tables.

5.4.1 TOS Departure Table: Flights Included in the Table

Departure flights are included in the TOS Departure Table when all of the following criteria are met:

- The flight's airline or major carrier participates in TOS Operations.
- The flight is *not* an international flight.

- At least one TOS route with an Eligibility State of: “Potential”, “Candidate”, or “Excluded” has been identified for the flight.

Flights not meeting these criteria are filtered out of the TOS Departure Table.

When these criteria are met:

- A flight can appear in the TOS Departure Table up to two hours prior to its predicted takeoff time.
- A flight is removed from the TOS Departure Table upon takeoff. That is, when its Flight Status changes from “In Queue” to “Departed”.

Note that in the *Flight Operator* versions of the Metroplex Planner, flights from *only* that Flight Operator – and their subsidiaries, if any – are included in the TOS Departure Table.

5.4.2 TOS Departure Table: Add/Close Tables

Additional TOS Departure Tables can be added to the TOS Operations window.

To add a TOS Departure Table to the TOS Operations Window:

Step 1: Select “TOS” on the Toolbar to open the TOS Operations window (Figure 5.31).

Step 2: At the bottom of the window, select “Add Table” (Figure 5.33).

Note: A “default” table opens with no filters applied.

Alternatively: If any TOS Departure Table configurations have been saved using the “Save for Quick Create” function (Section 5.4.6), select from one of the saved configurations (e.g., “DFW_Tower” in Figure 5.34).

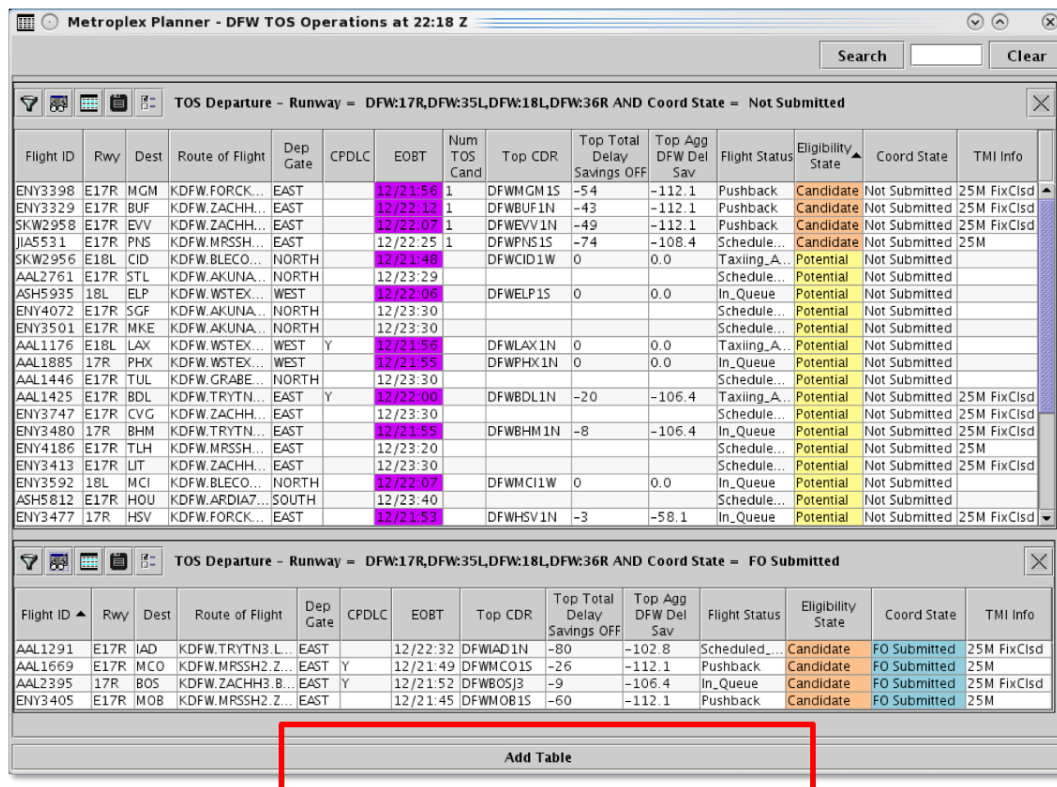


Figure 5.33. Select “Add Table” to add a new TOS Departure Table.

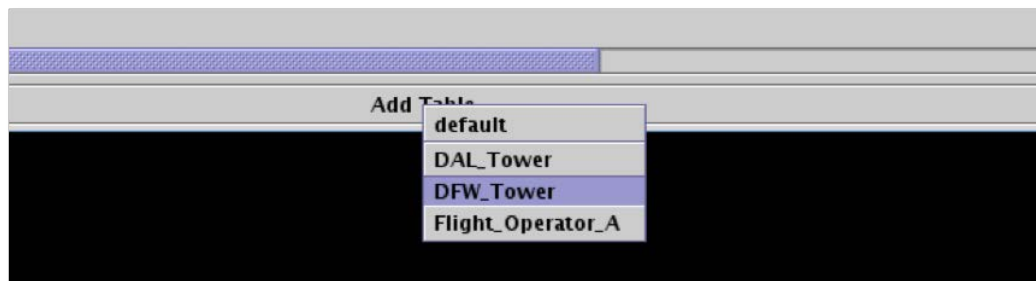


Figure 5.34. TOS Departure Table: Select “Add Table” and choose “default” or a saved configuration.

To Close a TOS Departure Table:

Step 1: Select “TOS” on the Toolbar to open the TOS Operations window (Figure 5.31).

Step 2: Select the “X” in the upper right corner of the individual table to close it (Figure 5.35). If necessary, use the horizontal scroll bar at the bottom of the window to scroll to the right until the “X” is visible.

TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R AND Coord State = Not Submitted

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	CPDLC	EOBT	Num TOS Cand	Top CDR	Top Total Delay Savings OFF	Top Agg DFW Del Sav	Flight Status	Eligibility State	Coord State	TMI Info
ENY3398	E17R	MGM	KDFW.FORCK...	EAST		12/21:56	1	DFWMGM1S	-54	-112.1	Pushback	Candidate	Not Submitted	25M FixCld
ENY3329	E17R	BUF	KDFW.ZACHH...	EAST		12/22:12	1	DFWBUF1N	-43	-112.1	Pushback	Candidate	Not Submitted	25M FixCld
SKW2958	E17R	EVV	KDFW.ZACHH...	EAST		12/22:07	1	DFWEVV1N	-49	-112.1	Pushback	Candidate	Not Submitted	25M FixCld
JIA5531	E17R	PNS	KDFW.MRSSH...	EAST		12/22:25	1	DFWPNS1S	-74	-108.4	Schedule...	Candidate	Not Submitted	25M
SKW2956	E18L	CID	KDFW.BLECO...	NORTH		12/21:48		DFWCID1W	0	0.0	Taxling_A...	Potential	Not Submitted	
AAL2761	E17R	STL	KDFW.AKUNA...	NORTH		12/23:29					Schedule...	Potential	Not Submitted	
ASH5935	E18L	ELP	KDFW.WSTEX...	WEST		12/22:06		DFWELP1S	0	0.0	In_Queue	Potential	Not Submitted	
ENY4072	E17R	SGF	KDFW.AKUNA...	NORTH		12/23:30					Schedule...	Potential	Not Submitted	
ENY3501	E17R	MKE	KDFW.AKUNA...	NORTH		12/23:30					Schedule...	Potential	Not Submitted	
AAL1176	E18L	LAX	KDFW.WSTEX...	WEST	Y	12/21:56		DFWLAX1N	0	0.0	Taxling_A...	Potential	Not Submitted	
AAL1885	E17R	PHX	KDFW.WSTEX...	WEST		12/21:55		DFWPHX1N	0	0.0	In_Queue	Potential	Not Submitted	
AAL1446	E17R	TUL	KDFW.GRABE...	NORTH		12/23:30					Schedule...	Potential	Not Submitted	
AAL1425	E17R	BDL	KDFW.TRYTN...	EAST	Y	12/22:00		DFWBDL1N	-20	-106.4	Taxling_A...	Potential	Not Submitted	25M FixCld
ENY3747	E17R	CVG	KDFW.ZACHH...	EAST		12/23:30					Schedule...	Potential	Not Submitted	25M FixCld
ENY3480	E17R	BHM	KDFW.TRYTN...	EAST		12/23:55		DFWBHM1N	-8	-106.4	In_Queue	Potential	Not Submitted	25M FixCld
ENY4186	E17R	TLH	KDFW.MRSSH...	EAST		12/23:20					Schedule...	Potential	Not Submitted	25M
ENY3413	E17R	LIT	KDFW.ZACHH...	EAST		12/23:30					Schedule...	Potential	Not Submitted	25M FixCld
ENY3592	E18L	MCI	KDFW.BLECO...	NORTH		12/22:07		DFWMC1W	0	0.0	In_Queue	Potential	Not Submitted	
ASH5812	E17R	HOU	KDFW.ARDIA7...	SOUTH		12/23:40					Schedule...	Potential	Not Submitted	
ENY3477	E17R	HSV	KDFW.FORCK...	EAST		12/21:53		DFWHSV1N	-3	-58.1	In_Queue	Potential	Not Submitted	25M FixCld

TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R AND Coord State = FO Submitted

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	CPDLC	EOBT	Top CDR	Top Total Delay Savings OFF	Top Agg DFW Del Sav	Flight Status	Eligibility State	Coord State	TMI Info
AAL1291	E17R	IAD	KDFW.TRYTN3.L...	EAST		12/22:32	DFWIAD1N	-80	-102.8	Scheduled...	Candidate	FO Submitted	25M FixCld
AAL1669	E17R	MCO	KDFW.MRSSH2.Z...	EAST	Y	12/21:49	DFWMCO1S	-26	-112.1	Pushback	Candidate	FO Submitted	25M
AAL2395	E17R	BOS	KDFW.ZACHH3.B...	EAST	Y	12/21:52	DFWBOSJ3	-9	-106.4	In_Queue	Candidate	FO Submitted	25M FixCld
ENY3405	E17R	MOB	KDFW.MRSSH2.Z...	EAST		12/21:45	DFWMOB1S	-60	-112.1	Pushback	Candidate	FO Submitted	25M

Figure 5.35. TOS Departure Table: Select “X” to close a table.

5.4.3 TOS Departure Table: Select a Flight

Select a flight in the TOS Departure Table to highlight the flight throughout the Metroplex Planner user interface.

To Select a flight in a TOS Departure Table:

Step 1: Select “TOS” on the Toolbar to open the TOS Operations window (Figure 5.31).

Step 2: To select a flight, click on a row in a TOS Departure Table. Once selected, the row is highlighted in cyan (Figure 5.36).

Note: When a flight is selected in the TOS Departure Table, it is highlighted throughout the Metroplex Planner user interface:

- Timeline
- Map
- Flights Table

Note: If the selected flight appears in more than one TOS Departure Table, each instance of that flight is highlighted.

Alternatively: Click the same row again to deselect the flight.

TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R AND Coord State = Not Submitted

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	CPDLC	EOBT	ETOT	Num TOS Cand	Top CDR	Eligibility State	Coord State	Top ETO
AAL2579	E17R	BOS	KDFW.TRYTN3.LOO...	EAST	Y	12/19:25	12/19...	1	DFWBOSJ3	Candidate	Not Submitted	19:35
AAL1888	E17R	LGA	KDFW.TRYTN3.LOO...	EAST	Y	12/19:31	12/20...	1	DFWLGAJ3	Candidate	Not Submitted	19:43
ENY3386	E17R	CLE	KDFW.ZACHH3.BSK...	EAST		12/19:35	12/20...	1	DFWCLE1N	Candidate	Not Submitted	19:47
AAL371	E17R	BNA	KDFW.TRYTN3.LOO...	EAST		12/19:40	12/20...	1	DFWBNA1N	Candidate	Not Submitted	19:52
AAL1242	E17R	MCO	KDFW.MRSSH2.ZAL...	EAST	Y	12/19:41	12/21...	1	DFWMCO1S	Candidate	Not Submitted	19:55
AAL496	E17R	MIA	KDFW.MRSSH2.ZAL...	EAST		12/19:42	12/20...	1	DFWMIA1S	Candidate	Not Submitted	19:50
AAL2334	E17R	PHL	KDFW.FORCK2.FOR...	EAST		12/19:44	12/21...	4	DFWPHLJ3	Candidate	Not Submitted	20:04
AAL2198	E17R	FLL	KDFW.MRSSH2.ZAL...	EAST	Y	12/20:00	12/21...	1	DFWFLL1S	Candidate	Not Submitted	20:13
AAL108	E17R	BWI	KDFW.TRYTN3.LOO...	EAST	Y	12/20:00	12/21...	4	DFWBWJ3	Candidate	Not Submitted	20:08
ENY3639	E17R	CVG	KDFW.ZACHH3.BSK...	EAST		12/20:00	12/22...	2	DFWCVG1N	Candidate	Not Submitted	20:13
AAL2921	17R	MSY	KDFW.MRSSH2.ZAL...	EAST		12/19:07	12/19...		DFWMSY1S	Potential	Not Submitted	19:14
ENY3733	E17R	MEM	KDFW.FORCK2.FOR...	EAST		12/19:17	12/19...		DFWMEM1N	Potential	Not Submitted	19:33
ENY4192	E17R	XNA	KDFW.AKUNA7.ML...	NORTH		12/19:26	12/19...		DFWXNA1W	Potential	Not Submitted	19:34
SKW3213	E18L	ICT	KDFW.BLECO8.ZEM...	NORTH		12/19:26	12/19...		DFWICT1W	Potential	Not Submitted	19:45
AAL2259	E18L	PHX	KDFW.WSTEX2.CIK...	WEST	Y	12/19:26	12/19...		DFWPHX1N	Potential	Not Submitted	19:35
AAL333	E17R	ATL	KDFW.FORCK2.FOR...	EAST		12/19:27	12/19...		DFWATL1N	Potential	Not Submitted	19:40
ENY4173	E17R	MYR	KDFW.FORCK2.FOR...	EAST		12/19:27	12/20...		DFWMYR1S	Potential	Not Submitted	19:43
ENY3792	E17R	TUL	KDFW.GRABE8.EAK...	NORTH		12/19:28	12/19...		DFWTUL1W	Potential	Not Submitted	19:42
AAL1448	E18L	AUS	KDFW.JASPA6.WIND...	SOUTH	Y	12/19:29	12/19...		DFWAUS3W	Potential	Not Submitted	19:44
AAL706	E18L	DEN	KDFW.HUDAD2.HU...	WEST		12/19:30	12/19...		DFWDENOP	Potential	Not Submitted	19:42

Figure 5.36. TOS Departure Table: The selected row is highlighted in cyan (in this example, ENY3386 is selected).

If a “top” TOS route has been identified for the flight, the route is displayed on the map when the flight is selected (Figure 5.37). See Section 5.4.4 for a description of “top” routes.

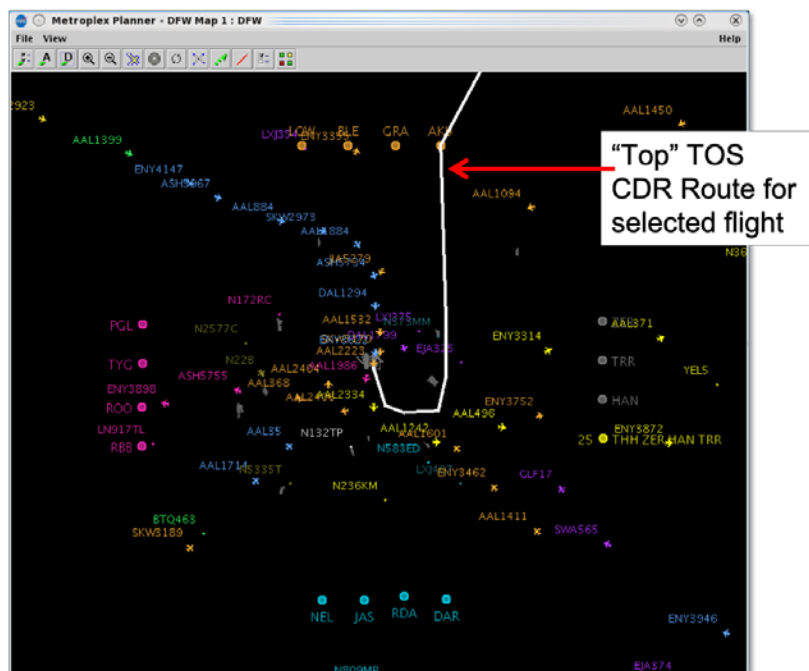


Figure 5.37. The “top” TOS CDR route of selected flight is displayed on the map.

See Section 4.2.2.3 for a description of displaying TOS Routes on the map.

5.4.4 TOS Departure Table: “Top” Route

A “top” TOS route may be identified for flights in the TOS Departure Table (Figure 5.38). In general, the “top” route is the TOS option that has the largest predicted Delay Savings relative to the route’s Relative Trajectory Cost (RTC). That is, it is the TOS route that is predicted to be the most advantageous option.

The following describes how the “top” route is identified in different scenarios:

A flight with a Coordination State of “Candidate”:

- For a flight with *multiple* “Candidate” TOS routes, the route with the largest predicted Delay Savings over the RTC value is identified as the “top” route.
- For a flight with a *single* “Candidate” route, that route is identified as the “top” route.

A flight with a Coordination State of “Potential”:

- For a flight with *multiple* “Potential” TOS routes (but no “Candidate” routes), the route that results in the smallest cost between predicted Delay Savings and the RTC value (i.e., the negative number closest to zero) is identified as the “top” route.
- For a flight with a *single* “Potential” route (and no “Candidate” routes), that route is identified as the “top” route.

A flight with a Coordination State of “FO Submitted”:

- For a flight with *multiple* “FO_Submitted” TOS routes, the “FO_Submitted” route with the largest predicted Delay Savings over the RTC value is identified as the “top” route.
- For a flight with a *single* “FO_Submitted” route, that route is identified as the “top” route.

A flight with a Coordination State of “ATC Approved”:

- The “ATC_Approved” TOS route is identified as the “top” route.

A flight with a Coordination State of “Excluded”:

- No “top” route is identified for “Excluded” flights.

The predicted Delay Savings value used in these computations is “Total Delay Savings OFF”.

The “top” route is identified approximately 60 minutes prior to expected takeoff.

Metroplex Planner - DFW TOS Operations at 21:06 Z

Search Clear

TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	Top Dep Fix	Top CDR	Top Rwy	Top Add nm	Top ETOT	Top Total Delay Savings OFF	Top Agg DFW Del Sav	Eligibility State	Coord State
AAL2675	E17R	BNA	KDFW.TRY...	EAST	AKUNA	DFW8NAIN	17R	+84	21:59	-147	-187.0	Candidate	Not Submitted
ENY3603	E18L	ABQ	KDFW.HRP...	WEST	LOWGN	DFWABQ1N	18L	+89	21:39	0	0.0	Potential	Not Submitted
AAL1307	E17R	MSY	KDFW.MRS...	EAST	DARTZ	DFWMSY1S	17R	+55	21:42	-43	-204.3	Candidate	Not Submitted
AAL1435	E17R	BDL	KDFW.TRY...	EAST								Potential	Not Submitted
ENY3710	E17R	CHA	KDFW.FOR...	EAST	AKUNA	DFWCHA1N	17R	+89	22:02	-177	-191.7	Candidate	Not Submitted
AAL2372	E18L	SAT	KDFW.JASP...	SOUTH	RBBIT	DFWSAT3W	18L	+91	21:42	0	0.0	Potential	Not Submitted
AAL2009	E18L	SEA	KDFW.HUD...	WEST	LOWGN	DFWSEA1N	18L	+25	22:03	0	0.0	Potential	Not Submitted
AAL2198	E17R	FLL	KDFW.MRS...	EAST	DARTZ	DFWFL1S	17R	+42	21:26	-18	-219.9	Candidate	Not Submitted
AAL1761	E17R	PIT	KDFW.TRY...	EAST								Potential	Not Submitted
ENY3466	E17R	GSP	KDFW.TRY...	EAST	AKUNA	DFWGSP1N	17R	+117	21:56	-110	-190.6	Candidate	Not Submitted
AAL2554	E18L	SMF	KDFW.HRP...	WEST								Potential	Not Submitted
ENY3704	E17R	PIA	KDFW.AKU...	NORTH								Excluded	ATC Excluded
AAL2640	E17R	PBI	KDFW.MRS...	EAST	DARTZ	DFWPBI1S	17R	+141	21:46	-80	-197.6	Candidate	Not Submitted
AAL779	E17R	DTW	KDFW.ZAC...	EAST								Potential	Not Submitted
AAL2609	E18L	LAS	KDFW.HRP...	WEST	LOWGN	DFWLAS1N	18L	+88	21:37	0	0.0	Potential	Not Submitted
ASH5894	E17R	JAN	KDFW.MRS...	EAST	DARTZ	DFWJAN1S	17R	+178	21:56	-118	-190.6	Candidate	Not Submitted

Add Table

Figure 5.38. Information about the “top” TOS route can be displayed in the TOS Departure Table. “Top” fields remain blank (red arrows above) until/if a “top” route is identified for that flight.

5.4.5 TOS Departure Table: Sort

The TOS Departure Table can be sorted by selecting column headers.

To Sort a TOS Departure Table:

Step 1: Select a column header to sort by the data in that column.

- Click *once* in the column header to sort in *ascending* order. An up-arrow is displayed (e.g., “Eligibility State” in Figure 5.39).
- Click *twice* in the column header to sort in *descending* order. A down-arrow is displayed.
- Click a *third* time to cancel the sort.

Step 2 (Optional): Use the “Ctrl” key to add a secondary sort. While holding the “Ctrl” key, click on another column header. A *smaller* arrow is displayed in the second column (e.g., “EOBT” in Figure 5.39).

Metroplex Planner - DFW TOS Operations at 23:58 Z

Search Clear

TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R AND Coord State = Not Submitted

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	CPDLC	EOBT ▲	Num TOS Cand	Top CDR	Top Total Delay Savings OFF	Top Agg DFW Del Sav	Flight Status	Eligibility State ▲	Coord State	TH
AAL1219	E17R	MIA	KDFW.MRSSH...	EAST	Y	12/23:45	1	DFWMIA1S	-61	-101.0	Taxiing_A...	Candidate	Not Submitted	25M
AAL1076	17R	BNA	KDFW.TRYTN...	EAST		12/23:49	1	DFWBNA1N	-31	-100.2	In_Queue	Candidate	Not Submitted	25M
AAL2752	E17R	DCA	KDFW.TRYTN...	EAST		12/23:53	2	DFWDCA1N	-52	-103.7	Taxiing_A...	Candidate	Not Submitted	25M
AAL1456	17R	BOS	KDFW.ZACHH...	EAST		12/23:55	2	DFWBOSJ3	-42	-99.4	In_Queue	Candidate	Not Submitted	25M
AAL1660	E17R	MCO	KDFW.MRSSH...	EAST	Y	12/23:57	1	DFWMCO1S	-68	-90.5	Pushback	Candidate	Not Submitted	25M
AAL934	E17R	FLL	KDFW.MRSSH...	EAST	Y	13/00:00	1	DFWFLL1S	-74	-90.5	Schedule...	Candidate	Not Submitted	25M
AAL2401	E17R	TPA	KDFW.MRSSH...	EAST	Y	13/00:02	2	DFWTPA1S	-77	-88.3	Schedule...	Candidate	Not Submitted	25M
AAL2531	E17R	PHL	KDFW.FORCK...	EAST	Y	13/00:06	4	DFWPHLJ3	-80	-84.7	Schedule...	Candidate	Not Submitted	25M
ENY3570	E17R	MSY	KDFW.MRSSH...	EAST		13/00:25	1	DFWMSY1S	-80	-79.7	Schedule...	Candidate	Not Submitted	25M
AAL1207	18L	TUS	KDFW.WSTEX...	WEST		12/23:40		DFWTUS1S	0	0.0	In_Queue	Potential	Not Submitted	
AAL2779	18L	SNA	KDFW.WSTEX...	WEST	Y	12/23:40		DFWSNA1N	0	0.0	In_Queue	Potential	Not Submitted	
AAL1305	17R	JAX	KDFW.MRSSH...	EAST		12/23:43		DFWJAX1S	-14	-100.7	In_Queue	Potential	Not Submitted	25M
AAL1578	18L	MSP	KDFW.BLECO...	NORTH		12/23:45		DFWMSP1W	0	0.0	In_Queue	Potential	Not Submitted	
ASH5766	18L	MFE	KDFW.NELYN...	SOUTH		12/23:47		DFWMFE1W	0	0.0	In_Queue	Potential	Not Submitted	
AAL2072	17R	ATL	KDFW.FORCK...	EAST		12/23:49		DFWATL1N	-20	-100.5	In_Queue	Potential	Not Submitted	25M
ENY3764	E18L	ICT	KDFW.BLECO...	NORTH		12/23:49		DFWICT1W	0	0.0	Taxiing_A...	Potential	Not Submitted	
AAL364	18L	SJC	KDFW.HRPER...	WEST	Y	12/23:50		DFWSJC1N	0	0.0	In_Queue	Potential	Not Submitted	
ENY3596	E18L	ABI	KDFW.WSTEX...	WEST		12/23:50		DFWABI1S	0	0.0	Pushback	Potential	Not Submitted	
ENY3398	17R	MGM	KDFW.FORCK...	EAST		12/23:51		DFWMGM1S	-25	-100.3	In_Queue	Potential	Not Submitted	25M
AAL2235	E18L	DEN	KDFW.BLECO...	NORTH		12/23:51		DFWDEN1W	0	0.0	Taxiing_A...	Potential	Not Submitted	

Add Table

Figure 5.39. TOS Departure Table: Sorting. In this example, the table is first sorted alphabetically by Eligibility State, and then sorted numerically by EOBT (dd/hh:mm).

5.4.6 TOS Departure Table: Toolbar

Each TOS Departure Table has its own toolbar that allows users to configure the table independently of others. Five icons are displayed on each toolbar (Figure 5.40):

- Edit Filters (Section 5.4.6.1)
- Show/Hide Columns (Section 5.4.6.2)
- Table Color Settings (Section 5.4.6.3)
- Save for Quick Create (Section 5.4.6.4)
- TOS Departure Table Properties (Section 5.4.6.5)

When filters are applied to the TOS Departure Table, the filter criteria are displayed on the toolbar next to the icons. When no filters are being applied, “All” is displayed (Figure 5.40).

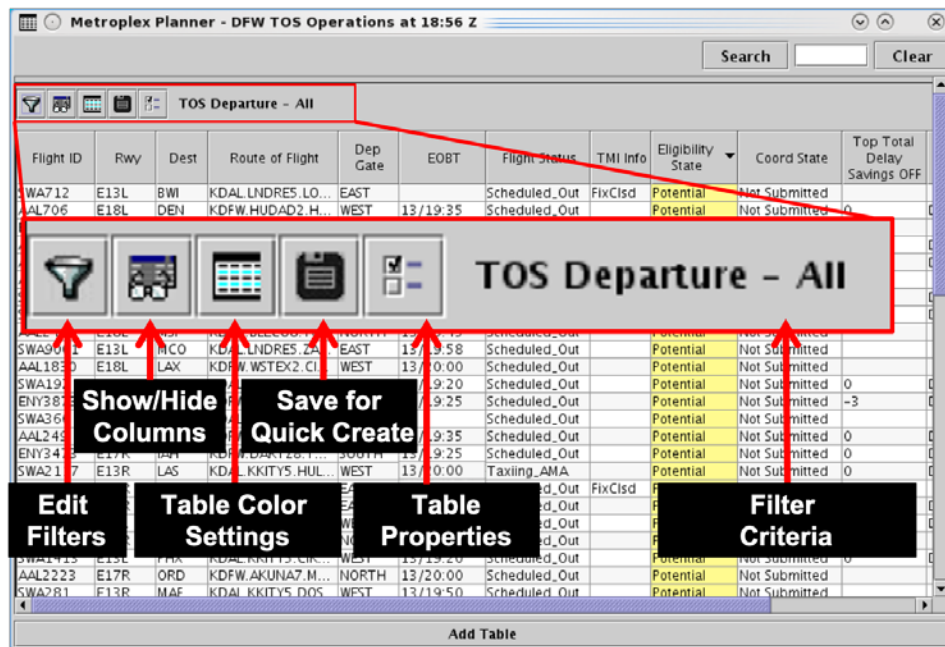


Figure 5.40. TOS Departure Table: Toolbar.

5.4.6.1 Edit Filters

Use “Edit Filters” (Figure 5.40) to include/exclude flights in the TOS Departure Table. Fields that can be used as filters are listed in Table 5.6.

Fields are associated with an *operator*:

- equal “=”
- not equal “!=
- less than “<”
- less than or equal to “<=
- greater than “>”
- greater than or equal to “>=
- “BETWEEN”

Multiple fields can be used in combination by selecting “and” or “or” as a *qualifier*.

Table 5.6. TOS Departure Table: Filter Fields

Field	Description	Options
Coord State	TOS Route Coordination State	Enter or Select: <i>Not Submitted</i> <i>FO Submitted</i> <i>ATC Approved</i> <i>Reroute Filed</i> <i>FO Excluded</i> <i>ATC Excluded</i>

Eligibility State	TOS Route Eligibility State	Enter or Select: <i>Potential Candidate Excluded</i>
Top Add nm	Difference between the distance of the “ <i>top</i> ” TOS route and the distance of current filed route (nm).	[nm]
Top Agg Del Sav <i>*Varies by version of the Metroplex Planner</i>	Sum of predicted Delay Savings (in minutes). Predicted Aggregate Delay Savings = • Predicted Delay Savings for the flight rerouted on the “<i>top</i>” TOS route, plus • Predicted Delay Savings for all subsequent departures scheduled to takeoff within one hour. Negative value represents <i>reduced</i> delay (i.e., Delay Savings). Positive value represents <i>additional</i> delay. *Options can include: Airport, all airports in the TRACON, Airline, Air Carrier (Mainline), or Major Air Carrier (Fleet).	[mm]
Top Avg Del Sav <i>*Varies by version of the Metroplex Planner</i>	Predicted Average Delay Savings for each flight in the Aggregate Delay Savings computation (in minutes). Predicted Average Delay Savings = • Predicted Aggregate Delay Savings, <i>divided by</i> • Number of flights (N) Negative value represents <i>reduced</i> delay (i.e., Delay Savings). Positive value represents <i>additional</i> delay. *Options can include: Airport, all airports in the TRACON, Airline, Air Carrier (Mainline), or Major Air Carrier (Fleet).	[mm]
Top Dep Gate	Terminal-area Departure Gate <i>of the “top” TOS route.</i>	Enter or select from dropdown list.
Top Prob Del Sav > RTC	Probability of Delay Savings <i>greater than the Relative Trajectory Cost (RTC) for the “top” TOS route.</i>	[0-100%]

Top Total Delay Savings OFF	The predicted delay savings for a TOS route (in minutes). Total Delay Savings Off = • Predicted Total_Delay_Savings_OFF (TOS route), minus • Predicted Total_Delay_Savings_OFF (Current route) Negative value represents <i>reduced</i> delay (i.e., Delay Savings). Positive value represents <i>additional</i> delay. ... for the “top” TOS route.	[mm]
Total Delay Savings Minus RTC	Predicted Delay Savings (in minutes) minus the Relative Trajectory Cost (RTC).	[mm]
Airline	Airline code.	Enter: 3-digit airline code or “GA”
Major Carrier	Enter a Major Carrier to view mainline and subsidiaries (fleet).	Enter: 3-digit airline code
Dep Gate	Terminal-area Departure Gate.	Enter or select from dropdown list.
DepFix Time	Predicted or actual Departure Fix crossing time. This field is populated based on the availability of data, in the following order: • Actual Departure Fix time, if available. • Or, Estimated Departure Fix Time (from TFMS), • Or, Target Departure Fix Time (from ATD-2 Tactical Scheduler), • Or, Estimated “OUT” time (from FlightStats) + 20 min.	[mm] Relative [hhmm] Zulu
Destination has APREQ	Destination subject to APREQ.	Select: Yes No
EDFT	Estimated Departure Fix Time (EDFT). Predicted Departure Fix crossing time, accounting for: 1. Undelayed taxi time, plus 2. Predicted delay from surface traffic competing for the runway, and	[mm] Relative [hhmm] Zulu

	3. Predicted delay from terminal-area restrictions .	
EOBT	Earliest Off-Block Time (EOBT) provided by the airline. Earliest predicted push back time.	[mm] Relative [hhmm] Zulu
ETOT	Estimated Takeoff Time (ETOT) generated for TOS routes. Predicted takeoff time, accounting for: 1. Undelayed taxi time, plus 2. Predicted delay from surface traffic competing for the runway, and 3. Predicted delay from terminal-area restrictions being passed back to the surface.	[mm] Relative [hhmm] Zulu
Flight Status	Flight Status	Enter or Select: <i>Scheduled_Out</i> <i>Pushback</i> <i>Out</i> <i>Taxiing_AMA</i> <i>In_Queue</i> <i>Departured</i> <i>Scheduled_In</i> <i>Enroute_Arr</i> <i>Term_Area_Arr</i> <i>On_Final</i> <i>On</i> <i>In_Ramp</i> <i>In</i> <i>Return_to_Gate</i> <i>Suspended</i> <i>Cancelled</i> <i>Unknown</i>
Has EDCT	Flight is subject to an Expect Departure Clearance Time (EDCT)	Select: <i>Yes</i> <i>No</i>
Has Ground Stop	Destination is subject to a Ground Stop	Select: <i>Yes</i> <i>No</i>
Runway	Expected or actual runway	Enter or select from dropdown list

To Filter the TOS Departure Table:

Step 1: Select the “Edit Filters” icon (Figure 5.40) in the toolbar to open the Filter window.

Step 2: Select a variable from the dropdown list in the “Field” column (e.g., “Runway” in Figure 5.41)

Step 3: Select a modifier from the dropdown list in the “Operator” column (e.g., “=” in Figure 5.41).

Step 4: Select an option(s) from the dropdown list or enter criteria in the text box to populate the “Values” field (e.g., “DFW:17R, DFW:35L, DFW:18L, DFW:36R” in Figure 5.41). Separate multiple entries with a comma.

Step 5 (Optional): Additional filters can be applied by making entries on a new row. Select “Add Fields” (Figure 5.41) if more rows are not visible. Begin additional rows by selecting a qualifier (i.e., “AND” or “OR”).

Note: Select “Show Query” to view a list of selected criteria.

Step 6: When complete, select “OK” to apply the filter(s) and close the Filter window.

Alternatively: Select “Cancel” to cancel the pending change and close the Filter window.

Note: An existing filter can be modified by changing the selections in the Field, Operator, or Values columns. Select “Clear” (Figure 5.41) to clear entries from the “Values” field -- “Operator” and “Field” selections remain populated.

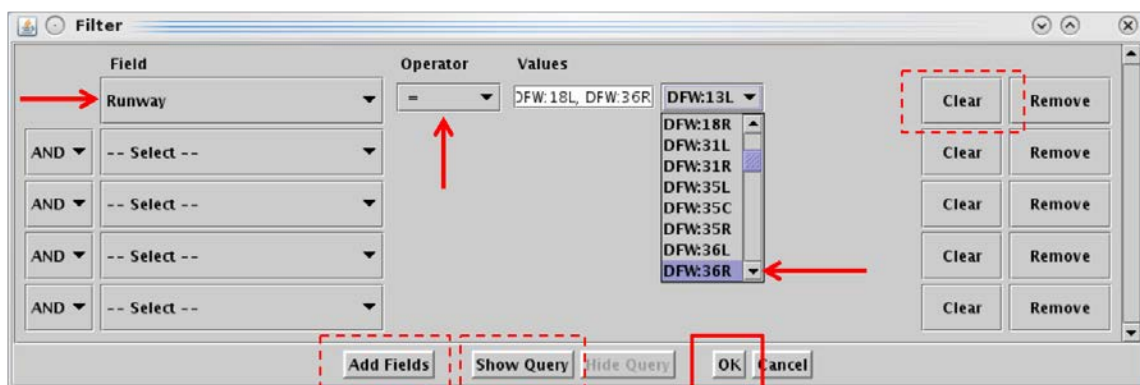


Figure 5.41. TOS Departure Table: Filter.

Filter criteria are displayed in the toolbar (e.g., “DFW:17R, DFW:35L, DFW:18L, DFW:36R” in Figure 5.42).

Last Refresh Time (Zulu)

Metroplex Planner - DFW TOS Operations at 22:21 Z

Search Clear

TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	EOBT ▲	Flight Status	TMI Info	Eligibility State	Coord State	Top Total Delay Savings OFF
ENY9630	E17R	ORD	KDFW.GRABE8.OK...	NORTH		Scheduled_Out		Potential	Not Submitted	
SKW2979	E18L	COS	KDFW.LOWGN8.R...	NORTH	13/21:43	Out		Potential	Not Submitted	0
JIA5517	17R	DAY	KDFW.ZACHH3.BS...	EAST	13/21:52	In_Queue	FixClsd	Potential	Not Submitted	0
ENY3710	17R	CHA	KDFW.FORCK2.FO...	EAST	13/22:03	In_Queue	FixClsd	Potential	Not Submitted	0
SKW2958	E17R	EVV	KDFW.ZACHH3.BS...	EAST	13/22:05	Pushback	FixClsd	Potential	Not Submitted	0
ENY3592	18L	MCI	KDFW.BLEC08.TU...	NORTH	13/22:06	In_Queue		Potential	Not Submitted	0
AAL2009	18L	SEA	KDFW.KATZ22.BR...	WEST	13/22:07	In_Queue		Potential	Not Submitted	0
ASH5894	17R	AN	KDFW.MRSSH2.M...	EAST	13/22:08	In_Queue		Potential	Not Submitted	0
AAL2655	E18L	DEN	KDFW.HUDAD2.H...	WEST	13/22:09	Taxiing_AMA		Potential	Not Submitted	0
AAL2554	18L	SMF	KDFW.HRPER3.HU...	WEST	13/22:10	In_Queue		Potential	Not Submitted	0
AAL2471	E18L	DNT	KDFW.WSTEX2.CI...	WEST	13/22:14	Taxiing_AMA		Potential	Not Submitted	0
AAL779	E17R	DTW	KDFW.ZACHH3.BS...	EAST	13/22:15	Taxiing_AMA	FixClsd	Potential	Not Submitted	0
AAL2403	E17R	ATL	KDFW.FORCK2.FO...	EAST	13/22:16	Pushback	FixClsd	Potential	Not Submitted	0
ENY4267	E17R	GRR	KDFW.AKUNA7.M...	NORTH	13/22:22	Pushback		Potential	Not Submitted	+3
AAL1576	E17R	FL	KDFW.MRSSH2.ZA...	EAST	13/22:24	Pushback		Potential	Not Submitted	0
JIA5531	E17R	PNS	KDFW.MRSSH2.ZA...	EAST	13/22:27	Scheduled_Out		Potential	Not Submitted	0
AAL1291	E17R	AD	KDFW.FORCK2.FO...	EAST	13/22:30	Scheduled_Out	FixClsd	Potential	Not Submitted	0
ENY4186	E17R	TLH	KDFW.MRSSH2.ZA...	EAST	13/23:20	Scheduled_Out		Potential	Not Submitted	
ENY3790	E17R	LEX	KDFW.TRYTN3.LO...	EAST	13/23:25	Scheduled_Out	FixClsd	Potential	Not Submitted	
ENY3569	E18L	GRK	KDFW.NELYN6.AC...	SOUTH	13/23:25	Scheduled_Out		Potential	Not Submitted	
AAL2761	E17R	STL	KDFW.AKUNA7.M...	NORTH	13/23:29	Scheduled_Out		Potential	Not Submitted	
ENY4072	E17R	SGF	KDFW.AKUNA7.M...	NORTH	13/23:30	Scheduled_Out		Potential	Not Submitted	
AAL1446	E17R	TUL	KDFW.GRABE8.EA...	NORTH	13/23:30	Scheduled_Out		Potential	Not Submitted	
ENY3501	E17R	MKE	KDFW.AKUNA7.M...	NORTH	13/23:30	Scheduled_Out		Potential	Not Submitted	

Add Table

Figure 5.42. TOS Departure Table: Flights matching filter criteria are included in the table.

To remove a Filter in the TOS Departure Table:

Step 1: Select the “Edit Filters” icon (Figure 5.40) in the toolbar to open the Filter window.

Step 2: In the dropdown menu in the “Field” column, select “-- Select --” to clear selections from that row (Figure 5.43).

Alternatively: Select “Remove” to delete that row entirely (Figure 5.43).

Step 3: When complete, select “OK” to close the Filter window.

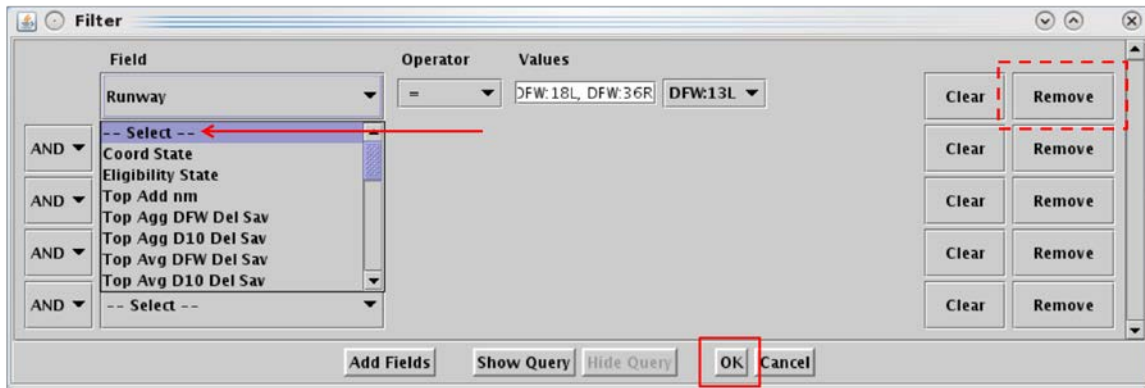


Figure 5.43. TOS Departure Table: Remove filters.

5.4.6.2 Show/Hide Columns

Use “Show/Hide Columns” (Figure 5.40) to select which columns of information will be included, and the order in which they will be shown, in the TOS Departure Table.

The information columns that can be included in the TOS Departure Table are listed in Table 5.7.

Table 5.7. TOS Departure Table: Show/Hide Columns

Column Header	Description
----- TOS -----	
Coordination State	Indicates the coordination of TOS rerouting between the Flight Operator and ATC. In the TOS Departure Table, a Coordination State is displayed for <i>each flight</i>. • Not Submitted – <i>None</i> of this flight’s TOS route options have been submitted to ATC by the Flight Operator. • FO (Flight Operator) Submitted – <i>At least one</i> of this flight’s TOS routes has been submitted to ATC by the Flight Operator. • ATC Approved – <i>One</i> of this flight’s TOS route options has been approved by ATC. ATC is expected to amend the flight plan using the revised route. • Reroute Filed – This flight’s original filed route has been amended based on the TOS route option approved by ATC. • FO (Flight Operator) Excluded – The Flight Operator has excluded this flight from TOS Operations. • ATC Excluded – <i>All</i> TOS route options for this flight are excluded from TOS Operations because of ATC restrictions. When a CDR or destination is restricted by a Fix closure, MIT restriction, APREQ, EDCT, Ground Stop, DCC Route

	Advisory, or User-entered restrictions, it is <i>automatically</i> excluded from TOS Operations.
CPDLC	Aircraft equipped with Controller Pilot Data Link Communication (CPDLC).
Dep Fix Delay	The predicted delay (in minutes), at the departure fix, caused by both: 1. Predicted delay from surface traffic competing for the runway, and 2. Predicted delay from terminal-area restrictions. Dep Fix Delay = Estimated Departure Fix Time (EDFT) – Undelayed Departure Fix Time (UDFT).
Eligibility State	Indicates eligibility for TOS rerouting. In a TOS Departure Table, an Eligibility State is displayed for <i>each flight</i>. • Potential – <i>At least one</i> of the flight’s TOS routes is a “Potential” route (predicted Delay Savings is <i>less than</i> the Relative Trajectory Cost (RTC)). • Candidate – <i>At least one</i> of the flight’s TOS routes is a “Candidate” route (predicted Delay Savings is <i>greater than or equal to</i> the Relative Trajectory Cost (RTC)). • Excluded – <i>All</i> TOS route options for this flight are excluded because of Flight Operator or ATC exclusions.
EDFT	Estimated Departure Fix Time (EDFT). Predicted Departure Fix crossing time, accounting for: 1. Undelayed taxi time, plus 2. Predicted delay from surface traffic competing for the runway, and 3. Predicted delay from terminal-area restrictions.
ETOT	Estimated Takeoff Time (ETOT) generated for TOS routes. Predicted takeoff time, accounting for: 1. Undelayed taxi time, plus 2. Predicted delay from surface traffic competing for the runway, and 3. Predicted delay from terminal-area restrictions being passed back to the surface.
fNum TOS Cand	Current number of <i>Candidate</i> TOS route options for a flight.
Num TOS Sub	Current number of TOS routes submitted by the Flight Operator for a flight.
Scratch Pad	Field for user to enter text.
TMI Info	When a flight is subject to a TMI restriction, the following are displayed in the “TMI Info” column: • FixClsd: When the current Departure Fix is closed. • APRQ: When the destination is subject to an APREQ. • EDCT: When the flight is subject to an EDCT.

	• ##M: When the current Departure Fix is subject to an MIT. • GS: When the destination is subject to a Ground Stop.
Top Add nm	Difference between the distance of “top” TOS route and the distance of current filed route (nm).
Top Agg Del Sav *Varies by version of the Metroplex Planner	Sum of predicted Delay Savings (in minutes). Predicted Aggregate Delay Savings = • Predicted Delay Savings for the flight rerouted on the “top” TOS route, plus • Predicted Delay Savings for all subsequent departures scheduled to takeoff within one hour. Negative value represents <i>reduced</i> delay (i.e., Delay Savings). Positive value represents <i>additional</i> delay. *Options can include: Airport, all airports in the TRACON, Airline, Air Carrier (Mainline), or Major Air Carrier (Fleet).
Top Avg Del Sav *Varies by version of the Metroplex Planner	Predicted Average Delay Savings for each flight in the Aggregate Delay Savings computation (in minutes). Predicted Average Delay Savings = • Predicted Aggregate Delay Savings, <i>divided by</i> • Number of flights (N). Negative value represents <i>reduced</i> delay (i.e., Delay Savings). Positive value represents <i>additional</i> delay. *Options can include: Airport, all airports in the TRACON, Airline, Air Carrier (Mainline), or Major Air Carrier (Fleet).
Top CDR	Coded Departure Route city-pair code (e.g., DFWDC1N) ... <i>of the “top” TOS route.</i>
Top CDR Rte	Full CDR route procedure ... <i>of the “top” TOS route.</i>
Top Dep Fix	Terminal-area Departure Fix ... <i>of the “top” TOS route.</i>
Top Dep Fix Delay	The predicted delay (in minutes), at the departure fix, caused by both: 1. Predicted delay from surface traffic competing for the runway, and 2. Predicted delay from terminal-area restrictions. Dep Fix Delay = Estimated Departure Fix Time (EDFT) – Undelayed Departure Fix Time (UDFT). ... <i>for the “top” TOS route.</i>
Top Dep Fix Time	Predicted or actual Departure Fix crossing time ... <i>of the “top” TOS route.</i>
Top Dep Gate	Terminal-area Departure Gate <i>of the “top” TOS route.</i>

Top EDFT	Estimated Departure Fix Time (EDFT). Predicted Departure Fix crossing time, accounting for: 1. Undelayed taxi time, plus 2. Predicted delay from surface traffic competing for the runway, and 3. Predicted delay from terminal-area restrictions. <i>... for the “top” TOS route.</i>
Top ETOT	Estimated Takeoff Time (ETOT) generated for TOS routes. Predicted takeoff time, accounting for: 1. Undelayed taxi time, plus 2. Predicted delay from surface traffic competing for the runway, and 3. Predicted delay from terminal-area restrictions being passed back to the surface. <i>... for the “top” TOS route.</i>
Top N Del Sav <i>*Varies by version of the Metroplex Planner</i>	= Number of flights (N) in the Aggregate Delay Savings computation, including: • This flight (rerouted on the “top” TOS route), and • Subsequent departures scheduled to takeoff within one hour. *Options can include: Airport, all airports in the TRACON, Airline, Air Carrier (Mainline), or Major Air Carrier (Fleet).
Top Prob Del Sav > RTC	Probability predicted of Delay Savings <i>greater than</i> the Relative Trajectory Cost (RTC) <i>for the “top” TOS route.</i> (0-100%)
Top RTC	Relative Trajectory Cost (RTC) <i>of the “top” TOS route.</i>
Top RMNT	Required Minimum Notification Time (RMNT) <i>for the “top” TOS route.</i>
Top Rwy	Runway <i>of the “top” TOS route.</i>
Top Total Delay OFF	The delay (in minutes) that the flight is predicted to encounter, at the runway, caused by both: 1. Predicted delay from surface traffic competing for the runway, and 2. Predicted delay from terminal-area restrictions being passed back to the surface. Total Delay OFF = Estimated Takeoff Time (ETOT) – Undelayed Takeoff Time (UTOT) <i>... for the “top” TOS route.</i>
Top Total Delay Savings OFF	Predicted delay savings for a TOS route (in minutes). Total Delay Savings OFF = Predicted Total_Delay_Savings_OFF of a TOS route minus Predicted Total_Delay_Savings_OFF of the current route

	Negative value represents <i>reduced</i> delay (i.e., <i>Delay Savings</i>). Positive value represents <i>additional</i> delay. <i>... for the “top” TOS route.</i>
Top UTOT	Undelayed Takeoff Time (UTOT). Predicted takeoff time for a single aircraft without consideration of surface delay caused by other traffic competing for the runway or terminal delay caused by terminal-area restrictions. <i>... for the “top” TOS route.</i>
Total Delay OFF	The delay (in minutes) that the flight is predicted to encounter, at the runway, caused by both: 1. Predicted delay from surface traffic competing for the runway, and 2. Predicted delay from terminal-area restrictions being passed back to the surface. Total Delay OFF = Estimated Takeoff Time (ETOT) – Undelayed Takeoff Time (UTOT)
----- General -----	
AC Type	International Civil Aviation Organization (ICAO) type of aircraft (i.e., B738: Boeing model 737-800).
Airline	Airline code
AMA Taxi Duration	Predicted or actual duration of time in the AMA: • For departures, from Spot time to takeoff. • For arrivals, from landing to Spot time.
AMAT	Actual Movement Area entry Time (AMAT): Actual spot-crossing time.
AOBT	Actual Off-Block Time (AOBT) at the gate.
Beacon Code	Aircraft beacon code.
Dep Fix	Departure Fix.
DepFix Time	Predicted or actual Departure Fix crossing time. This field is populated based on the availability of data, in the following order: • Actual Departure Fix time, if available. • Or, Estimated Departure Fix Time (from TFMS). • Or, Target Departure Fix Time (from ATD-2 Tactical Scheduler). • Or, Estimated “OUT” time (from FlightStats) + 20 min.
Dep Gate	Terminal-area Departure Gate.
Dest	Destination airport for arrivals and departures.
EDCT	Expect Departure Clearance Time (EDCT) assigned to the flight as part of a Ground Delay Program (GDP), Airspace Flow Program (AFP) or Collaborative Trajectory Options Program (CTOP).

EOBT	Earliest Off-Block Time (EOBT) provided by the airline. Earliest predicted push back time.
ETD	Estimated Time of Departure (ETD) at wheels-up provided by TBFM, Traffic Flow Management System (TFMS), the airline, or other external sources.
Flight ID	Flight number (call sign). For General Aviation (GA) flights, tail number is used.
Flight Status	Flight Status: • Scheduled Out: A departure flight that has not yet pushed back from the gate. • Pushback: A departure flight that is pushing back. • Out: A departure flight that is taxiing in the Ramp Area. • Taxiing AMA: A departure flight that is taxiing in the Airport Movement Area (AMA). • In Queue: A departure flight inside the queue detection box of the assigned runway. • Departed: A departure flight that is airborne. • Scheduled In: An arrival flight that is not yet being tracked. • Enroute Arr: An arrival flight that is in the enroute airspace. • Term Area Arr: An arrival flight that is inside the terminal airspace. • On Final: An arrival flight that is on final approach. • On: An arrival flight that has landed. • In Ramp: An arrival flight that is taxiing in the Ramp. • In: An arrival flight that is parked at the gate. • Return to Gate: A departure that is returning to the gate, after pushing back. • Suspended: A departure flight that was scheduled to have already departed, but no updates have been received. • Cancelled: A flight that has been cancelled by the airline. • Unknown: A flight with an unknown status. <i>*Not all types are available at all airports.</i>
Ground Stop	Destination is subject to a Ground Stop.
LOBT	Latest Off-Block Time (LOBT), “L-time”. Predicted pushback time received from an airline either directly or through a CDM message to TFMS.
Long on Board	Long On-Board indicator: • For arrivals, the LOB timer starts at touchdown and is continuously computed as the current time minus the Actual Landing Time (ALDT) until the arrival is in the gate. • For departures, the LOB timer starts at pushback and is continuously computed as the current time minus the Actual Off-Block Time (AOBT) until the flight takes off.

Major Carrier	Major Carrier includes mainline and subsidiaries (fleet).
MIT	Flight is subject to a Miles-in-Trail restriction (Fix, Destination, or Jet Route).
OPSNET	User input for Operations Network (OPSNET) delay reporting.
Origin	Origin airport for arrivals and departures.
Route of Flight	Planned route of flight.
RWY	Predicted (e.g., “E18L”) or actual runway (e.g., “18L”) based on flight plan, departure fix, actual location of aircraft, or user input. Predicted runway is prefixed by an “E” to indicate estimate.
RWY Time	Departures: • <i>Predicted:</i> Estimated Takeoff Time (ETOT) • <i>Actual:</i> Actual Takeoff Time (ATOT) Arrivals: • <i>Predicted:</i> Target Landing Time (TLDT) • <i>Actual:</i> Actual Landing Time (ALDT)
SOBT	Scheduled Off-Block Time (SOBT). Time the flight is scheduled by the airline to leave the departure gate.
STOT	Scheduled Takeoff Time (STOT). TFMS estimate of when the flight will take off based on the SOBT.
Tail	Aircraft tail number.
Taxi Time	Predicted or actual time spent taxiing on the airport surface, including the Ramp Area: • For departures, from pushback to takeoff. • For arrivals, from landing to parking at the gate. Prior to the <i>actual</i> time, the Taxi Time is prefixed by an “E” to indicate estimated time.
Time in Queue	Duration of time that a departure flight has spent in the runway queue detection box.
UMAT	Undelayed Movement Area entry Time (UMAT). Predicted spot time for a single aircraft without consideration of other traffic on the surface.
UTOT	Undelayed Takeoff Time (UTOT). Predicted takeoff time for a single aircraft without consideration of surface delay caused by other traffic competing for the runway or terminal delay caused by terminal-area restrictions.
----- Less Common -----	
Gate	Parking gate.
Sector List	List of all sectors that a flight has or will travel through from the data available to the ATD-2 system.
Spot	Predicted or actual spot.
Spot Time	Predicted or actual time: • An arrival flight crosses the Spot to enter the Ramp Area. • A departure flight crosses the Spot to enter the AMA. Prior to the <i>actual</i> time, the Spot Time is prefixed by an “E” to indicate estimated time.

Note: In the TOS Departure Table, “top” route information populates approximately 60 minutes prior to expected takeoff. See Section 5.4.4 for a description of “top” TOS routes.

To Add Columns to the TOS Departure Table:

Step 1: Select the “Show/Hide Columns” icon (Figure 5.40) in the toolbar to open the Column Settings window.

Note: *Two lists are shown in the Column Settings window (Figure 5.44).*

- *Available: Columns not currently displayed in the table.*
- *Shown: Columns currently displayed in the table.*

Step 2: Select a column name from the Available list (e.g., “CPDLC” in Figure 5.44).

Step 3: Select the right arrow to move the column name to the Shown list (Figure 5.44).

Step 4 (Optional): Select the column name in the Shown list and use “Move Up” and “Move Down” to reorder columns (Figure 5.45).

Step 5: When complete, select “OK” to close the Column Settings window (Figure 5.45).

Alternatively: Select “Cancel” to cancel the pending changes and close the Column Settings window.

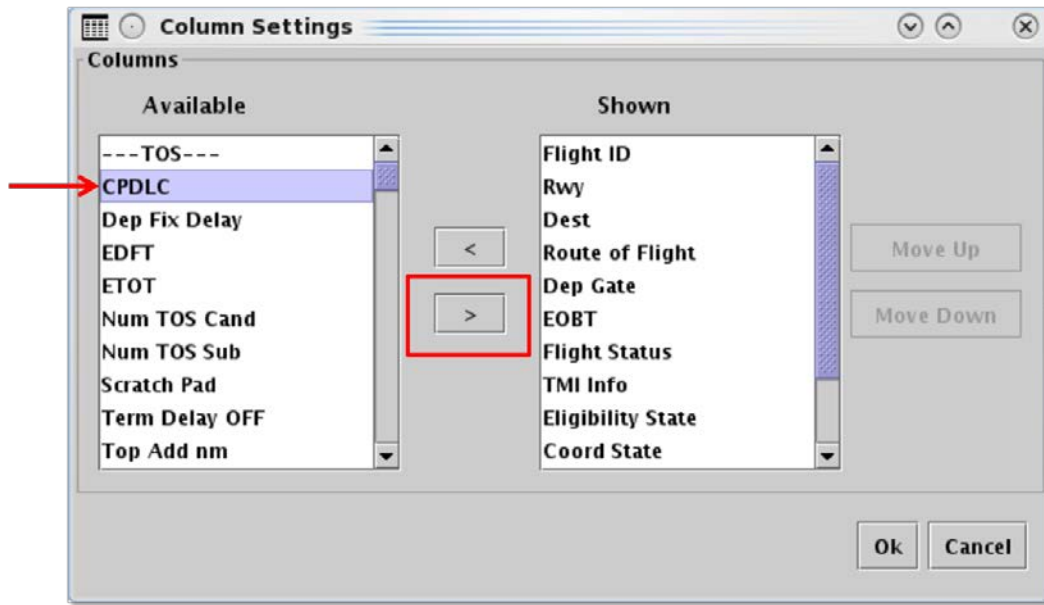


Figure 5.44. TOS Dpearture Table: Column Settings. Select the right arrow to move a column name to the Shown list.

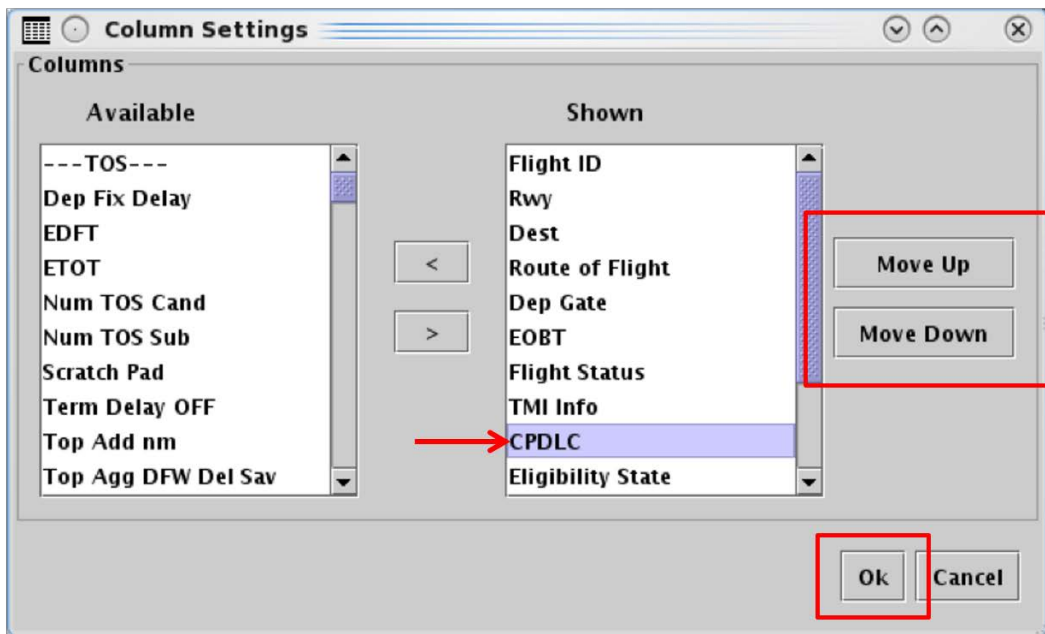


Figure 5.45. TOS Departure Table: Column Settings. Use “Move Up” and “Move Down” to reorder columns.

Metroplex Planner - DFW TOS Operations at 23:40 Z

Search Clear

TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	EOBT	Flight Status	TMI Info	CPDLC	Eligibility State	Coord State	Top De Saving
AAL1430	E18L	SFO	KDFW.KATZ22.BR...	WEST	13/23:47	Scheduled_Out		Y	Potential	Not Submitted	0
AAL2212	E17R	IAH	KDFW.DARTZ8.T...	SOUTH	14/00:02	Scheduled_Out			Potential	Not Submitted	0
AAL1133	E17R	RIC	KDFW.TRYTN3.LO...	EAST	13/23:35	Pushback	FixClcd		Potential	Not Submitted	0
AAL1564	E18L	SAT	KDFW.JASPA6.WIN...	SOUTH	13/23:59	Scheduled_Out			Potential	Not Submitted	0
ENY3313	E18L	CRP	KDFW.NELYN6.SA...	SOUTH	13/23:31	Pushback			Potential	Not Submitted	0
AAL1207	E18L	TUS	KDFW.WSTEX2.CI...	WEST	13/23:41	Scheduled_Out			Potential	Not Submitted	0
AAL1660	E17R	MCO	KDFW.MRSSH2.ZA...	EAST	13/23:54	Scheduled_Out		Y	Potential	Not Submitted	0
JIAS216	E17R	PNS	KDFW.MRSSH2.ZA...	EAST	13/23:30	Taxiing_AMA			Potential	Not Submitted	0
AAL339	E18L	PHX	KDFW.WSTEX2.CI...	WEST	13/23:56	Scheduled_Out		Y	Potential	Not Submitted	0
AAL2224	E18L	PDX	KDFW.HUDAD2.H...	WEST	13/23:55	Scheduled_Out		Y	Potential	Not Submitted	0
ENY3977	E18L	LBB	KDFW.KATZ22.BR...	WEST	13/23:39	Scheduled_Out			Potential	Not Submitted	0
AAL2079	E17R	MEM	KDFW.FORCK2.FO...	EAST	13/23:45	Scheduled_Out	FixClcd		Potential	Not Submitted	0
ENY3790	E17R	LEX	KDFW.TRYTN3.LO...	EAST	13/23:30	Taxiing_AMA	FixClcd		Potential	Not Submitted	0
ASH5766	E18L	MFE	KDFW.NELYN6.SA...	SOUTH	13/23:46	Scheduled_Out			Potential	Not Submitted	0
ENY3384	E18L	MCI	KDFW.BLECO8.TU...	NORTH	13/23:38	Pushback			Potential	Not Submitted	0
AAL788	E18L	LAX	KDFW.WSTEX2.CI...	WEST	13/23:58	Scheduled_Out		Y	Potential	Not Submitted	0
AAL1243	E18L	SAN	KDFW.WSTEX2.CI...	WEST	13/23:40	Scheduled_Out		Y	Potential	Not Submitted	0
ENY4072	E17R	SGF	KDFW.AKUNA7.M...	NORTH	13/23:26	Pushback			Potential	Not Submitted	-13
AAL1456	E17R	BOS	KDFW.TRYTN3.LO...	EAST	13/23:54	Scheduled_Out	FixClcd	Y	Potential	Not Submitted	0
AAL1241	E18L	SEA	KDFW.HUDAD2.H...	WEST	13/23:40	Scheduled_Out		Y	Potential	Not Submitted	0
AAL2531	E17R	PHL	KDFW.FORCK2.FO...	EAST	14/00:06	Scheduled_Out	FixClcd	Y	Potential	Not Submitted	0
AAL364	E18L	SJC	KDFW.HRPER3.HU...	WEST	13/23:51	Scheduled_Out		Y	Potential	Not Submitted	0
AAL2779	E18L	SNA	KDFW.KATZ22.BR...	WEST	13/23:42	Scheduled_Out		Y	Potential	Not Submitted	0
AAL2587	E17R	ORF	KDFW.TRYTN3.LO...	EAST	13/23:40	Pushback	FixClcd		Potential	Not Submitted	-1

Add Table

Figure 5.46. TOS Departure Table: Newly added column (in this example, “CPDLC”) is shown in the TOS Departure Table.

To Remove a column from the TOS Departure Table:

- Step 1:** Select the “Show/Hide Columns” icon (Figure 5.40) in the toolbar to open the Column Settings window.
- Step 2:** Select a column name from the Shown list.
- Step 3:** Select the *left* arrow to move the column name to the Available list.
- Step 4:** When complete, select “OK” to close the Column Settings window.
- Alternatively:** Select “Cancel” to cancel the pending changes and close the Column Settings window.

5.4.6.3 Table Color Settings

Use “Table Color Settings” (Figure 5.40) to set an alternate row color and field color alerts for variables in the TOS Departure Table.

5.4.6.3.1 Set Row Colors

Use the “Set Row Colors” tab in the TOS Departure Color Settings window to set an alternate row color in the TOS Departure Table.

To Set Row Colors in the TOS Departure Table:

Step 1: Select the “Table Color Settings” icon (Figure 5.40) in the toolbar to open the “TOS Departure Color Settings” window.

Step 2: Select the “Set Row Colors” tab (Figure 5.47).

Note: *The default color for both odd and even rows in a TOS Departure Table is white (Figure 5.47).*

Step 3: Select either the “Odd Row” or “Even Row” color box to open the “Choose Row Color” window (e.g., “Odd Row Color” in Figure 5.47).

Step 4: On the “Swatches” tab, use the mouse to select a color (e.g., cyan in Figure 5.48).

Step 5 (Optional): If necessary, use the other four color-palette tabs (HSV, HSL, RGB, CMYK) to refine the selected color.

Note: *In the “Preview” section below the color chart, the previous color (white in Figure 5.48) and a preview of the newly selected color (cyan in Figure 5.48) are displayed.*

Step 6: Select “OK” to return to the “Set Row Colors” tab to see a preview of the selected color (Figure 5.48).

Note: *If preferred, follow the same steps to select a second color for the alternating odd/even row.*

Step 7: When finished modifying colors, select “OK” to close the Color Settings window and apply the color change(s) (Figure 5.49). Updated color selections are shown in the TOS Departure table (Figure 5.50).

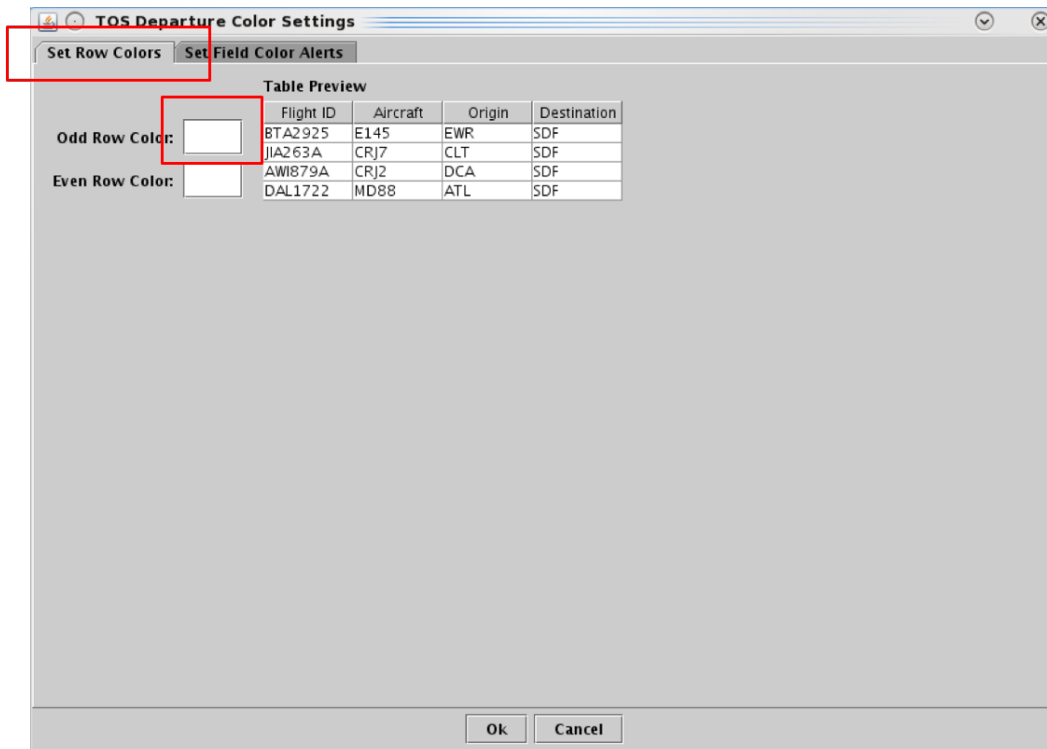


Figure 5.47. TOS Departure Table Color Settings: Set Row Colors tab.

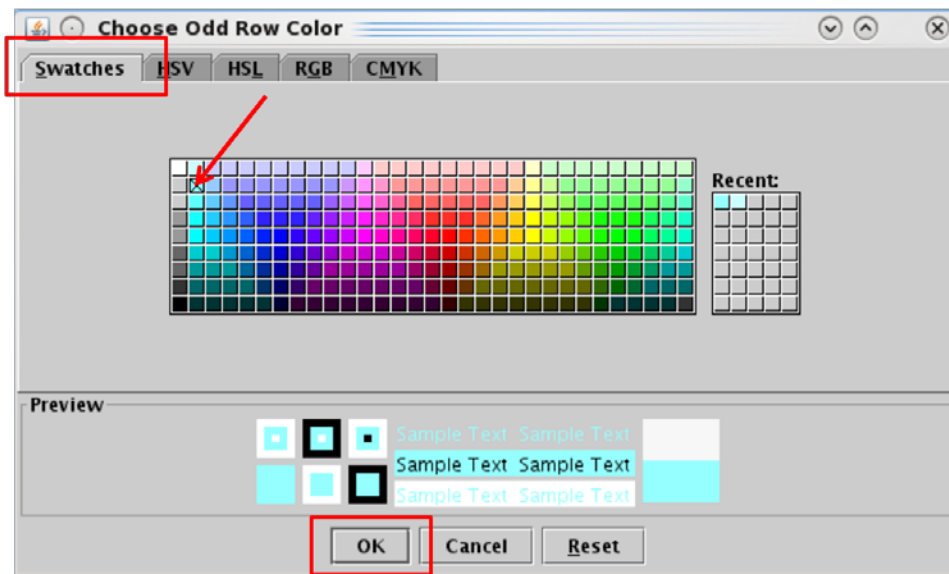


Figure 5.48. Use the “Swatches” tab to select a color. Use the HSV, HSL, RGB, or CMYK color palettes to refine the color selection.

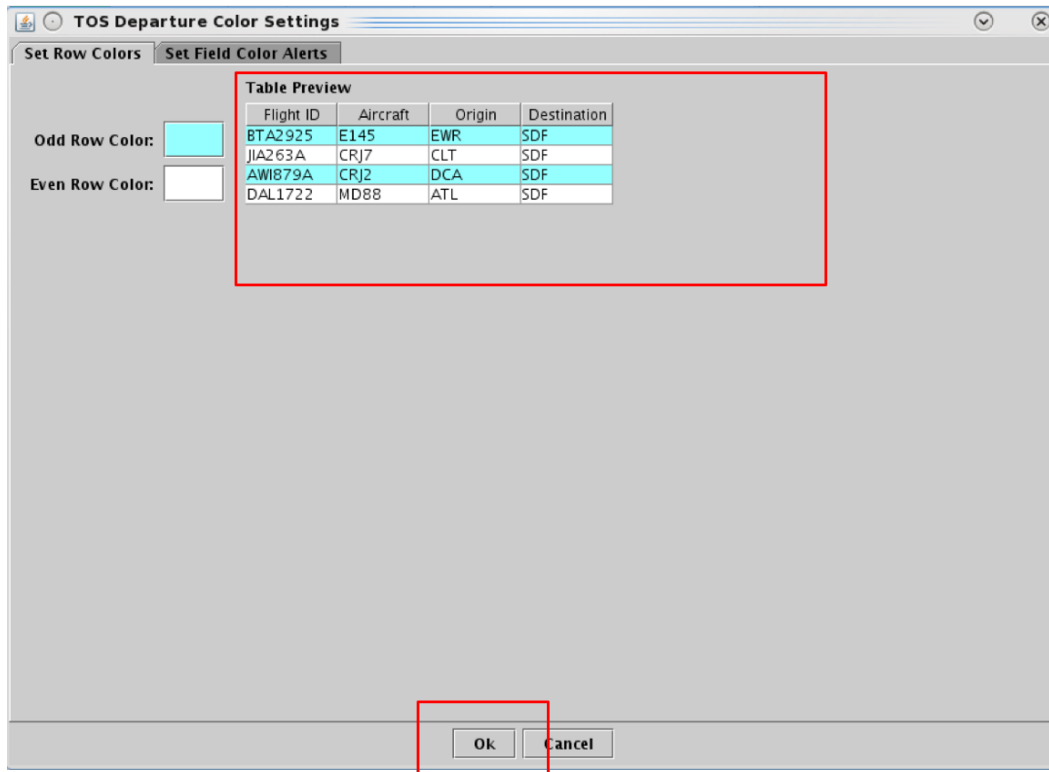


Figure 5.49. Set Row Colors: Alternating row color preview.

Metroplex Planner - DFW TOS Operations at 21:12 Z

Search Clear

TOS Departure - All

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	CPDLC	EOBT	ETOT	Top CDR	Top ETOT	Top Total Delay Savings Off	Top Agg DFW Del Sav	Top N DFW Del Sav	Top Agg D10 Del Sav	Flight Status	TMI Info	Eligibility State	Coord State	Scratch Pad
AAL1202	E35L	IND	KDFW AKUNA7 ML	NORTH	Y	05/21:30	05/21...	DFWINDOP	21:47	-10	-21.9	24	-25.9	Schedule...	35M FixCld	Candidate	Not Submit...	
ASH5935	E36R	ELP	KDFW WSTEX2 CK	WEST	Y	05/22:17	05/22...	DFWINDOP	21:47	-10	-21.9	24	-25.9	Schedule...	35M	Potential	Not Submit...	
ENY4256	E35L	GPT	KDFW MRSSH2 ZAL	EAST	Y	05/21:54	05/22...	DFWGP115	22:11	0	0.0	24	0.0	Schedule...	35M	Potential	Not Submit...	
AAL1576	E35L	FLL	KDFW MRSSH2 ZAL	EAST	Y	05/22:02	05/22...	DFWLL15	22:16	0	0.0	24	0.0	Schedule...	35M	Potential	Not Submit...	
AAL311	E36R	SAT	KDFW JASPA6 WIN	SOUTH	Y	05/21:28	05/21...	DFW5AT3W	21:52	+10	63.6	24	67.6	Schedule...	35M	Potential	Not Submit...	
SWA312	E31L	MDW	KDAL ESNY4 MLC	NORTH	Y	05/22:00	05/22...	DFW5AT3W	21:52	+10	63.6	24	67.6	Schedule...	35M	Potential	Not Submit...	
ENY3454	E36R	ABI	KDFW WSTEX2 WS	WEST	Y	05/21:33	05/21...	DFWABI15	21:46	-6	-41.3	24	-37.3	Schedule...	35M	Potential	Not Submit...	
SWA36	E31L	DCA	KDAL ESNY4 MLC	NORTH	Y	05/22:00	05/22...	DFW5AT3W	21:52	+10	63.6	24	67.6	Schedule...	35M	Potential	Not Submit...	
AAL1885	E36R	PHX	KDFW WSTEX2 CK	WEST	Y	05/21:32	05/22...	DFWPHX1N	21:59	-2	-3.5	24	8.6	Schedule...	35M	Potential	Not Submit...	
SWA43	E31L	HOU	KDAL RAMBL5 ELL	SOUTH	Y	05/22:00	05/22...	DALHOU1E	22:09	0	0.0	24	0.0	Schedule...	35M	Potential	Not Submit...	
AAL1624	E36R	SAN	KDFW WSTEX2 CK	WEST	Y	05/21:07	05/21...	DFW5AN1N	21:27	+7	-15.0	24	-1.1	Taxiing, A	35M	Potential	Not Submit...	
AAL2334	E35L	PHL	KDFW TRYTN3 LO	EAST	Y	05/22:00	05/22...	DFWPHLV5	22:15	0	5.0	24	9.0	Schedule...	35M	Potential	Not Submit...	
SWA1495	E31R	DEN	KDAL ESNY4 ROL	NORTH	Y	05/22:00	05/22...	DALDEN15	21:52	-20	-20.0	24	-20.0	Schedule...	35M	Potential	Not Submit...	
AAL2276	E35L	IAH	KDFW DART28 TO	SOUTH	Y	05/21:24	05/21...	DFWIAH2E	21:39	0	5.0	24	9.0	Schedule...	35M	Potential	Not Submit...	
SWA930	E31R	MCI	KDAL ESNY4 TUL	NORTH	Y	05/21:10	05/21...	DALMCI1E	21:19	-7	-8.2	24	-8.2	Schedule...	35M	Potential	Not Submit...	
ENY2665	E35L	XNA	KDFW AKUNA7 ML	NORTH	Y	05/21:38	05/22...	DFWNA1E	21:56	-25	-22.4	24	-18.4	Schedule...	35M	Potential	Not Submit...	
AAL1372	E36R	AUS	KDFW JASPA6 WIN	SOUTH	Y	05/21:35	05/21...	DFW5A3W	21:52	+7	60.4	24	64.4	Schedule...	35M	Potential	Not Submit...	
AAL2403	E35L	ATL	KDFW FORCK2 FO	EAST	Y	05/21:48	05/22...	DFWATL15	22:02	0	5.0	24	9.0	Schedule...	35M	Potential	Not Submit...	
ASH5931	E36R	ABQ	KDFW HRPFR3 HU	WEST	Y	05/21:34	05/22...	DFWABQ1N	22:07	-2	-3.5	24	8.6	Schedule...	35M	Potential	Not Submit...	
ENY719	E35L	BTR	KDFW MRSSH2 ZAL	EAST	Y	05/21:29	05/21...	DFWBTR15	21:46	0	5.0	24	9.0	Schedule...	35M	Potential	Not Submit...	
AAL2444	E35L	STL	KDFW AKUNA7 ML	NORTH	Y	05/21:35	05/22...	DFWSTL1E	21:48	-16	-20.3	24	-24.3	Schedule...	35M	Potential	Not Submit...	
AAL1284	E36R	FAT	KDFW KATZ22 BR	WEST	Y	05/21:45	05/22...	DFWFAT1N	22:31	+15	3.4	24	7.4	Schedule...	35M	Potential	Not Submit...	
ASH5883	E35L	SDF	KDFW ZACH43 BS	EAST	Y	05/21:25	05/21...	DFW5DF15	21:42	0	5.0	24	9.0	Schedule...	35M	Potential	Not Submit...	
ENY4252	E35L	SHV	KDFW MRSSH2 MR	EAST	Y	05/21:48	05/22...	DFW5HV15	22:05	-1	5.0	24	9.0	Schedule...	35M	Potential	Not Submit...	
AAL2471	E36R	ONT	KDFW WSTEX2 CK	WEST	Y	05/21:51	05/22...	DFWONT1N	22:31	+6	3.4	24	7.4	Schedule...	35M	Potential	Not Submit...	

Add Table

Figure 5.50. TOS Departure Table: Alternating row colors.

5.4.6.3.2 Set Field Color Alerts

Use the “Set Field Color Alerts” tab in the TOS Departure Color Settings window to set cell colors for selected fields.

Fields to which color alerts can be applied are listed in Table 5.8.

Table 5.8. TOS Departure Table: Set Field Color Alerts

Field	Description	Options
Coord State	TOS Route Coordination State	Enter or Select: <i>Not Submitted</i> <i>FO Submitted</i> <i>ATC Approved</i> <i>Reroute Filed</i> <i>FO Excluded</i> <i>ATC Excluded</i>
Eligibility State	TOS Route Eligibility State	Enter or Select: <i>Potential</i> <i>Candidate</i> <i>Excluded</i>
Flight Status	Flight Status	Enter or Select: <i>Scheduled_Out</i> <i>Pushback</i> <i>Out</i> <i>Taxiing_AMA</i> <i>In_Queue</i> <i>Departured</i> <i>Scheduled_In</i> <i>Enroute_Arr</i> <i>Term_Area_Arr</i> <i>On_Final</i> <i>On</i> <i>In_Ramp</i> <i>In</i> <i>Return_to_Gate</i> <i>Suspended</i> <i>Cancelled</i> <i>Unknown</i>
Top RMNT (Required Minimum Notification Time)	Minimum notification time requirement prior to pushback <i>of the “top” TOS route.</i>	[mm]
Has Scratch Pad	Flight has a user-entry in the Scratch Pad.	Select: <i>Yes</i> <i>No</i>
EOBT	Earliest Off-Block Time (EOBT) provided by the airline. Earliest predicted push back time.	[mm] Relative [hhmm] Zulu
Top Agg Del Sav	Sum of predicted Delay Savings (in minutes).	[mm]

<i>*Varies by version of the Metroplex Planner</i>	Predicted Aggregate Delay Savings = • Predicted Delay Savings for the flight rerouted on the “<i>top</i>” TOS route, plus • Predicted Delay Savings for all subsequent departures scheduled to takeoff within one hour. Negative value represents <i>reduced</i> delay (i.e., Delay Savings). Positive value represents <i>additional</i> delay. *Options can include: Airport, all airports in the TRACON, Airline, Air Carrier (Mainline), or Major Air Carrier (Fleet).	
Top Prob Del Sav > RTC	Probability of Delay Savings <i>greater than</i> the Relative Trajectory Cost (RTC) <i>for the “top” TOS route.</i>	[0-100%]

To Set Field Color Alerts in the TOS Departure Table:

Step 1: Select the “Table Color Settings” icon (Figure 5.40) in the toolbar to open the “TOS Departure Color Settings” window.

Step 2: Select the “Set Field Color Alerts” tab (Figure 5.51).

Note: *Color selections for several fields may be preset but can be modified (Figure 5.51).*

Step 3: On a new row, select a variable from the dropdown list in the “Field” column (e.g., “Flight Status” in Figure 5.51).

Note: *If a new row is not available, select “Add Fields” (Figure 5.51).*

Step 4: Select an operator from the dropdown list in the “Operator” column (e.g., “=” in Figure 5.52).

Step 5: Select a value from the dropdown list in the “Value” column (e.g., “Scheduled_Out” in Figure 5.52).

Step 6: Select the color box to open the “Choose Color” window (Figure 5.52).

Step 7: On the “Swatches” tab in the “Choose Color” window, use the mouse to select a color (e.g., light blue in Figure 5.53).

Step 8 (Optional): If necessary, use the other four color-palette tabs (HSV, HSL, RGB, CMYK) to refine the color selection.

Note: *In the “Preview” section below the color chart, the previous color (white in Figure 5.53) and a preview of the newly selected color (light blue in Figure 5.53) are displayed.*

Step 9: Select “OK” to return to the “Set Field Color Alerts” tab (Figure 5.53).

Note: *The selected color is shown on the Set Field Color Alerts tab (light blue in Figure 5.54).*

Note: *If preferred, follow the same steps to add/modify other field color alerts.*

Step 10: Select “OK” to close the TOS Departure Color Settings window and apply the color change(s) (Figure 5.54). Updated color selections are shown in the TOS Departure Table (Figure 5.55).

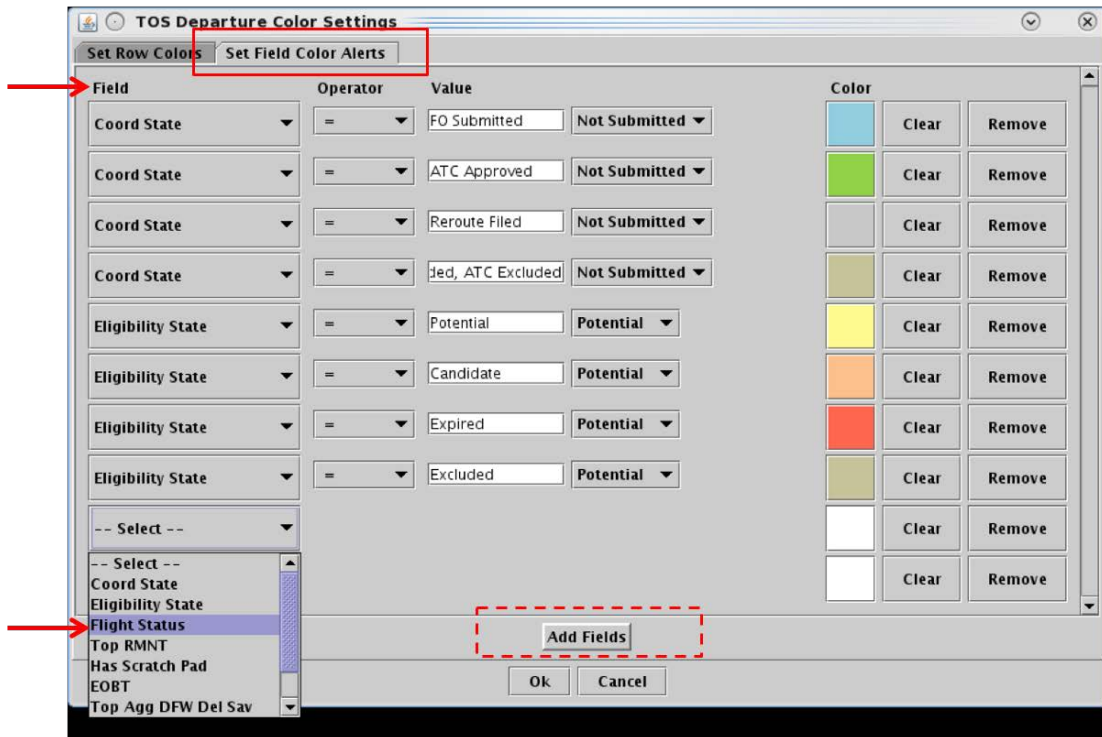


Figure 5.51. TOS Departure Table Color Settings: Set Field Color Alerts tab.

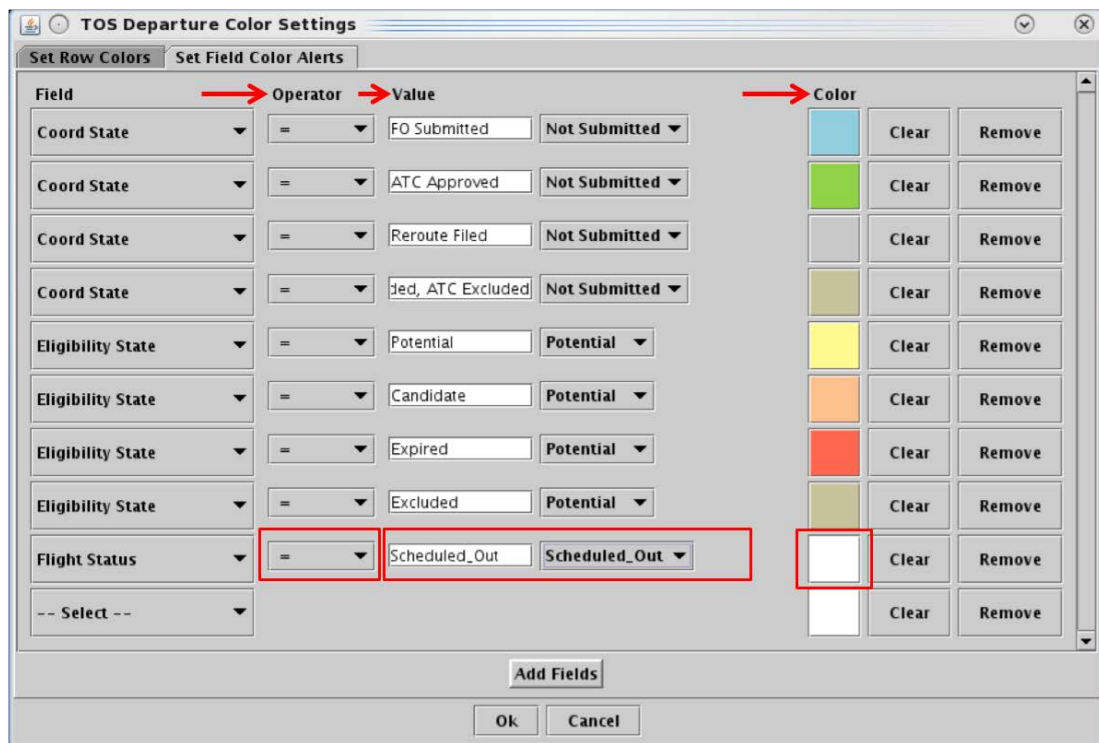


Figure 5.52. Set Field Color Alerts: Select Field, Operator, and Value.

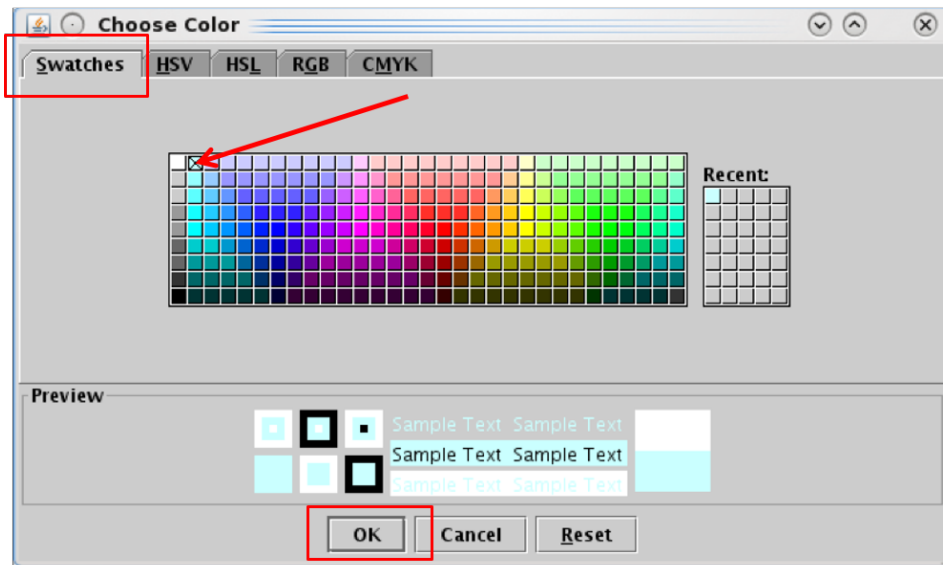


Figure 5.53. Use the “Swatches” tab to select a color. Use the HSV, HSL, RGB, or CMYK color palettes to refine the color selection.

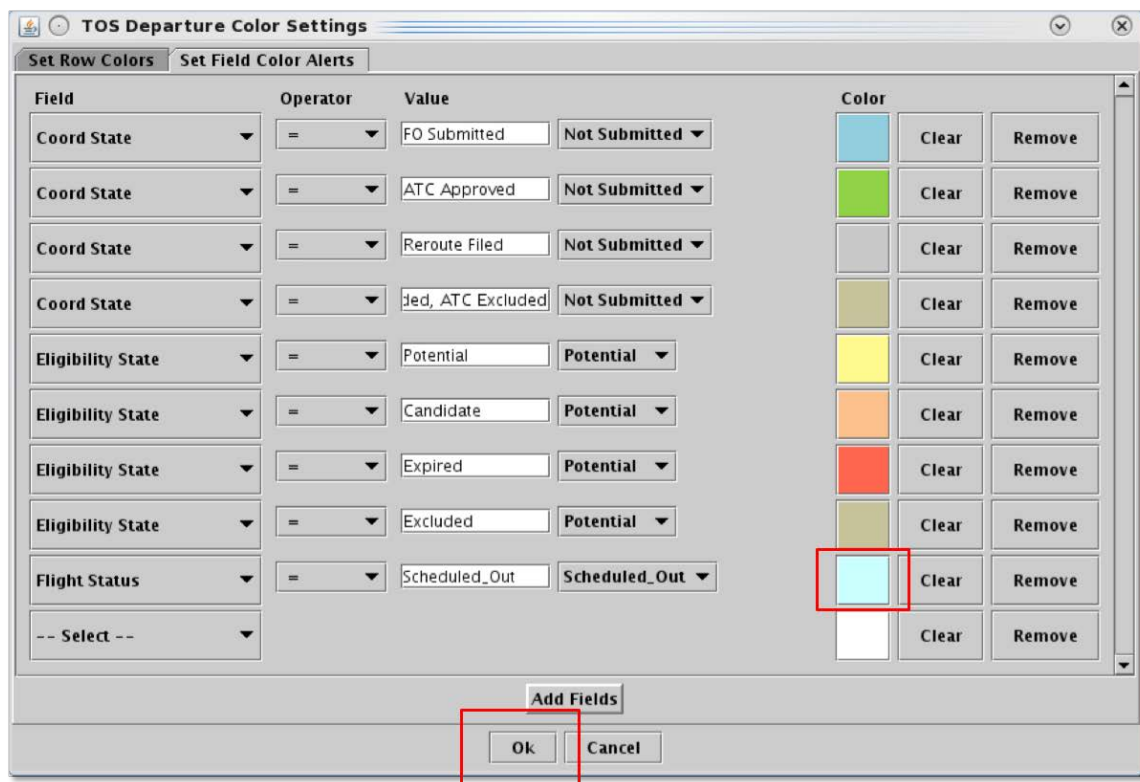


Figure 5.54. Set Field color Alerts: Newly selected color is displayed (in this example, light blue).

Metroplex Planner - DFW TOS Operations at 23:58 Z

TOS Departure - All

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	Dep Fix	EOBT	ETOT	Flight Status	Eligibility State
SWA494	E13L	STL	KDAL.SWTSR4.MLC..SGF.KAY...	NORTH	AKUNA	01/00:35	01/01:26	Scheduled_Out	Candidate
ASH5846	E17R	MLI	KDFW.AKUNA7.MLC..EOS..M2...	NORTH	AKUNA		01/01:03	Scheduled_Out	Candidate
AAL1294	E18L	ORD	KDFW.BLECO8.TUL..WELTS.S...	NORTH	BLECO		01/00:39	Scheduled_Out	Candidate
AAL1241	E18L	SEA	KDFW.BLECO8.IRW..GCK..LA...	NORTH	BLECO		01/00:31	Taxiing_AMA	Candidate
AAL121	E17R	MSY	KDFW.MRSSH2.ZALEA..SWB..L...	EAST	THHOR		01/00:02	Taxiing_AMA	Potential
AAL2401	E17R	TPA	KDFW.MRSSH2.ZALEA..CREE...	EAST	THHOR		01/00:13	Scheduled_Out	Potential
AAL2175	E17R	CLE	KDFW.ZACHH3.BSKAT..LIT..J1...	EAST	ZERLU		01/00:10	Scheduled_Out	Potential
SWA408	E13L	MCO	KDAL.LNDRE5.ZALEA..SWB..C...	EAST	THHOR	01/00:30	01/00:38	Scheduled_Out	Potential
SWA4512	E13R	AUS	KDAL.CURL05.WINDU.SEWZY...	SOUTH	JASPA	01/00:45	01/00:54	Scheduled_Out	Potential
AAL1660	E17R	MCO	KDFW.MRSSH2.ZALEA..CREE...	EAST	THHOR		01/00:05	Pushback	Potential
AAL2531	E17R	PHL	KDFW.TRYTN3.LOOSE..MEM..J...	EAST	TRRCH		01/00:24	Scheduled_Out	Potential
SWA784	E13R	LBB	KDAL.KKIT55.BRHMA..KLBB/...	WEST	ROOOO	01/00:55	01/01:04	Scheduled_Out	Potential
ASH5738	E18L	ELP	KDFW.WSTEX2.CIKAN..LIFFT...	WEST	RBBIT		01/00:24	Scheduled_Out	Potential
AAL2752	E17R	DCA	KDFW.TRYTN3.LOOSE..MEM..J...	EAST	TRRCH		01/00:19	Scheduled_Out	Potential
SWA1572	E13R	SAT	KDAL.CURL05.WINDU.BRAUN...	SOUTH	JASPA		01/01:38	Scheduled_Out	Potential
AAL364	E18L	SJC	KDFW.HRPER3.HULZE..TXO..J...	WEST	TYGGR		01/00:03	Taxiing_AMA	Potential
ENY4032	E17R	TLH	KDFW.MRSSH2.ZALEA..SWB.....	EAST	THHOR		01/00:08	Pushback	Potential
AAL1456	E17R	BOS	KDFW.ZACHH3.BSKAT..LIT..J1...	EAST	ZERLU		01/00:04	Pushback	Potential
SWA1122	E13L	LAS	KDAL.KKIT55.HULZE..TXO..K...	WEST	TYGGR	01/00:55	01/01:06	Scheduled_Out	Potential
JIA5017	E17R	DAY	KDFW.ZACHH3.BSKAT..LIT..J1...	EAST	ZERLU		01/00:17	Scheduled_Out	Potential
ASH5723	E18L	HOU	KDFW.ARDIA7.ELLVR..NNEAL...	SOUTH	ARDIA		31/23:58	In_Queue	Potential
ASH5777	E18L	LBB	KDFW.KATZZ2.BRHMA..KLBB.....	WEST	ROOOO		01/00:16	Scheduled_Out	Potential
AAL934	E17R	FLL	KDFW.MRSSH2.ZALEA..SWB.....	EAST	THHOR		01/00:16	Scheduled_Out	Potential
SWA749	E13R	OAK	KDAL.KKIT55.HULZE..TXO..A...	WEST	TYGGR	01/00:25	01/00:35	Scheduled_Out	Potential
SWA462	E13R	SAN	KDAL.KKIT55.CIKAN..EWM..J4...	WEST	RBBIT		01/01:27	Scheduled_Out	Potential
SWA359	E13L	MDW	KDAL.SWTSR4.MLC..SGF..MA...	NORTH	AKUNA	01/00:55	01/01:34	Scheduled_Out	Potential
AAL2072	E17R	ATL	KDFW.FORCK2.FORCK..ELD.....	EAST	HANUH		01/00:20	Scheduled_Out	Potential
AAL1207	E18L	TUS	KDFW.WSTEX2.CIKAN..EWM.....	WEST	RBBIT		31/23:59	In_Queue	Potential
SWA502	E13R	PIT	KDAL.LNDRE5.LOOSE..MEM.....	EAST	TRRCH	01/00:01	01/00:10	Scheduled_Out	Potential
AAL1243	E18L	SAN	KDFW.WSTEX2.CIKAN..EWM..J...	WEST	RBBIT		01/00:05	Out	Potential
AAL1219	E17R	MIA	KDFW.MRSSH2.ZALEA..SWB.....	EAST	THHOR		01/00:03	Taxiing_AMA	Potential
AAL1578	E17R	MSP	KDFW.BLECO8.ZEMMA..PER.....	NORTH	BLECO		31/23:59	In_Queue	Potential
AAL2636	E18L	AUS	KDFW.JASPA6.WINDU.SEWZY...	SOUTH	JASPA		01/00:14	Pushback	Potential
SWA1674	E13R	TUL	KDAL.SWTSR4.EAKER..TUL..K...	NORTH	GRABE	01/00:30	01/01:18	Scheduled_Out	Potential
SKW2971	E17R	SHV	KDFW.MRSSH2.MRSSH..KSHV...	EAST	THHOR		01/00:07	Pushback	Potential

Add Table

Figure 5.55. TOS Departure Table: Field Color Alerts (in this example, Flight Status = Scheduled_Out is highlighted light blue). (In this example, previously set Field Color Alerts are also visible in the “Eligibility State” column.)

5.4.6.4 Save for Quick Create

Use “Save for Quick Create” (Figure 5.40) to save TOS Departure Table configuration settings.

To save TOS Departure Table settings:

Step 1: Select the “Save for Quick Create” icon (Figure 5.40) in the toolbar.

Step 2: Enter a file name (e.g., “Flight_Operator” Figure 5.56).

Step 3: Select “Save” (Figure 5.56).

Step 4: Select “OK” in the pop-up window (Figure 5.56).

Note: To open a saved configuration, use “Add Table” (Figure 5.57).

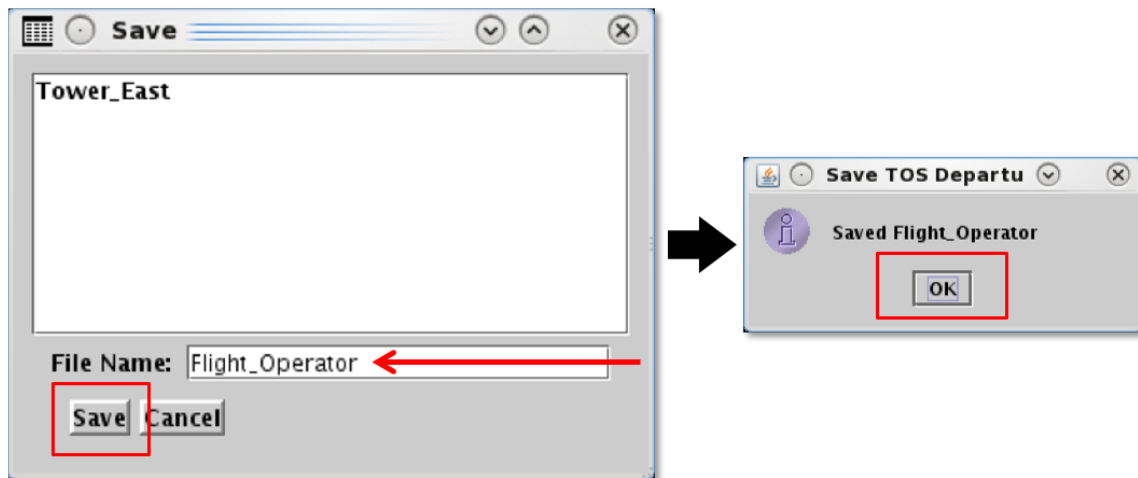


Figure 5.56. TOS Departure Table: Save for Quick Create.

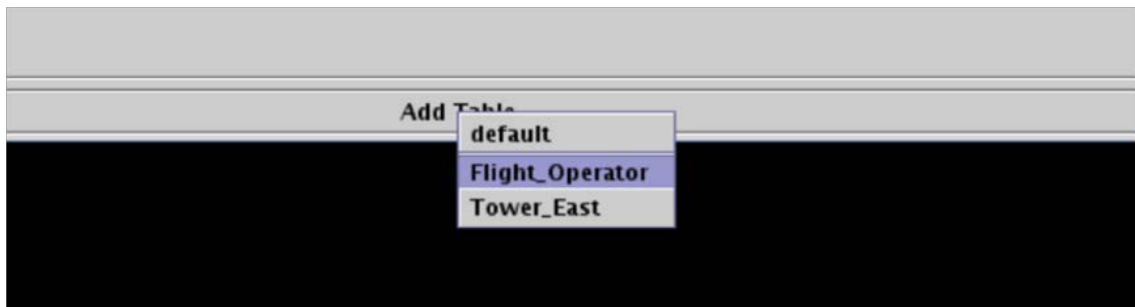


Figure 5.57. Create a TOS Departure Table using a saved configuration (in this example, “Flight_Operator”).

5.4.6.5 TOS Departure Table Properties

Use “TOS Departure Table Properties” (Figure 5.40) to select the number of rows visible in a TOS Departure Table.

To change TOS Departure Table Properties:

Step 1: Select the “TOS Departure Table Properties” icon (Figure 5.40) in the toolbar.

Step 2: Select “Show All Rows” to display all rows in a table.

Alternatively: Enter the maximum number of rows to be display (e.g., “10” in Figure 5.58).

Step 3: Select “Apply” to save the change (Figure 5.58).

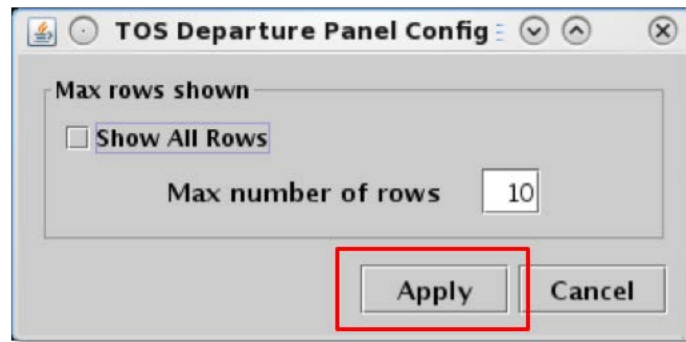


Figure 5.58. TOS Departure Table: Properties.

5.4.7 TOS Departure Table: Search

Use the “Search” function to search for flights in the TOS Departure Table. Search criteria are listed in Table 5.9.

Table 5.9. TOS Departure Table: Search Criteria

Search Criteria	Example
Departure Flights	
Flight number	1456
Air Carrier	AAL
Call Sign	AAL1456
Tail Number	N123AB
3-letter Destination Airport	BOS
Departure Fix <i>*Procedure Names cannot be used for Search.</i>	TRRCH
Departure Gate	EAST

To Search for Flights in the TOS Departure Table:

Step 1: Enter search criteria in the “Search” field on the toolbar (e.g., “North” Departure Gate in Figure 5.59). Flights matching the search criteria are highlighted in the TOS Departure Table, as well as, the:

- Timeline
- Map
- Flights Table

Note: *As text/digits are entered in the search field, flights matching that criteria (full or partial) will be highlighted.*

Alternatively: Select “Clear” to clear the Search field.

Metroplex Planner - DFW TOS Operations at 17:20 Z

Search NORTH Clear

TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	EOBT	Flight Status	TMI Info	Eligibility State	Coord State
ENY3400	E18L	ABQ	KDFW.HRPER3.HULZE..TXO.MIER...	WEST	14/18:22	Scheduled_Out		Potential	Not Submitted
ENY3791	E17R	GPT	KDFW.MRSSH2.ZALEA.SWB.KGPT...	EAST	14/18:00	Scheduled_Out		Potential	Not Submitted
AAL1769	E18L	LAX	KDFW.KATZZ2.BRHMA..CNX.J74...	WEST	14/18:00	Scheduled_Out		Potential	Not Submitted
AAL671	E18L	LAS	KDFW.HRPER3.HULZE..TXO..KA3...	WEST	14/18:00	Scheduled_Out		Potential	Not Submitted
AAL2559	E17R	DTW	KDFW.AKUNA7.MLC..RZC..FAM..V...	NORTH	14/18:00	Scheduled_Out		Potential	Not Submitted
SKW2965	E18L	ELP	KDFW.WSTEX2.CIKAN..LIFFT.SAM...	WEST	14/17:49	Scheduled_Out		Potential	Not Submitted
ENY3450	E17R	HSV	KDFW.FORCK2.FORCK..ELD..SQS....	EAST	14/17:45	Scheduled_Out		Potential	Not Submitted
AAL1009	E17R	BNA	KDFW.TRYTN3.LOOSE..MEM.CHS...	EAST	14/17:44	Scheduled_Out		Potential	Not Submitted
ASH5734	E18L	OKC	KDFW.BLECO8.ZEMMA.TSDEL3.K...	NORTH	14/17:43	Scheduled_Out		Potential	Not Submitted
SKW2966	E18L	OMA	KDFW.BLECO8.ZEMMA.PER..PWE....	NORTH	14/17:42	Scheduled_Out		Potential	Not Submitted
AAL2533	E17R	PHL	KDFW.FORCK2.FORCK..ELD..KM2...	EAST	14/17:40	Scheduled_Out		Potential	Not Submitted
AAL2314	E17R	MCO	KDFW.MRSSH2.ZALEA..CREEM..CE...	EAST	14/17:40	Scheduled_Out		Potential	Not Submitted
AAL1556	E17R	TUL	KDFW.GRABE8.EAKER..TUL..KTUL...	NORTH	14/17:40	Scheduled_Out		Potential	Not Submitted
AAL2736	E17R	EWR	KDFW.ZACHH3.BSKAT..LIT.J131.P...	EAST	14/17:39	Scheduled_Out		Potential	Not Submitted
AAL2430	E17R	TPA	KDFW.MRSSH2.ZALEA.SWB..HRV....	EAST	14/17:39	Scheduled_Out		Potential	Not Submitted
ENY3346	E18L	MCI	KDFW.BLECO8.TUL..CNU.JHAWK6...	NORTH	14/17:37	Scheduled_Out		Potential	Not Submitted
ENY3627	E17R	SDF	KDFW.ZACHH3.BSKAT..LIT.J131.P...	EAST	14/17:37	Scheduled_Out		Potential	Not Submitted
AAL1599	E18L	SNA	KDFW.KATZZ2.BRHMA..CNX..KA2...	WEST	14/17:36	Scheduled_Out		Potential	Not Submitted
AAL334	E18L	SAT	KDFW.JASPA6.WINDU.BRAUN3.KS...	SOUTH	14/17:36	Scheduled_Out		Potential	Not Submitted
ASH5967	E18L	LBB	KDFW.KATZZ2.BRHMA..KLBB/0043	WEST	14/17:35	Scheduled_Out		Potential	Not Submitted
AAL812	E17R	STL	KDFW.AKUNA7.MLC..SGF.KAYLA3...	NORTH	14/17:35	Scheduled_Out		Potential	Not Submitted
AAL1018	E17R	IND	KDFW.AKUNA7.MLC..RZC..STL..JA...	NORTH	14/17:34	Scheduled_Out		Potential	Not Submitted
ENY3740	E18L	DSM	KDFW.BLECO8.TUL.J25.DSM..KDS...	NORTH	14/17:32	Scheduled_Out		Potential	Not Submitted
AAL1148	E17R	BOS	KDFW.AKUNA7.MLC..KM36G..KE...	NORTH	14/17:32	Scheduled_Out		Potential	Not Submitted
ENY4194	E17R	XNA	KDFW.AKUNA7.MLC..RZC..KXNA/...	NORTH	14/17:32	Scheduled_Out		Potential	Not Submitted
AAL2635	E18L	DEN	KDFW.HUDAD2.HUDAD..PNH..ZIG...	WEST	14/17:31	Scheduled_Out		Potential	Not Submitted

Add Table

Figure 5.59. Search results highlighted in cyan (in this example, “North” Departure Gate flights).

5.4.8 TOS Departure Table: Right-Click Menu

Note: Menu options and functionality vary by version of the Metroplex Planner.

Additional options are available on the right-click menu when TOS Submissions are active (Section 3.1.9.1):

- **TOS Flight Menu** (discussed separately in Section 5.5)
- **Scratch Pad** (Section 5.4.8.2)
- *Flight Operator version of the Metroplex Planner:*
 - **Submit a TOS Route** (Section 5.4.8.3) / **Undo Submit** (Section 5.4.8.4).
 - **Exclude from TOS** (Section 5.4.8.7) / **Undo Exclude** (Section 5.4.8.8).
- *ATC version of the Metroplex Planner:*
 - **Approve TOS Route** (Section 5.4.8.5) / **Undo Approve** (Section 5.4.8.6).

Other right-click menu options, not related specifically to TOS Operations, are described in Section 6.9.

5.4.8.1 TOS Flight Menu

See Section 5.5 for a description of the TOS Flight Menu.

5.4.8.2 Scratch Pad

Use the Scratch Pad to enter notes about a flight that appears in the TOS Departure Table.

To edit the Scratch Pad for a flight in the TOS Departure Table:

Note: This option is only available when TOS Submissions are active (Section 3.1.9.1) and the flight appears in the TOS Departure Table.

Step 1: Right-click on a flight in the TOS Departure Table.

Step 2: Select “Scratch Pad” from the right-click menu (Figure 5.60).

Note: *“Scratch Pad” is also available as a right-click menu option in the TOS Flight Menu and on the Timeline (Figure 5.60).*

Step 3: Enter text in the Scratch Pad field:

- ATC Users see Figure 5.61
- Flight Operators see Figure 5.62.

Step 4 (Optional for Flight Operators): Flight Operators have the option of hiding their Scratch Pad entry from other users. The “Hide Scratch Pad entry from ATC and other airlines” option is checked by default. If the option is *unchecked*, the scratch pad entry will be visible to ATC users and other Flight Operators.

Step 5: Select “Apply” to save the entry and close the Scratch Pad window (Figure 5.62).

Alternatively: Select “Cancel” to close the Scratch Pad window without saving any changes or select “Clear” to clear the text box.

Note: *A Scratch Pad entry is displayed in the “Scratch Pad” column in the TOS Departure Table (Figure 5.63) and the TOS Flight Menu (Figure 5.64). See Section 5.4.6.2 for a description of configuring columns in the TOS tables.*

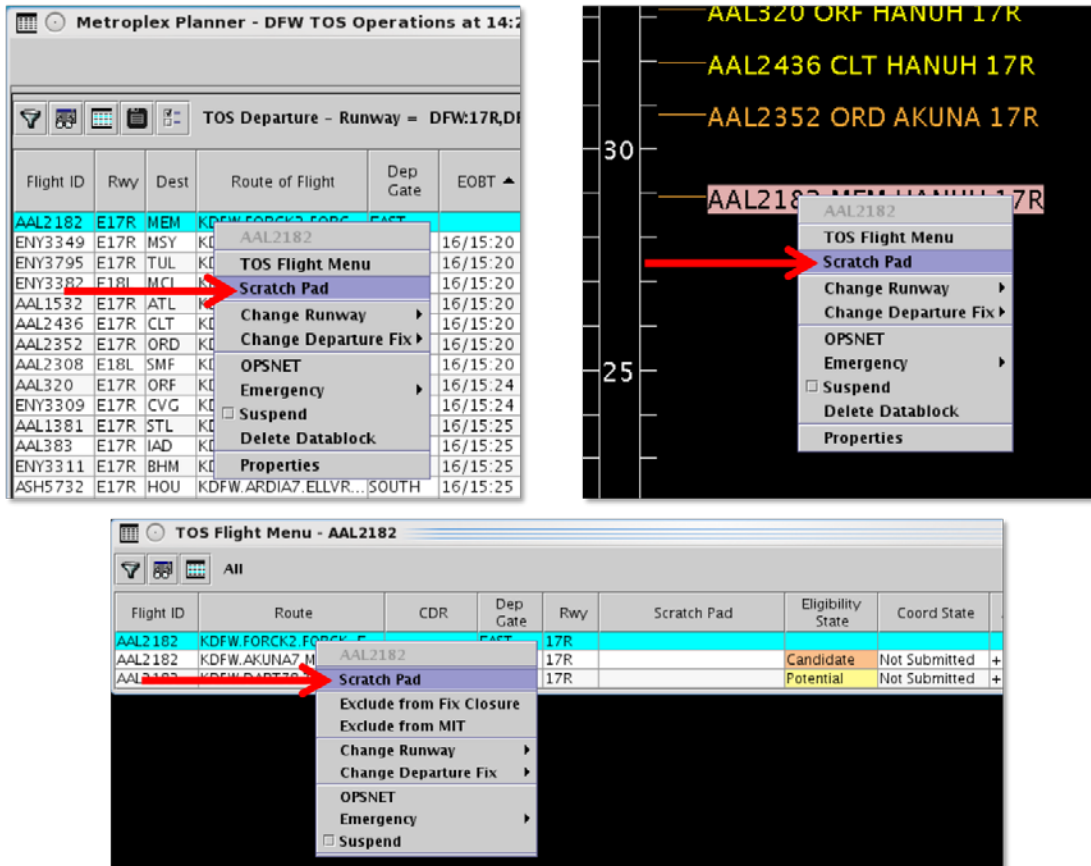


Figure 5.60. Access the Scratch Pad via the right-click menu in the TOS Departure Table, Timeline, or TOS Flight Menu.

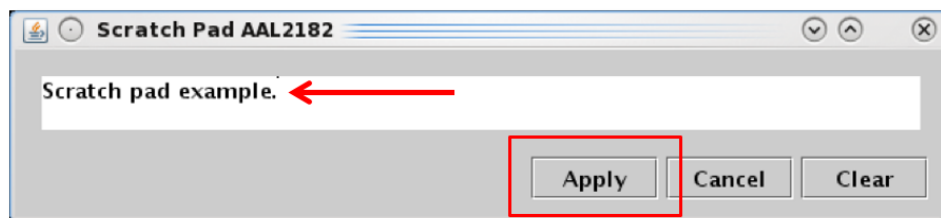


Figure 5.61. TOS Scratch Pad (in ATC versions of the Metroplex Planner).

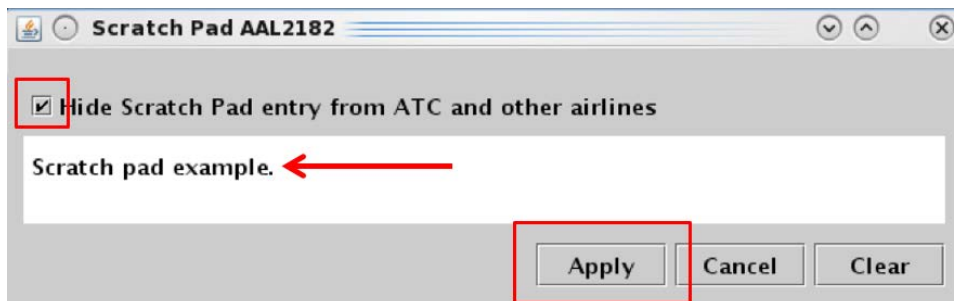


Figure 5.62. TOS Scratch Pad (in Flight Operator versions of the Metroplex Planner).

Metroplex Planner - DFW TOS Operations at 15:05 Z								
TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R								
Flight ID	Rwy	Dest	Route of Flight	Dep Gate	EOBT ▲	Scratch Pad	Eligibility State	Coo
AAL2436	E17R	CLT	KDFW.FORCK...	EAST	16/15:15		Potential	Not S
AAL2352	E17R	ORD	KDFW.AKUNA...	NORTH	16/15:15		Potential	Not S
AAL2182	E17R	MEM	KDFW.FORCK...	EAST	16/15:16	Scratch pad example.	Potential	Not S
AAL2308	E18L	SMF	KDFW.HRPER...	WEST	16/15:16		Potential	Not S
ENY3795	E17R	TUL	KDFW.GRABE...	NORTH	16/15:17		Potential	Not S
AAL1532	E17R	ATL	KDFW.FORCK...	EAST	16/15:17		Candidate	Not S
ENY3349	E17R	MSY	KDFW.MRSSH...	EAST	16/15:18		Candidate	Not S
AAL1381	E17R	STL	KDFW.AKUNA...	NORTH	16/15:19		Potential	Not S

Figure 5.63. TOS Departure Table: Scratch pad column.

TOS Flight Menu - AAL2182						
All						
Flight ID	Route	CDR	Dep Gate	Rwy	Scratch Pad	Eligibil State
AAL2182	KDFW.FORCK2.FORCK..E...		EAST	17R	Scratch pad example.	
AAL2182	KDFW.AKUNA7.MLC...RZC...	DFWMEM1N	NORTH	17R	Scratch pad example.	Candidat
AAL2182	KDFW.DARTZ8.TNV...IAH...	DFWMEM15	SOUTH	17R	Scratch pad example.	Potential

Figure 5.64. TOS Flight Menu: Scratch pad column.

5.4.8.3 Submit TOS Route (for Flight Operator users)

**Note: This menu option is only available in the Flight Operator version of the Metroplex Planner.*

Flight Operators can use the right-click menu to “Submit” a TOS route to ATC.

To Submit a TOS route to ATC:

Note: This option is only available when TOS Submissions are active (Section 3.1.9.1) and the flight appears in the TOS Departure Table.

Step 1: In the TOS Departure Table, right-click on the row of a flight with a “Not Submitted” Coordination State.

Step 2: Hover over “Submit” to view TOS route options (Figure 5.65).

Step 3: Click on a TOS route to submit the route to ATC. If more than one route is available, the first route corresponds to the “top” TOS route (for example, the “DFWIAD1N” route in Figure 5.65).

Note: “Submit” is also available as a right-click menu option in the TOS Flight Menu (Figure 5.66) and on the Timeline (Figure 5.67).

Note: More than one TOS route option can be submitted for a single flight. Repeat the above steps to submit another TOS route.

The screenshot shows the 'Flight Operator - AAL TOS Operations at 15:22 Z' window. The 'TOS Departure - Eligibility State = Candidate' table is displayed. A right-click menu is open for flight AAL383, showing options: 'Submit', 'TOS Flight Menu', 'Scratch Pad', 'Exclude from TOS', and 'Properties'. The 'Submit' option is highlighted, and a sub-menu is visible showing route options: 'DFWIAD1N Candidate ETOT=15:29 DelaySavings=-23', 'DFWIADVS Potential ETOT=15:29 DelaySavings=-23', 'DFWIADJ3 Potential ETOT=15:29 DelaySavings=-23', and 'DFWIAD1S Potential ETOT=15:29 DelaySavings=-23'.

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	EOBT ▲	Top Total Delay Savings OFF	TMI Info	Eligibility State	Coord State	Flt
ENY3349	E17R	MSY	KDFW.MRSSH2.ZALEA.....	EAST	16/15:18	-67	35M	Candidate	Not Submitted	Pu
AAL383	E17R	LGA	KDFW.TRYTN3.LOOSE.....	EAST	16/15:19	-31	35M FixClsd	Candidate	Not Submitted	Pu
AAL320	E	AAL383	RCK2.FORCK.....	EAST	16/15:21	-38	35M FixClsd	Candidate	Not Submitted	Pu
ENY3309	E	Submit	DFWIAD1N Candidate ETOT=15:29 DelaySavings=-23					Candidate	Not Submitted	Pu
ENY3311	E	TOS Flight Menu	DFWIADVS Potential ETOT=15:29 DelaySavings=-23					Candidate	Not Submitted	Pu
AAL2550	E	Scratch Pad	DFWIADJ3 Potential ETOT=15:29 DelaySavings=-23					Candidate	Not Submitted	Sci
AAL2368	E	Exclude from TOS	DFWIAD1S Potential ETOT=15:29 DelaySavings=-23					Candidate	Not Submitted	Sci
AAL1853	E	Properties	SSH2.ZALEA.....	EAST	16/15:25	-45	35M	Candidate	Not Submitted	Pu
AAL1180	E							Candidate	Not Submitted	Pu
AAL1310	E17R	DCA	KDFW.TRYTN3.LOOSE.....	EAST	16/15:26	-101	35M FixClsd	Candidate	Not Submitted	Sci
ENY3319	E17R	BTR	KDFW.MRSSH2.ZALEA.....	EAST	16/15:26	-109	35M	Candidate	Not Submitted	Sci
AAL157	E17R	LGA	KDFW.TRYTN3.LOOSE.....	EAST	16/15:27	-115	35M FixClsd	Candidate	Not Submitted	Sci

Figure 5.65. TOS Departure Table Right-Click Menu: Submit a TOS route.

Flight ID	Route	CDR ▲	Dep Gate	Rwy	Dist nm	Total Delay Savings OFF	Eligibility State	Coord State
AAL383	KDFW.TRYTN3.LOOSE..M...		EAST	17R	1033			
AAL383	KDFW.AKUNA7.M...		NORTH	17R	1108	-88	Candidate	Not Submitted
AAL383	KDFW.DART28.T...		SOUTH	17R	1309	-88	Potential	Not Submitted
AAL383	KDFW.AKUNA7.M...							
AAL383	KDFW.DART28.T...		SOUTH	17R	1326	-88	Potential	Not Submitted

Figure 5.66. TOS routes can also be submitted from the TOS Flight Menu right-click menu.

Flight ID	Route	CDR ▲	Dep Gate	Rwy	Dist nm	Total Delay Savings OFF	Eligibility State	Coord State
AAL383	KDFW.AKUNA7.M...		NORTH	17R	1108	-88	Candidate	Not Submitted
AAL383	KDFW.DART28.T...		SOUTH	17R	1309	-88	Potential	Not Submitted
AAL383	KDFW.AKUNA7.M...							
AAL383	KDFW.DART28.T...		SOUTH	17R	1326	-88	Potential	Not Submitted

Figure 5.67. TOS routes can also be submitted from the Timeline right-click menu.

Information about each TOS route is displayed in the “Submit” menu:

- CDR/City-pair (e.g., DFWIAD1N)
- Eligibility State (i.e., Candidate or Potential)
- Estimated Takeoff Time (ETOT) (*hhmm*)
- Total Delay Savings OFF (*mm*)

If a “top” route has been identified for the flight, it is displayed on the first row (e.g., “DFWPHLJ3” in Figure 5.67).

Upon submission of a TOS Route:

- In the TOS Departure Table, the *flight’s* Coordination State changes from “Not Submitted” to “FO Submitted” (Figure 5.68).

Metroplex Planner - DFW TOS Operations at 15:20 Z

TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	EOBT	Eligibility State	Coord State	To
AAL1475	E17R	RSW	KDFW.MRSSH...	EAST	16/15:45	Candidate	Not Submitted	DFWF
AAL157	E17R	LGA	KDFW.TRYTN...	EAST	16/15:27	Candidate	Not Submitted	DFWL
AAL792	E17R	PHL	KDFW.TRYTN...	EAST	16/15:34	Candidate	Not Submitted	DFWF
ENY3482	E17R	CHS	KDFW.FORCK...	EAST	16/15:35	Candidate	Not Submitted	DFWC
ENY4178	E17R	RDU	KDFW.ZACHH...	EAST	16/15:27	Candidate	Not Submitted	DFWF
AAL2550	E17R	MIA	KDFW.MRSSH...	EAST	16/15:24	Candidate	Not Submitted	DFWF
ENY3349	E17R	MSY	KDFW.MRSSH...	EAST	16/15:18	Candidate	Not Submitted	DFWF
AAL383	E17R	IAD	KDFW.TRYTN...	EAST	16/15:19	Candidate	FO Submitted	DFWF
AAL2316	E17R	RIC	KDFW.FORCK...	EAST	16/15:39	Candidate	Not Submitted	DFWF
AAL320	E17R	ORF	KDFW.FORCK...	EAST	16/15:21	Candidate	Not Submitted	DFWC

Figure 5.68. TOS Departure Table: Coordination State changes to “FO Submitted”.

- In the TOS Flight Menu, the **route’s** Coordination State changes from “Not Submitted” to “FO Submitted” (Figure 5.69).

TOS Flight Menu - AAL383

All

Flight ID	Route	CDR	Dep Gate	Rwy	Eligibility State	Coord State	Add nm	T Del
AAL383	KDFW.TRYTN3.LOOSE..M...		EAST	17R				+93
AAL383	KDFW.AKUNA7.MLC..RZC...	DFWIAD1N	NORTH	17R	Candidate	FO Submitted		-5
AAL383	KDFW.DARTZ8.TNV..IAH...	DFWIAD15	SOUTH	17R	Candidate	Not Submitted	+276	-5
AAL383	KDFW.AKUNA7.MLC..RZC...	DFWIADJ3	NORTH	17R	Candidate	Not Submitted	+104	-5
AAL383	KDFW.DARTZ8.TNV..J87..I...	DFWIADVS	SOUTH	17R	Potential	Not Submitted	+293	-5

Figure 5.69. TOS Flight Menu: Coordination State changes to “FO Submitted”.

- On the Timeline, a “T” highlighted in *white* is displayed next to the flight’s datablock (Figure 5.70).



Figure 5.70. Timeline: White “T” icon indicates that the Flight Operator has submitted one or more TOS routes for this flight.

- If ATC has enabled TOS Alerts (Section 3.6.2), they are notified of the submission (Figure 5.71).

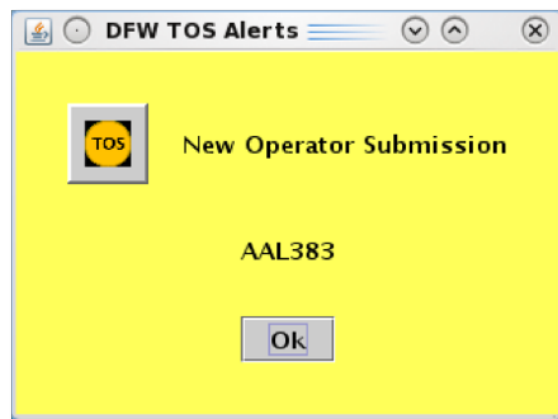


Figure 5.71. ATC is alerted of the new TOS Submission.

5.4.8.4 Undo Submit (for Flight Operator users)

**Note: This menu option is only available in the Flight Operator version of the Metroplex Planner.*

Flight Operators can use the right-click menu to undo a submission as well.

To Undo a TOS Route Submission:

Note: This option is only available when TOS Submissions are active (Section 3.1.9.1) and the flight appears in the TOS Departure Table.

Step 1: In the TOS Departure Table, right-click on the row of a flight with an “FO Submitted” Coordination State.

Step 2: Hover over “Undo Submit” to view submitted routes (Figure 5.72).

Step 3: Click on a route to cancel the submission (for example, the “DFWIAD1N” route in Figure 5.72).

Note: “Undo Submit” is also available as a right-click menu option in the TOS Flight Menu (Figure 5.73) and on the Timeline (Figure 5.74).

Note: The “Undo Submit” option is available until ATC approves the submission. After the route has been approved, “Undo Submit” is no longer available. If further coordination is required, the Flight Operator should contact ATC by phone.

Flight Operator - AAL TOS Operations at 15:21 Z

Search

TOS Departure - Eligibility State = Candidate

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	EOBT ▲	Top Total Delay Savings OFF	TMI Info	Eligibility State	Coord :
ENY3349	E17R	MSY	KDFW.MRSSH2.ZALEA.....	EAST	16/15:18	-58	35M	Candidate	Not Submit
AAL383	E17R	IAD	KDFW.TRYTN3.LOOSE.....	EAST	16/15:19	-30	35M FixClsd	Candidate	FO Submitt
AAL320	E17R	IAD	KDFW.TRYTN3.LOOSE.....	EAST	16/15:21	-52	35M FixClsd	Candidate	Not Submit
ENY3309	E17R	BTR	KDFW.MRSSH2.ZALEA.....	EAST	16/15:21	-96	35M FixClsd	Candidate	Not Submit
ENY3311	E17R	IAD	KDFW.TRYTN3.LOOSE.....	EAST	16/15:21	-96	35M FixClsd	Candidate	Not Submit
AAL2550	E17R	IAD	KDFW.TRYTN3.LOOSE.....	EAST	16/15:24	-74	35M	Candidate	Not Submit
AAL2368	E17R	IAD	KDFW.TRYTN3.LOOSE.....	EAST	16/15:25	-88	35M FixClsd	Candidate	Not Submit
AAL1853	E17R	BTR	KDFW.MRSSH2.ZALEA.....	EAST	16/15:25	-104	35M FixClsd	Candidate	Not Submit
AAL1180	E17R	IAD	KDFW.TRYTN3.LOOSE.....	EAST	16/15:25	-80	35M	Candidate	Not Submit
AAL1310	E17R	DCA	KDFW.TRYTN3.LOOSE.....	EAST	16/15:26	-108	35M FixClsd	Candidate	Not Submit
ENY3319	E17R	BTR	KDFW.MRSSH2.ZALEA.....	EAST	16/15:26	-116	35M	Candidate	Not Submit

Right-click menu for AAL383:

- Submit
- Undo Submit
- TOS Flight Menu
- Scratch Pad
- Properties

Figure 5.72. TOS Departure Table Right-Click Menu: Undo a TOS route submission.

TOS Flight Menu - AAL383

All

Flight ID	Route	CDR ▲	Dep Gate	Rwy	Dist nm	Total Delay Savings OFF	Eligibility State	Coord State
AAL383	KDFW.TRYTN3.LOOSE..M...		EAST	17R	1033			
AAL383	KDFW.AKUNA7.MLC..RZC	DFWIAD1N	NORTH	17R	1108	-98	Candidate	FO Submitted
AAL383	KDFW.DARTZ8.TNV..IAH..	AAL383	SOUTH	17R	1309	-98	Candidate	Not Submitted
AAL383	KDFW.AKUNA7.MLC..RZC							
AAL383	KDFW.DARTZ8.TNV..J87..							

Right-click menu for AAL383:

- Submit
- Undo Submit
- TOS Flight Menu
- Scratch Pad
- Properties

Figure 5.73. “Undo Submit” is also available on the TOS Flight Menu right-click menu.

Timeline right-click menu for AAL383:

- Submit
- Undo Submit
- TOS Flight Menu
- Scratch Pad
- Properties

Figure 5.74. “Undo Submit” is also available on the Timeline right-click menu.

5.4.8.5 Approve TOS Route (for ATC users)

**Note: This menu option is only available in the ATC version of the Metroplex Planner.*

ATC users can use the right-click menu to “Approve” a TOS route that has been submitted by a Flight Operator. ATC can approve an FO-Submitted route with an Eligibility State of either Candidate or Potential.

To Approve a TOS Route:

Note: This option is only available when TOS Submissions are active (Section 3.1.9.1) and the flight appears in the TOS Departure Table.

Step 1: In the TOS Departure Table, right-click on the row of a flight with an “FO Submitted” Coordination State.

Step 2: Hover over “Approve” to view submitted routes (Figure 5.75).

Step 3: Click on a route to approve the TOS reroute (for example, the “DFWIAD1N” route in Figure 5.75).

Note: “Approve” is also available as a right-click menu option in the TOS Flight Menu (Figure 5.76) and on the Timeline (Figure 5.77).

Note: ATC will need to use the appropriate procedures for amending the route and communicating with the flight deck.

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	EOBT	Eligibility State	Coord State	Top CDR	Top D Savir
AAL383	E1	MD	MDW-TOLSON	EAST	16/15:19	Candidate	FO Submitted	DFWIAD1N	-38
AAL2316	E1	MD	MDW-TOLSON	EAST	16/15:39	Candidate	Not Submitted	DFWBRIC1N	-138
AAL320	E1	MD	MDW-TOLSON	EAST	16/15:39	Candidate	Not Submitted	DFWBRIC1N	-138
ENY3311	E1	MD	MDW-TOLSON	EAST	16/15:22	Candidate	Not Submitted	DFWBHM1N	-68
AAL1310	E1	MD	MDW-TOLSON	EAST	16/15:26	Candidate	Not Submitted	DFWDCA1N	-102
ENY3319	E1	MD	MDW-TOLSON	EAST	16/15:26	Candidate	Not Submitted	DFWBTR1S	-110
AAL2353	E1	MD	MDW-TOLSON	EAST	16/15:40	Candidate	Not Submitted	DFWTPA1S	-152
AAL2368	E1	MD	MDW-TOLSON	EAST	16/15:25	Candidate	Not Submitted	DFWBWJ3	-62
AAL1966	E1	MD	MDW-TOLSON	EAST	16/15:44	Candidate	Not Submitted	DFWMC01S	-175
ENY3309	E1	MD	MDW-TOLSON	EAST	16/15:21	Candidate	Not Submitted	DFWCVG1N	-99
AAL1853	E1	MD	MDW-TOLSON	EAST	16/15:25	Candidate	Not Submitted	DFWBOSJ3	-54
AAL1180	E1	MD	MDW-TOLSON	EAST	16/15:25	Candidate	Not Submitted	DFWFLL1S	-46
AAL2502	E1	MD	MDW-TOLSON	EAST	16/15:47	Candidate	Not Submitted	DFWBNA1N	-185
AAL1551	E1	MD	MDW-TOLSON	EAST	16/15:47	Candidate	Not Submitted	DFWPIT1N	-168
AAL352	E1	MD	MDW-TOLSON	EAST	16/15:26	Potential	Not Submitted	DFWSJC1N	0
AAL2248	E1	MD	MDW-TOLSON	EAST	16/15:35	Potential	Not Submitted	DFWSFO1N	0
AAL2086	E1	MD	MDW-TOLSON	EAST	16/15:36	Potential	Not Submitted	DFWMSP1W	0

Figure 5.75. TOS Departure Table Right-Click Menu: Approve a TOS route.

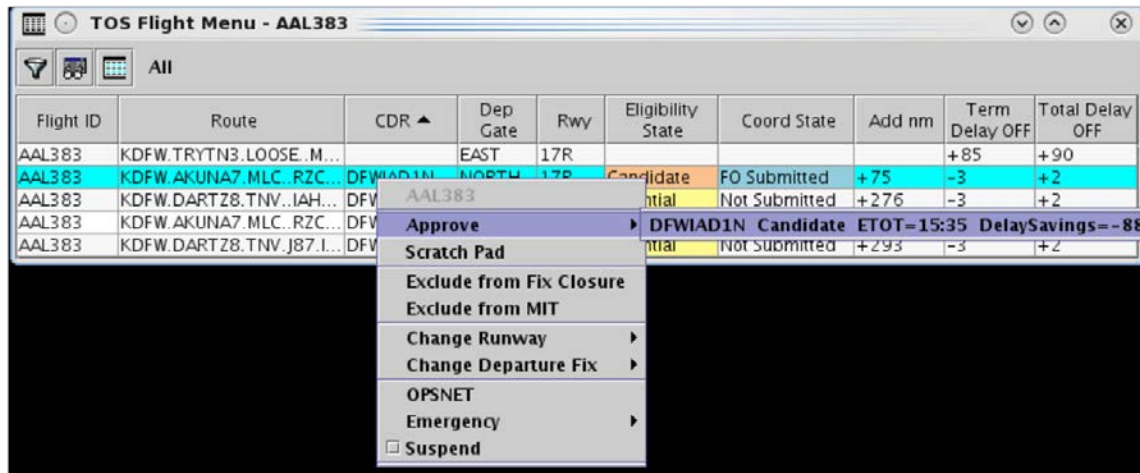


Figure 5.76. TOS routes can also be approved from the TOS Flight Menu right-click menu.

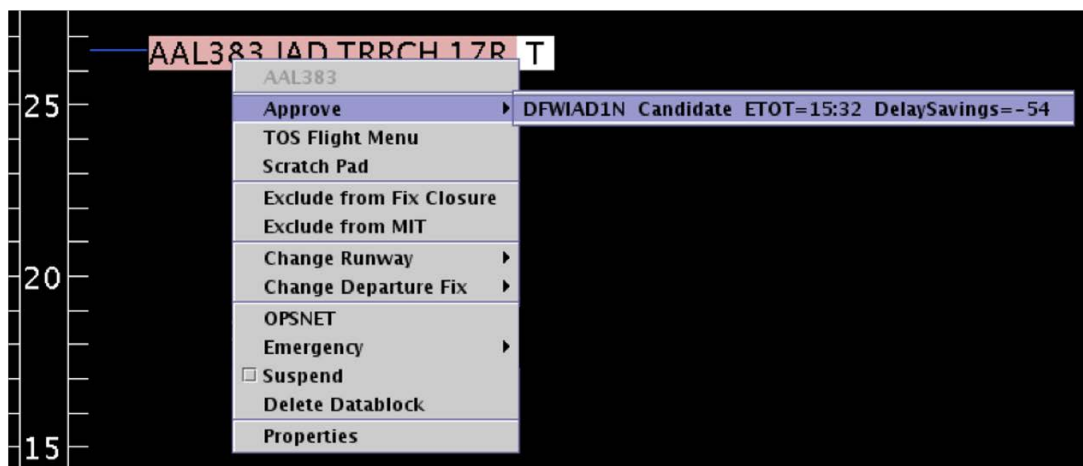


Figure 5.77. TOS routes can also be approved from the Timeline right-click menu.

Upon approval of a TOS Route:

- In the TOS Departure Table, the *flight's* Coordination State changes from “FO Submitted” to “ATC Approved” (Figure 5.78).

Metroplex Planner - DFW TOS Operations at 15:23 Z								
TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R								
Flight ID	Rwy	Dest	Route of Flight	Dep Gate	EOBT	Eligibility State	Coord State	Top
ENY3349	E17R	MSY	KDFW.MRSSH...	EAST	16/15:18	Candidate	Not Submitted	DFWM:
AAL383	E17R	IAD	KDFW.AKUNA...	NORTH	16/15:19	Candidate	ATC Approved	DFWM:
AAL2316	E17R	RIC	KDFW.FORCK...	EAST	16/15:39	Candidate	Not Submitted	DFWRI
AAL1310	E17R	DCA	KDFW.TRYTN...	EAST	16/15:26	Candidate	Not Submitted	DFWDI
ENY3319	E17R	BTR	KDFW.MRSSH...	EAST	16/15:26	Candidate	Not Submitted	DFWBT

Figure 5.78. TOS Departure Table: Coordination State changes to “ATC Approved”.

- In the TOS Flight Menu, the **route’s** Coordination State changes from “FO Submitted” to “ATC Submitted” (Figure 5.79).

TOS Flight Menu - AAL383							
All							
Flight ID	Route	CDR	Dep Gate	Rwy	Eligibility State	Coord State	Add nm
AAL383	KDFW.TRYTN3.LOOSE..M...		EAST	17R			
AAL383	KDFW.AKUNA7.MLC..RZC...	DFWIAD1N	NORTH	17R	Candidate	ATC Approved	+73
AAL383	KDFW.DARTZ8.TNV..IAH...	DFWIAD1S	SOUTH	17R	Potential	Not Submitted	+276
AAL383	KDFW.AKUNA7.MLC..RZC...	DFWIADJ3	NORTH	17R	Candidate	Not Submitted	+104
AAL383	KDFW.DARTZ8.TNV.J87.I...	DFWIADVS	SOUTH	17R	Potential	Not Submitted	+293

Figure 5.79. TOS Flight Menu: Coordination State changes to “ATC Approved”.

- On the Timeline, “T” highlighted in *green* is displayed next to the flight’s datablock (Figure 5.80).
- The Departure Fix of the original route and of the approved TOS route are both displayed on the Timeline (for example, “THHOR → AKUNA” in Figure 5.80). See Section 3.6.1 for a description of Fix Closure Format on the Timeline.

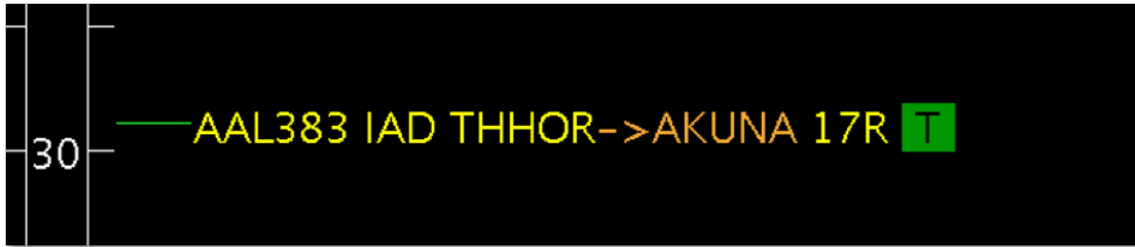


Figure 5.80. Timeline: Green “T” icon indicates that ATC has approved a TOS route for this flight. The Departure Fix of the original route (e.g., THHOR) and of the new TOS reroute (e.g., AKUNA) are both displayed.

- If the Flight Operator has enabled TOS Alerts (see Section 3.6.2), they are notified of the approval (Figure 5.81).



Figure 5.81. The Flight Operator is alerted of the new TOS Approval.

5.4.8.6 Undo Approve (for ATC users)

**Note: This menu option is only available in the ATC version of the Metroplex Planner.*

ATC users can use the right-click menu to undo an approval as well.

To Undo a TOS Route Approval:

Note: This option is only available when TOS Submissions are active (Section 3.1.9.1) and the flight appears in the TOS Departure Table.

Step 1: In the TOS Departure Table, right-click on the row of a flight with an “ATC Approved” Coordination State.

Step 2: Hover over “Undo Approve” to view approved routes (Figure 5.82).

Step 3: Click on a route to cancel the approval (for example, the “DFWIAD1N” route in Figure 5.82).

Note: “Undo Approve” is also available as a right-click menu option in the TOS Flight Menu (Figure 5.83) and on the Timeline (Figure 5.84).

Note: “Undo Approve” does not generate an alert for the Flight Operator.

Metroplex Planner - DFW TOS Operations at 15:26 Z

TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	EOBT	Eligibility State	Coord State	To
ENY3349	E17R	MSY	KDFW.MRSSH...	EAST	16/15:18	Candidate	Not Submitted	DFW
AAL383			DFW...	NORTH	16/15:19	Candidate	ATC Approved	DFW
AAL2			DFW...	EAST	16/15:39	Candidate	Not Submitted	DFW
AAL1			DFWIAD1N			Candidate	ETOT=15:33 DelaySavings=-70	DFW
ENY3			SSH...	EAST	16/15:26	Candidate	Not Submitted	DFW
AAL2			SSH...	EAST	16/15:40	Candidate	Not Submitted	DFW
AAL2			TN...	EAST	16/15:25	Candidate	Not Submitted	DFW
AAL1			SSH...	EAST	16/15:44	Candidate	Not Submitted	DFW
ENY3			HH...	EAST	16/15:21	Candidate	Not Submitted	DFW
AAL1			HH...	EAST	16/15:25	Candidate	Not Submitted	DFW
AAL1			SSH...	EAST	16/15:25	Candidate	Not Submitted	DFW
AAL2			TN...	EAST	16/15:49	Candidate	Not Submitted	DFW
AAL1			TN...	EAST	16/15:49	Candidate	Not Submitted	DFW
AAL3			PER...	WEST	16/15:26	Potential	Not Submitted	DFW
AAL2			PER...	WEST	16/15:35	Potential	Not Submitted	DFW
AAL2			CO...	NORTH	16/15:36	Potential	Not Submitted	DFW
AAL2			EX...	WEST	16/15:24	Potential	Not Submitted	DFW
SKW2900	E17R	CID	KDFW.DLCCO...	NORTH	16/15:30	Potential	Not Submitted	DFW

Right-click menu options for AAL383:

- Undo Approve
- TOS Flight Menu
- Scratch Pad
- Change Runway
- Change Departure Fix
- Change Parking Gate
- OPSNET
- Emergency
- ☐ Suspend
- ☐ Return To Ramp
- Delete Datablock
- Properties

Figure 5.82. TOS Departure Table Right-Click Menu: Undo a route approval.

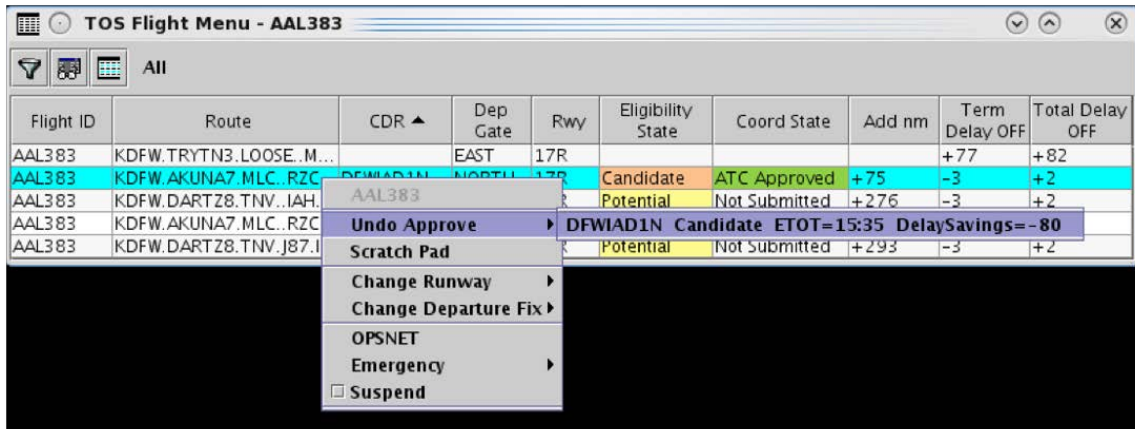


Figure 5.83. “Undo Approve” is also available on the TOS Flight Menu right-click menu.



Figure 5.84. “Undo Approve” is also available on the Timeline right-click menu.

5.4.8.7 Exclude from TOS (for Flight Operator users)

**Note: This menu option is only available in the Flight Operator version of the Metroplex Planner.*

Flight Operators can use the right-click menu to exclude a flight from TOS operations.

To Exclude a Flight from TOS Operations:

Note: This option is only available when TOS Submissions are active (Section 3.1.9.1) and the flight appears in the TOS Departure Table.

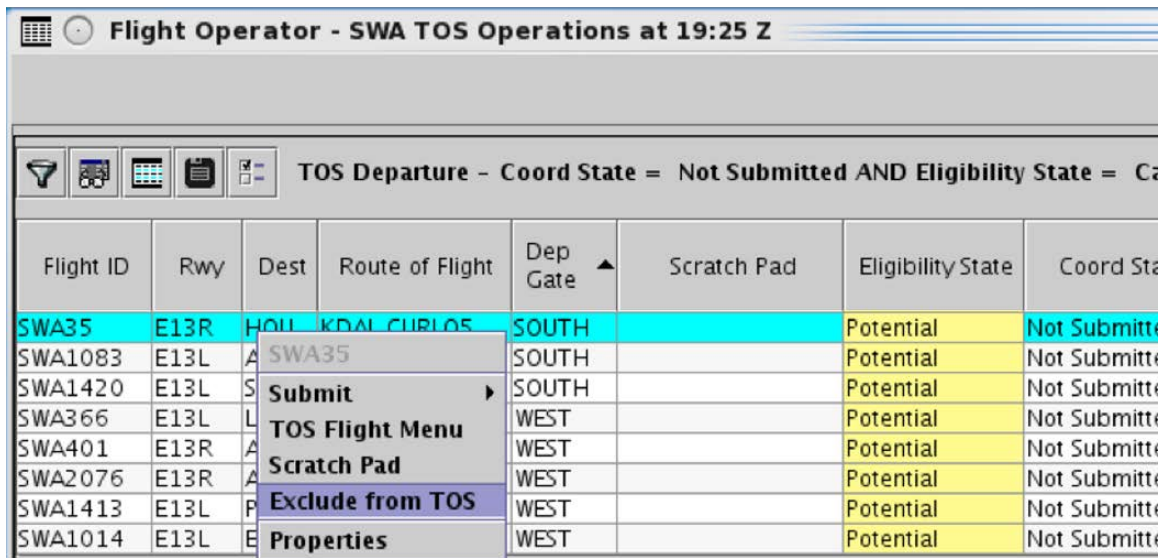
Step 1: Right-click on any flight in the TOS Departure Table.

Step 2: Select “Exclude from TOS” (Figure 5.85).

Note: “Exclude from TOS” is also available as a right-click menu option in the TOS Flight Menu (click on any route in the Flight Menu to exclude the entire flight; Figure 5.86) and on the Timeline (Figure 5.87).

Step 3 (Optional): Enter a note in the Scratch Pad (Figure 5.88).

Note: Flight Operators have the option of hiding their Scratch Pad entry from other users. The “Hide Scratch Pad entry from ATC and other airlines” option is checked by default. If the option is unchecked, the scratch pad entry will be visible to ATC users and other Flight Operators. (Scratch pad entries are visible to NASA researchers whether or not “Hide” is checked.)



Flight ID	Rwy	Dest	Route of Flight	Dep Gate	Scratch Pad	Eligibility State	Coord State
SWA35	E13R	HOU	KDAL CURLOS	SOUTH		Potential	Not Submitted
SWA1083	E13L	A	SWA35	SOUTH		Potential	Not Submitted
SWA1420	E13L	S	Submit	SOUTH		Potential	Not Submitted
SWA366	E13L	L	TOS Flight Menu	WEST		Potential	Not Submitted
SWA401	E13R	A	Scratch Pad	WEST		Potential	Not Submitted
SWA2076	E13R	A	Exclude from TOS	WEST		Potential	Not Submitted
SWA1413	E13L	P	Properties	WEST		Potential	Not Submitted
SWA1014	E13L	E		WEST		Potential	Not Submitted

Figure 5.85. TOS Departure Table Right-Click Menu: Exclude a flight from TOS.

Flight ID	Route	CDR	Dep Gate	Rwy	Dist nm	Add nm	Eligibility State	Coord State	Total Delay Savings OFF
SWA35	KDAL.CURL05.ELLVR..N...		SOUTH	13L	240				
SWA35	KDAL.LNDRES.ZA...		EAST	13L	429	+189	Potential	Not Submitted	+106
SWA35	KDAL.KKITY5.DO...		WEST	13L	569	+329	Potential	Not Submitted	0
SWA35	KDAL.KKITY5.CIK		WEST	13L	631	+392	Potential	Not Submitted	0
SWA35	KDAL.KKITY5.WS...		WEST	13L	502	+262	Potential	Not Submitted	0

Figure 5.86. “Exclude from TOS” is also available on the TOS Flight Menu right-click menu.

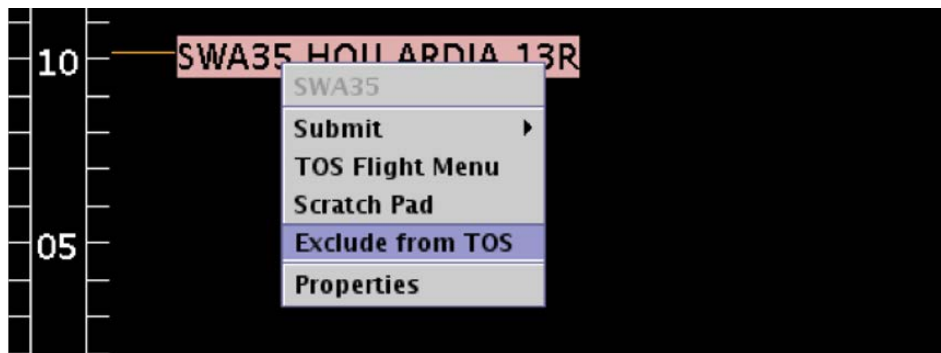


Figure 5.87. “Exclude from TOS” is also available on the Timeline right-click menu.

SWA35 Exclude from TOS Note

The Exclude from TOS operation has been completed.
Optionally enter a note to display in the scratch pad.

☒ Hide Scratch Pad entry from ATC and other airlines

Exclude from TOS example.

Apply Cancel Clear

Figure 5.88. Exclude from TOS: Enter scratch pad note (optional).

Upon excluding a flight from TOS:

- In the TOS Departure Table, the *flight's* Eligibility State changes to “Excluded” and Coordination State changes to “FO Excluded” (Figure 5.89).

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	Scratch Pad	Eligibility State	Coord State
SWA712	E13L	BWI	KDAL LNDRE5....	EAST		Potential	Not Submitted
SWA320	E13R	CMH	KDAL LNDRE5....	EAST		Potential	Not Submitted
SWA1283	E13L	PNS	KDAL LNDRE5....	EAST		Candidate	Not Submitted
SWA9001	E13L	MCO	KDAL LNDRE5....	EAST		Candidate	Not Submitted
SWA795	E13R	LIT	KDAL LNDRE5....	EAST		Candidate	Not Submitted
SWA1599	E13R	TUL	KDAL SWTSR4....	NORTH		Potential	Not Submitted
SWA35	E13R	HOU	KDAL CURLO5....	SOUTH	Exclude from TOS example.	Excluded	FO Excluded
SWA1083	E13L	AUS	KDAL CURLO5....	SOUTH		Potential	Not Submitted
SWA1420	E13L	SAT	KDAL CURLO5....	SOUTH		Potential	Not Submitted
SWA366	E13L	LBB	KDAL KKITY5.B...	WEST		Potential	Not Submitted
SWA401	E13R	ABQ	KDAL KKITY5...	WEST		Potential	Not Submitted

Figure 5.89. TOS Departure Table: Excluded flight.

- In the TOS Flight Menu, **each route's** Eligibility State changes to “Excluded” and Coordination State changes to “FO Excluded” (Figure 5.90).

Flight ID	Route	CDR	Dep Gate	Rwy	Dist nm	Add nm	Eligibility State	Coord State	Total Delay Savings OFF
SWA35	KDAL CURLO5 ELLVR..N...		SOUTH	13L	240				
SWA35	KDAL LNDRE5.ZALEA..S...	DALHOU1E	EAST	13L	429	+189	Excluded	FO Excluded	+106
SWA35	KDAL KKITY5.DOSXX..SJ...	DALHOU1W	WEST	13L	569	+329	Excluded	FO Excluded	0
SWA35	KDAL KKITY5.CIKAN..WU...	DALHOU2W	WEST	13L	631	+392	Excluded	FO Excluded	0
SWA35	KDAL KKITY5.WSTEX..LL...	DALHOU3W	WEST	13L	502	+262	Excluded	FO Excluded	0

Figure 5.90. TOS Flight Menu: Excluded flight.

5.4.8.8 Undo Exclude from TOS (for Flight Operator users)

**Note: This menu option is only available in the Flight Operator version of the Metroplex Planner.*

Flight Operators can use the right-click menu to undo an exclusion as well.

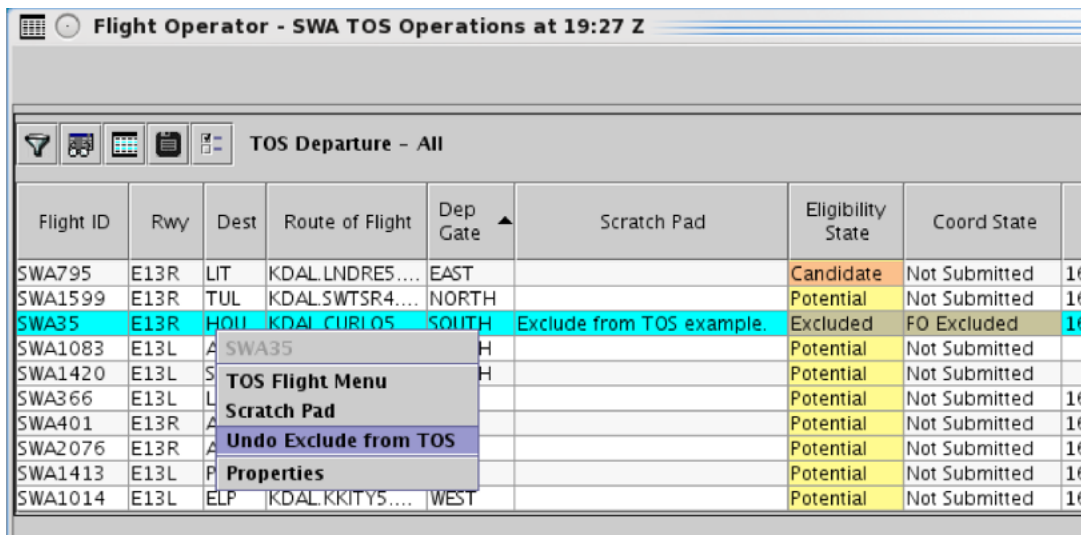
To Undo an Exclusion:

Note: This option is only available when TOS Submissions are active (Section 3.1.9.1) and the flight appears in the TOS Departure Table.

Step 1: Right-click on a flight in the TOS Departure Table that has a Coordination State of “FO Excluded”.

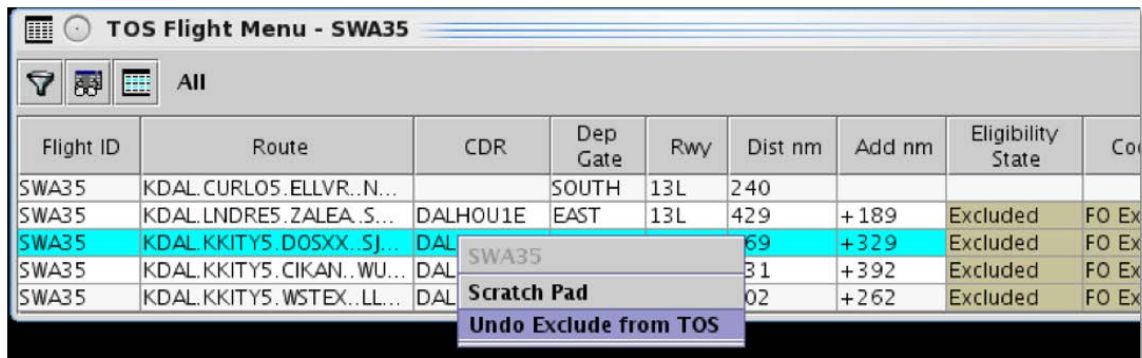
Step 2: Select “Undo Exclude from TOS” (Figure 5.91).

Note: “Undo Exclude from TOS” is also available as a right-click menu option in the TOS Flight Menu (click on any route in the Flight Menu; Figure 5.92) and on the Timeline (Figure 5.93).



Flight ID	Rwy	Dest	Route of Flight	Dep Gate	Scratch Pad	Eligibility State	Coord State
SWA795	E13R	LIT	KDAL.LNDRES....	EAST		Candidate	Not Submitted
SWA1599	E13R	TUL	KDAL.SWTSR4....	NORTH		Potential	Not Submitted
SWA35	E13R	HOU	KDAL.CURL05...SOUTH		Exclude from TOS example.	Excluded	FO Excluded
SWA1083	E13L	A	SWA35	H		Potential	Not Submitted
SWA1420	E13L	S		H		Potential	Not Submitted
SWA366	E13L	L				Potential	Not Submitted
SWA401	E13R	A				Potential	Not Submitted
SWA2076	E13R	A				Potential	Not Submitted
SWA1413	E13L	F				Potential	Not Submitted
SWA1014	E13L	ELP	KDAL.KKITY5....	WEST		Potential	Not Submitted

Figure 5.91. TOS Departure Table Right-Click Menu: “Undo Exclude from TOS”.



Flight ID	Route	CDR	Dep Gate	Rwy	Dist nm	Add nm	Eligibility State	Co
SWA35	KDAL.CURL05.ELLVR..N...		SOUTH	13L	240			
SWA35	KDAL.LNDRES.ZALEA..S...	DALHOU1E	EAST	13L	429	+189	Excluded	FO Ex
SWA35	KDAL.KKITY5.DOSXX..SJ...	DAL			69	+329	Excluded	FO Ex
SWA35	KDAL.KKITY5.CIKAN..WU...	DAL			31	+392	Excluded	FO Ex
SWA35	KDAL.KKITY5.WSTEX..LL...	DAL			02	+262	Excluded	FO Ex

Figure 5.92. “Undo Exclude from TOS” is also available on the TOS Flight Menu right-click menu.

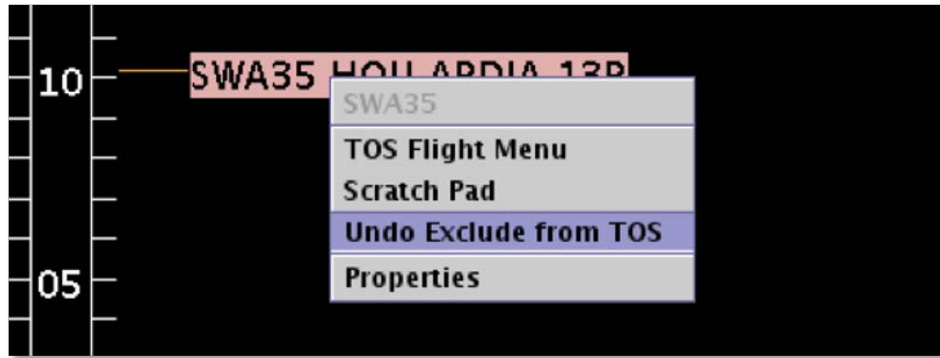


Figure 5.93. “Undo Exclude from TOS” is also available on the Timeline right-click menu.

5.5 Trajectory Option Set (TOS) Flight Menu

Note: TOS functionality varies by version of the Metroplex Planner.

In a TOS Flight Menu, *individual routes* for a *single flight* are displayed (Figure 5.94). The TOS Flight Menu is primarily used to compare a flight’s current route and the TOS reroute options.

TOS Flight Menus are available only when TOS Submissions are active (Section 3.1.9.1).

Flight Call Sign

↓

TOS Flight Menu AAL1011

All

Flight	Route	CDR	Dep Gate	Dep Fix	Rwy	ETOT	Eligibility State	Coord State
AAL1011	KDFW.FORCK2.F...		EAST	THHOR	17R	21:42		
AAL1011	KDFW.AKUNA7....	DFWLGA1N	NORTH	AKUNA	17R	21:35	Candidate	Not Submitted
AAL1011	KDFW.AKUNA7....	DFWLGAJ3	NORTH	AKUNA	17R	21:35	Candidate	Not Submitted
AAL1011	KDFW.DARTZ8.T...	DFWLGA1S	SOUTH	DARTZ	17R	21:35	Potential	Not Submitted

Toolbar

↑

Figure 5.94. TOS Flight Menu. In this example, the Flight Menu for AAL1888 is shown.

To Open a TOS Flight Menu:

Note: This option is only available when TOS Submissions are active (Section 3.1.9.1) and the flight appears in the TOS Departure Table.

Step 1: Right-click on a flight in the TOS Departure Table (e.g., AAL2412 in Figure 5.95, left).

Step 2: Select “TOS Flight Menu” from the menu.

Note: “TOS Flight Menu” is also available as a right-click menu option on the Timeline (Figure 5.95, right).

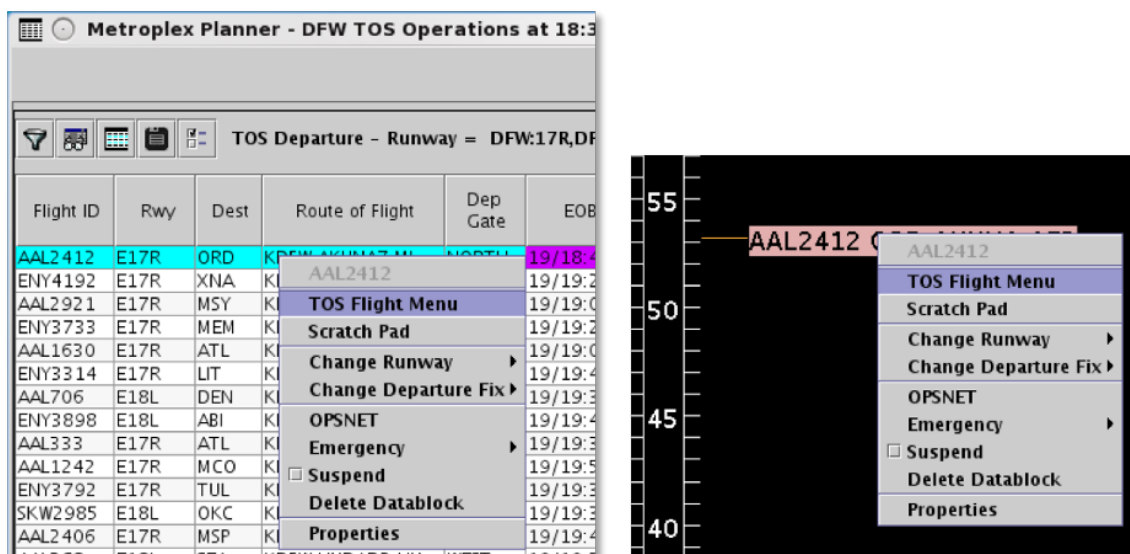


Figure 5.95. Select “TOS Flight Menu” from the right-click menu.

5.5.1 TOS Flight Menu: Routes Included in the Table

In the TOS Flight Menu, the flight’s current departure route is displayed on the first row of the table (Figure 5.96). The original route *remains on the first row* regardless of how the table is sorted or filtered.

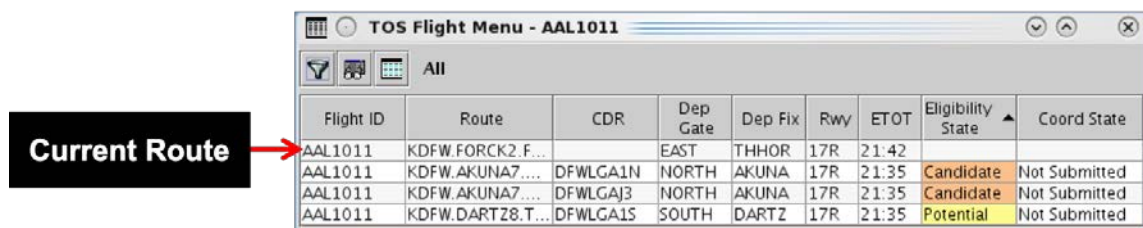


Figure 5.96. TOS Flight Menu.

TOS routes are listed below the current departure route. TOS routes may include routes with an Eligibility State of Potential, Candidate, or Excluded. In Figure 5.96, for example, flight AAL1011 has two “Candidate” TOS routes and one “Potential” TOS route.

5.5.2 TOS Flight Menu: Select a Route

Select a route in the TOS Flight Menu to view the route on the map.

To Select a Route in a TOS Flight Menu:

Note: The TOS Flight Menu is only available when TOS Submissions are active (Section 3.1.9.1) and the flight appears in the TOS Departure Table.

Step 1: To select a route, click on a row in the TOS Flight Menu. Once selected, the row is highlighted in cyan (e.g., the DFWLGAJ3 route in Figure 5.97).

Note: When a route is selected in the TOS Flight Menu, it is displayed on the map (Figure 5.97).

Alternatively: Click the same row again to deselect the flight.

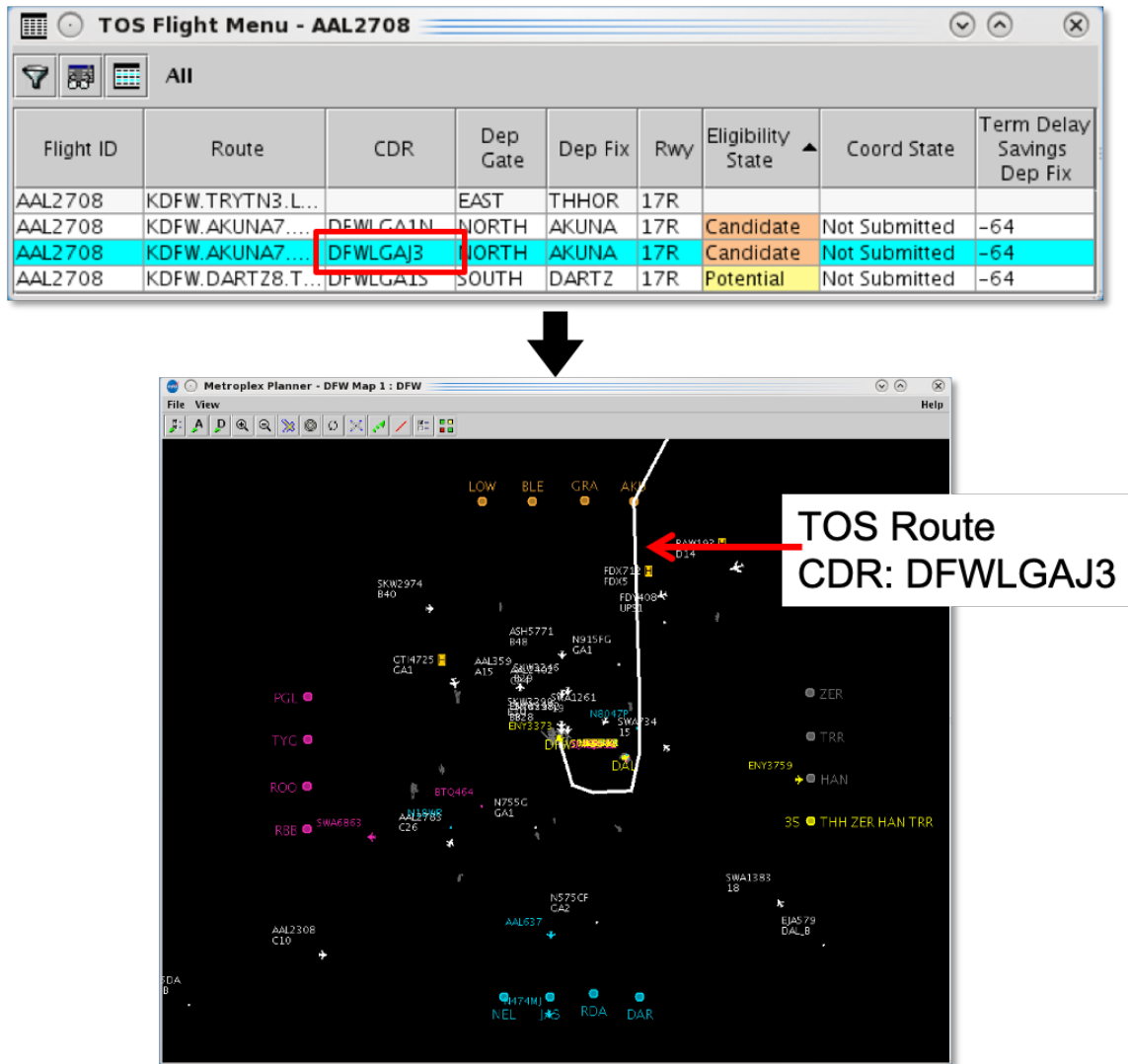


Figure 5.97. Select any route in a TOS Flight Menu to display the route on the Map.

5.5.3 TOS Flight Menu: Sort

Data in a TOS Flight Menu can be sorted using the same procedure described for the TOS Departure Table (see Section 5.4.4). However, the *current* departure route will remain on the first row of the table regardless of how the table is sorted.

5.5.4 TOS Flight Menu: Toolbar

Three icons are displayed on the TOS Flight Menu toolbar (Figure 5.98):

- Edit Filters (Section 5.5.4.1)
- Show/Hide Columns (Section 5.5.4.2)
- Table Color Settings (Section 5.5.4.3)

When filters are applied to the TOS Flight menu, the filter criteria are displayed on the toolbar next to the icons. When no filters are being applied, “All” is displayed (Figure 5.98).

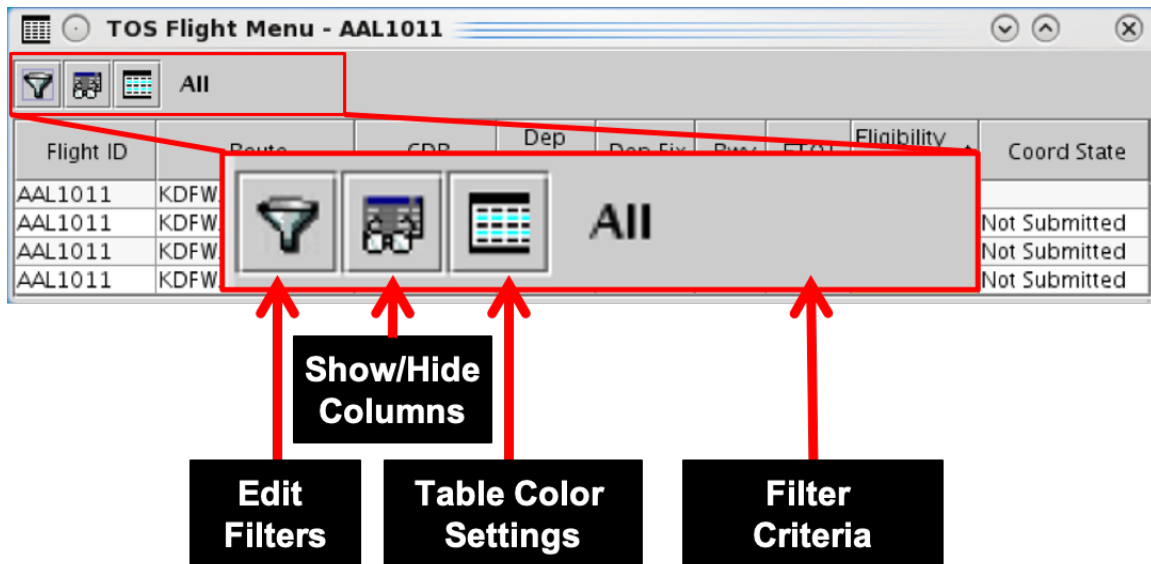


Figure 5.98. TOS Flight Menu: Toolbar.

5.5.4.1 Edit Filters

Use “Edit Filters” (Figure 5.98) to include/exclude routes in the TOS Flight Menu. Fields that can be used as filters are listed in Table 5.10.

Fields are associated with an *operator*:

- equal “=”
- not equal “!=
- less than “<”
- less than or equal to “<=
- greater than “>”
- greater than or equal to “>=
- “BETWEEN”

Multiple fields can be used in combination by selecting “and” or “or” as a *qualifier*.

Table 5.10. TOS Flight Menu: Filter Fields

Field	Description	Options
Coord State	TOS Route Coordination State	Enter or Select: <i>Not Submitted</i> <i>FO Submitted</i> <i>ATC Approved</i> <i>Reroute Filed</i>

		<i>FO Excluded</i> <i>ATC Excluded</i>
Eligibility State	TOS Route Eligibility State	Enter or Select: <i>Potential</i> <i>Candidate</i> <i>Excluded</i>
Dep Gate	Terminal-area Departure Gate	Enter or select from dropdown list.
Add <i>nm</i>	Difference between the distance of a TOS route and the distance of current filed route (<i>nm</i>).	[<i>nm</i>]
Agg Del Sav <i>*Varies by version of the Metroplex Planner</i>	Sum of predicted Delay Savings (in minutes). Predicted Aggregate Delay Savings = • Predicted Delay Savings for the flight rerouted on a <i>TOS route</i>, plus • Predicted Delay Savings for all subsequent departures scheduled to takeoff within one hour. Negative value represents <i>reduced</i> delay (i.e., <i>Delay Savings</i>). Positive value represents <i>additional</i> delay. <i>*Options can include: Airport, all airports in the TRACON, Airline, Air Carrier (Mainline), or Major Air Carrier (Fleet).</i>	[<i>mm</i>]
Prob Del Sav > RTC	Probability of Delay Savings <i>greater than</i> the Relative Trajectory Cost (RTC).	[0-100%]

Follow the same steps described for the TOS Departure Table (see Section 5.4.6.1).

5.5.4.2 Show/Hide Columns

Use “Show/Hide Columns” to select which columns of information will be included, and the order in which they will be shown, in the TOS Flight Menu.

The information columns that can be included in a TOS Flight Menu are listed in Table 5.11.

Table 5.11. TOS Flight Menu: Show/Hide Columns

Column Header	Description
Flight ID	Flight number (call sign). For General Aviation (GA) flights, tail number is used.
Add nm	Difference between the distance of the alternative TOS route and the distance of current filed route (<i>nm</i>).
CDR	Standard procedures for alternative routes. CDR/city-pair code (e.g., DFWLGA1N).
Coord State	Indicates the coordination of TOS rerouting between the Flight Operator and ATC. In the TOS Flight Menu, a Coordination State is displayed for <i>each route</i>. • Not Submitted – The Flight Operator has not submitted the route to ATC. • FO (Flight Operator) Submitted – The Flight Operator has submitted the route to ATC. • ATC Approved – ATC has approved the route. ATC is expected to amend the flight plan using the revised route. • Reroute Filed – The flight plan has been amended according to the route option approved by ATC.
Dep Fix	Departure flight's assigned fix.
Dep Fix Delay	The predicted delay (in minutes), at the departure fix, caused by both: 1. Predicted delay from surface traffic competing for the runway, and 2. Predicted delay from terminal-area restrictions. Dep Fix Delay = Estimated Departure Fix Time (EDFT) – Undelayed Departure Fix Time (UDFT).
Dep Gate	Terminal-area Departure Gate.
Dist nm	Route distance [<i>nm</i>].
Eligibility State	Indicates eligibility for TOS rerouting. In the TOS Flight Menu, an Eligibility State is displayed for <i>each route</i>. • Potential – For this route, the predicted Delay Savings is <i>less than</i> the route's Relative Trajectory Cost (RTC). • Candidate – For this route, the predicted Delay Savings is <i>greater than or equal to</i> the route's Relative Trajectory Cost (RTC). • Excluded – The route is not eligible for TOS because of Flight Operator or ATC exclusions.
EDFT	Estimated Departure Fix Time (EDFT). Predicted Departure Fix crossing time, accounting for: 1. Undelayed taxi time, plus

	- Predicted delay from surface traffic competing for the runway, and - Predicted delay from terminal-area restrictions.
ETOT	Estimated Takeoff Time (ETOT) generated for TOS routes. Predicted takeoff time, accounting for: - Undelayed taxi time, plus - Predicted delay from surface traffic competing for the runway, and - Predicted delay from terminal-area restrictions being passed back to the surface.
RMNT	Required Minimum Notification Time (RMNT) (in minutes). Minimum notification time, prior to predicted pushback, required to prepare the flight to comply with the alternative TOS route.
RTC	Relative Trajectory Cost (RTC). RTC is the cost (in minutes) to fly the TOS route as compared to the original route. The RTC is used as a threshold value used to determine when an alternative TOS route becomes more advantageous to fly than the original route. - When predicted Delay Savings (in minutes) for a TOS route is <i>greater than or equal to</i> the RTC value (in minutes), the route's Eligibility Status is "Candidate". - When predicted Delay Savings (in minutes) for a TOS route is <i>less than</i> the RTC value, the route's Eligibility Status is "Potential".
Route	Planned route of flight.
Rwy	Predicted runway based on flight plan, departure fix, actual location of aircraft, or user input.
Scratch Pad	Field for user to enter text.
Total Delay OFF	The delay (in minutes) that the flight is predicted to encounter, at the runway, caused by both: - Predicted delay from surface traffic competing for the runway, and - Predicted delay from terminal-area restrictions being passed back to the surface. Total Delay OFF = Estimated Takeoff Time (ETOT) – Undelayed Takeoff Time (UTOT)
Total Delay Savings OFF	The predicted delay savings for a TOS route (in minutes). = Predicted Total_Delay_Savings_OFF (TOS route) minus Predicted Total_Delay_Savings_OFF (Current route)

	Negative value represents <i>reduced</i> delay (i.e., <i>Delay Savings</i>). Positive value represents <i>additional</i> delay.
--	---

Follow the same steps described for the TOS Departure Table (see Section 5.4.6.2).

5.5.4.3 Table Color Settings

Use “Table Color Settings” (Figure 5.98) to set an alternate row color and field color alerts for variables in the TOS Flight Menu.

5.5.4.3.1 Set Row Colors

Use the “Set Row Colors” tab in the TOS Flight Menu Color Settings window to set an alternate row color in the TOS Flight Menu. Follow the same steps described for the TOS Departure Table (see Section 5.4.6.3.1).

5.5.4.3.2 Set Field Color Alerts

Use the “Set Field Color Alerts” tab in the TOS Flight Menu Color Settings window to set cell colors for selected fields.

Fields to which color alerts can be applied are listed in Table 5.12.

Table 5.12. TOS Flight Menu: Set Field Color Alerts

Field	Description	Options
Coord State	TOS Route Coordination State	Enter or Select: <i>Not Submitted</i> <i>FO Submitted</i> <i>ATC Approved</i> <i>Reroute Filed</i> <i>FO Excluded</i> <i>ATC Excluded</i>
Eligibility State	TOS Route Eligibility State	Enter or Select: <i>Potential</i> <i>Candidate</i> <i>Excluded</i>
Agg Del Sav <i>*Varies by version of the Metroplex Planner</i>	Sum of predicted Delay Savings (in minutes). Predicted Aggregate Delay Savings = Predicted Delay Savings for the flight rerouted on a <i>TOS route</i>, plus	[mm]

	Predicted Delay Savings for all subsequent departures scheduled to takeoff within one hour. Negative value represents <i>reduced</i> delay (i.e., <i>Delay Savings</i>). Positive value represents <i>additional</i> delay. *Options can include: Airport, all airports in the TRACON, Airline, Air Carrier (Mainline), or Major Air Carrier (Fleet).	
Prob Del Sav > RTC	Probability of Delay Savings <i>greater than</i> the Relative Trajectory Cost (RTC) for a TOS route.	[0-100%]

Follow the same steps described for the TOS Departure Table (see Section 5.4.6.3.2).

5.5.5 TOS Flight Menu: Right-Click Menu

Additional options are available on the right-click menu in the TOS Flight Menu.

- **Scratch Pad** (Section 5.4.8.2).
- *Flight Operator version of the Metroplex Planner:*
 - **Submit a TOS route** (Section 5.4.8.3) / **Undo Submit** (Section 5.4.8.4).
 - **Exclude from TOS** (Section 5.4.8.7) / **Undo Exclude** (Section 5.4.8.8).
- *ATC version of the Metroplex Planner:*
 - **Approve a TOS route** (Section 5.4.8.5) / **Undo Approve** (Section 5.4.8.6).
- **Properties** (Section 6.9.13).

6 Metroplex Planner: Timelines

A timeline displays information about individual departure and arrival flights to create a visual representation of traffic demand relative to time. Each flight is represented by a configurable datablock connected to the timeline by a leader line (Figure 6.1). More than one timeline window can be open at the same time and each can be configured independently of the others.

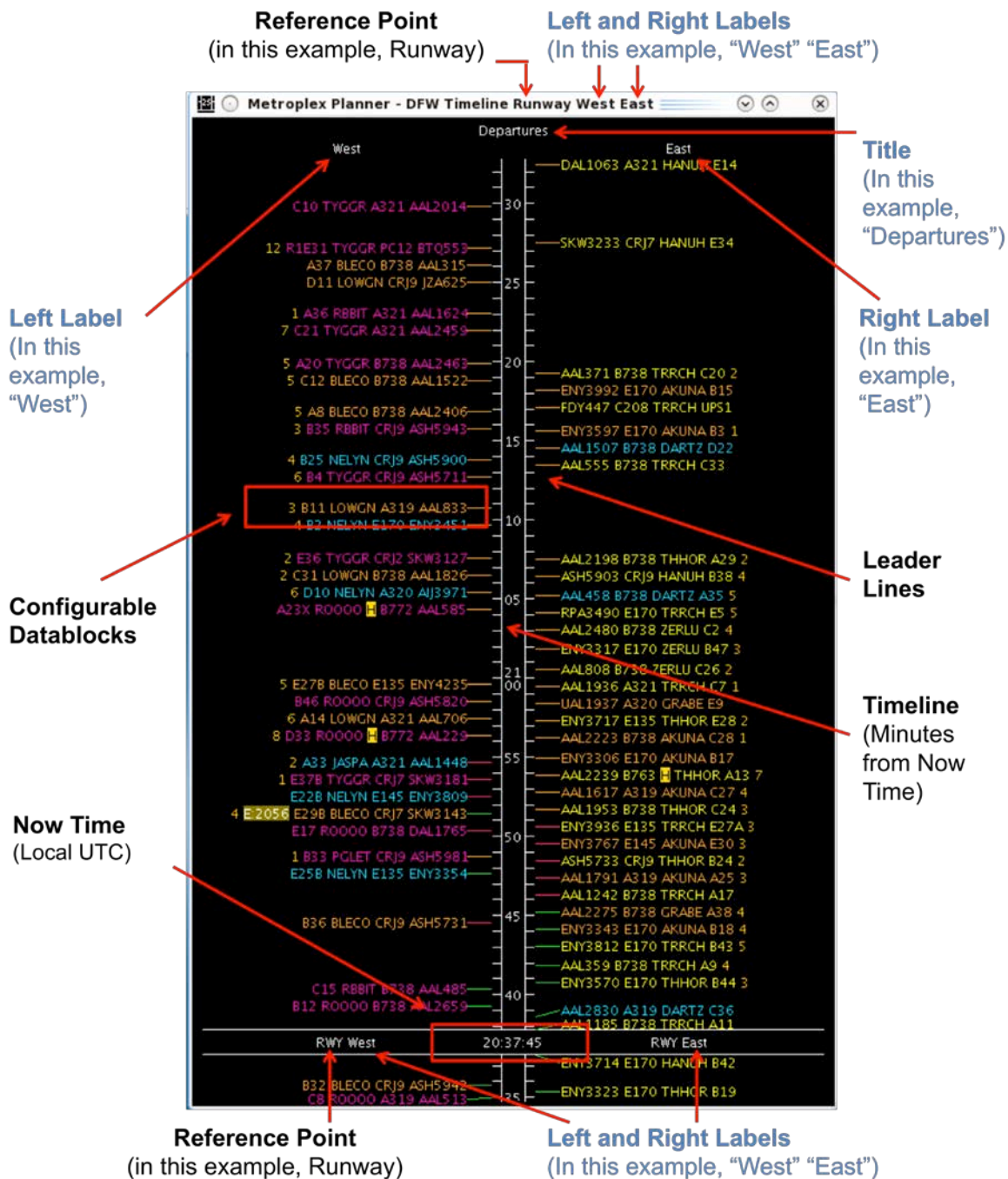


Figure 6.1. Timeline (fields in blue are labels that can be edited by the user).

6.1 Timeline: Reference Point

A timeline is populated relative to current time at the reference point. A flight is positioned along the timeline based on its predicted arrival time at the reference point. After reaching the reference point, a flight's position on the timeline reflects its actual arrival time at the reference point.

A timeline can be created using one of four reference points:

- Runway
- Arrival/Departure Fix
- Parking Gate, or
- Spot.

The selected reference point applies to both sides of a timeline and is displayed next to the “Now” time (e.g., “RWY” in Figure 6.2). “Now” time (i.e., current time) is displayed in local UTC time (e.g., 01:17:55 in Figure 6.2).

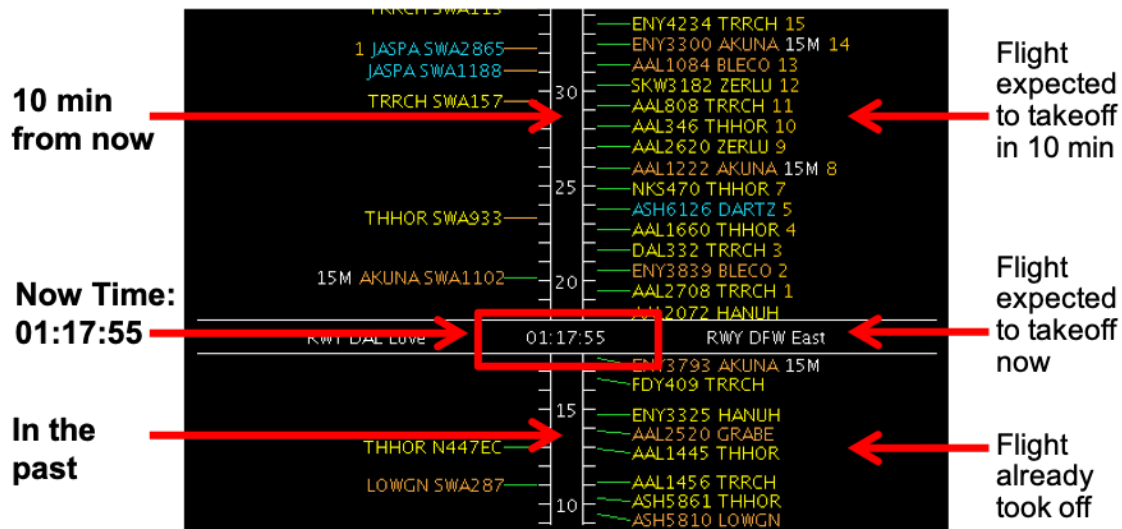


Figure 6.2. Timeline Reference Point (in this example, Runway).

Each of the four reference points is described in below.

6.1.1 Runway

When “Runway” is selected as the reference point, flights are positioned along the timeline based on the surface scheduler's prediction of:

- Landing time (ON time) for arrivals, and
- Takeoff time (OFF time) for departures, using either the TTOT or EFTT (Earliest Feasible Takeoff Time).

- o **Target Takeoff Time (TTOT):** For a flight at the gate, the TTOT is a prediction of OFF time based on the flight’s expected pushback time and predicted taxi times.
 - For flights subject to an Expect Departure Clearance Time (EDCT) or Approval Request (APREQ)/Call for Release (CFR), the TTOT may be equal to the Controlled Takeoff Time (CTOT).
- o **Earliest Feasible Takeoff Time (EFTT):** EFTT is used as a prediction of OFF time when an APREQ/CFR time has not yet been negotiated with Center.

6.1.2 Arrival/Departure Fix

When “Arrival/Departure Fix” is selected as the reference point, flights are positioned along the timeline based on the scheduler’s prediction of when flights will cross their departure or arrival fix.

6.1.3 Parking Gate

When “Parking Gate” is selected as the reference point, flights are positioned along the timeline based on the surface scheduler’s prediction of:

- Arrival time at the gate (IN time) for arrivals, and
- Pushback time (OUT time) for departures.

6.1.4 Spot

When “Spot” is selected as the reference point, flights are positioned along the timeline based on the surface scheduler’s prediction of:

- Crossing the spot to enter the Ramp area for arrivals, and
- Crossing the spot to leave the Ramp area and enter the AMA for departures.

6.2 Timeline: Leader Lines

Leader lines connect a flight’s datablock to the timeline. The color of the line represents the status of the flight (Figure 6.3). Leader line colors are listed in Table 6.1. Colors are pre-defined and not configurable.

Table 6.1. Leader Line Color Information

Leader Line Color	Description (Flight State)
Orange	Departure flight is scheduled but not yet active (Scheduled Out)

Magenta	Departure flight is in pushback/spool-up state (Pushback) <i>*Not available at all airports.</i>
Blue	Departure flight is in the Ramp taxi-out state (Out) <i>*Not available at all airports.</i>
Green	Departure flight is in the AMA or has already taken off (In Queue / Taxiing in the AMA / Departed)
Grey	Arrival flight (Terminal Area Arrival / On Final / On / In Ramp / In)

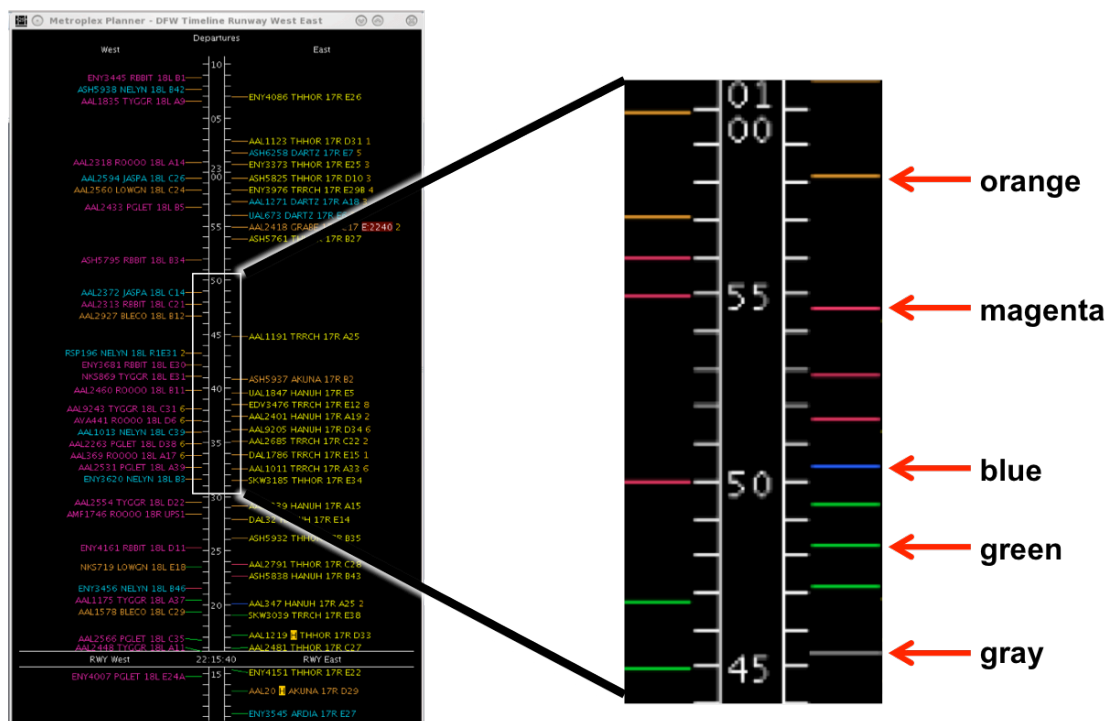


Figure 6.3. Timeline: Leader lines connect datablocks to the timeline and are color-coded to indicate flight status.

6.3 Timeline: Select a Flight

Select a flight on the timeline to highlight the flight throughout the Metroplex Planner user interface.

To select a flight on the Timeline:

Step 1: Select a datablock on the timeline. Once selected, the datablock is highlighted (Figure 6.4).

Note: When a flight is selected on the timeline, it is highlighted throughout the Metroplex Planner user interface. That is, it is also highlighted on the map, in the Flights Table, and in the TOS Departure Table (if applicable).

Alternatively: Click elsewhere on the timeline background (anywhere not on a flight datablock) to deselect the flight.

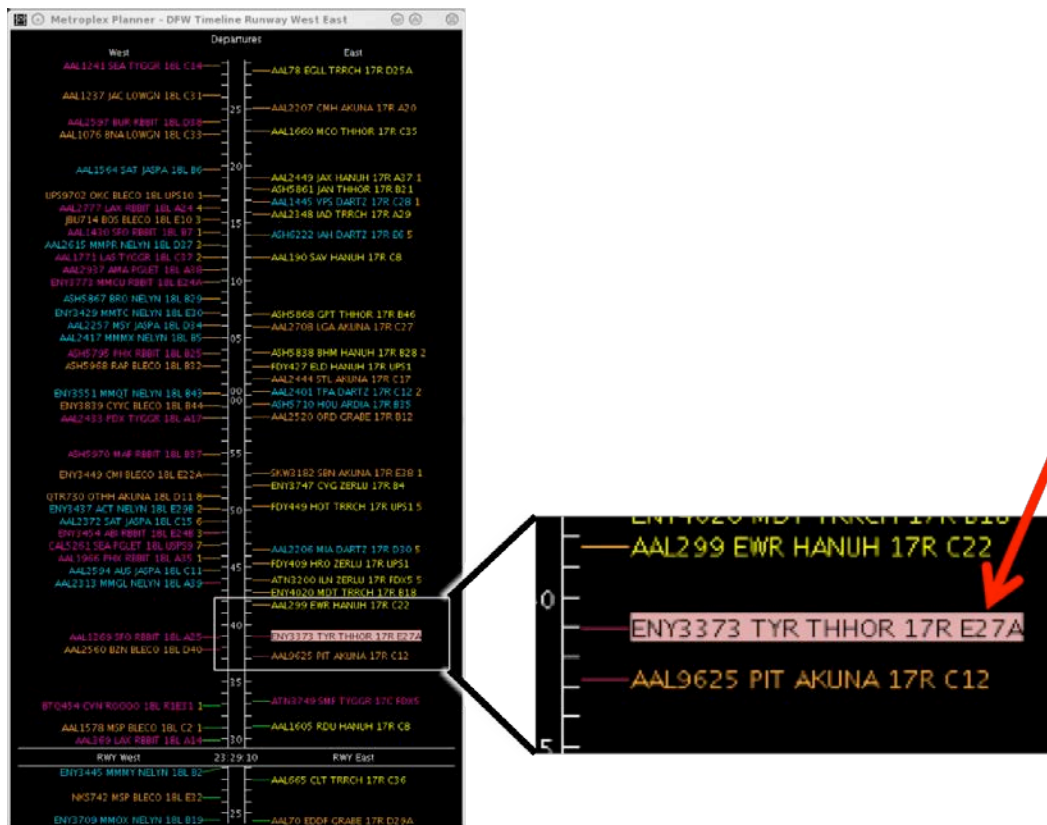


Figure 6.4. Timeline: Selected Flight with highlighted datablock.

6.4 Timeline: Moving the Timeline

The timeline can be moved forward and backward in time.

To move the Timeline:

Step 1: Use the mouse to click and hold inside the center timeline column.

Step 2: Drag the timeline:

- **Down** to view flights farther into the future (see depiction in Figure 6.5), or
- **Up** to view flights farther into the past.

Note: When the timeline is moved, the start and end times at the top and bottom of the visible window change, but the length of the visible time window (e.g., 55 minutes) remains constant.

Note: When the timeline is moved up or down, the “Now” time also moves. If moved far enough, the “Now” time may no longer be visible in the current window (Figure 6.5 right).

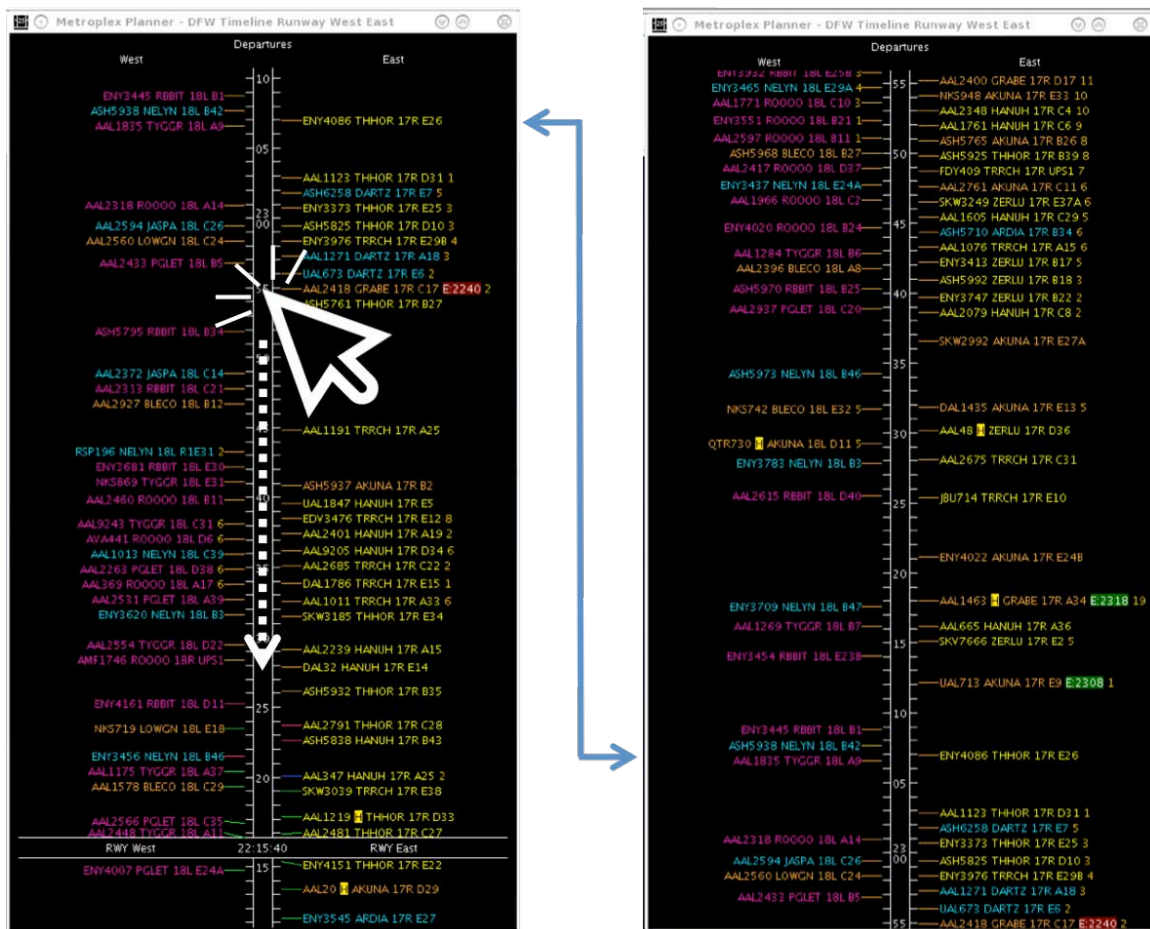


Figure 6.5. Click and hold, then drag the timeline to move forward and backward in time.

Once the timeline has been moved in either direction, the option to reset the timeline to the default time interval is available in the timeline's right-click menu (Figure 6.6).

To reset the Timeline interval:

Step 1: Use the mouse to right-click anywhere on the background of the timeline (i.e., anywhere not on a datablock).

Step 2: Select “Reset Interval” (Figure 6.6) to reset the “Begin At” and “End At” times to those defined in the Settings menu.

Note: The “Reset Interval” option is available in the right-click menu only after the timeline has been moved up or down.



Figure 6.6. Timeline Right-Click Menu: Reset Interval.

6.5 Timeline: Flight Plan Demand

Use the Flight Plan Demand option to draw a graphical indicator around a window of time on the timeline. Flight Plan Demand can be created using a **Rolling Time Period** by defining a window of time or a **Fixed Time Period** by selecting start and end times.

To open the Flight Plan Demand window:

Step 1: Right-click anywhere on the timeline background (anywhere not on a flight datablock).

Step 2: Select “Flight Plan Demand” (Figure 6.7) to open the Flight Plan Demand View Settings window.

Step 3: Check “Show Flight Plan Demand” (Figure 6.8).

Note: *If multiple timeline windows are open, the same Flight Plan Demand will apply to all timeline windows.*

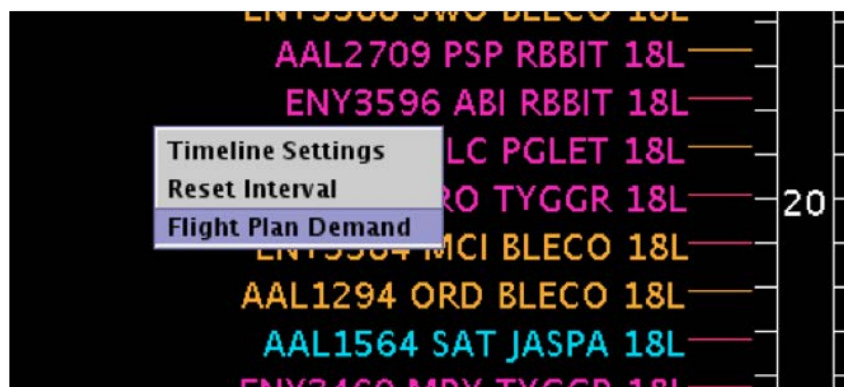


Figure 6.7. Timeline right-click menu: Flight Plan Demand.

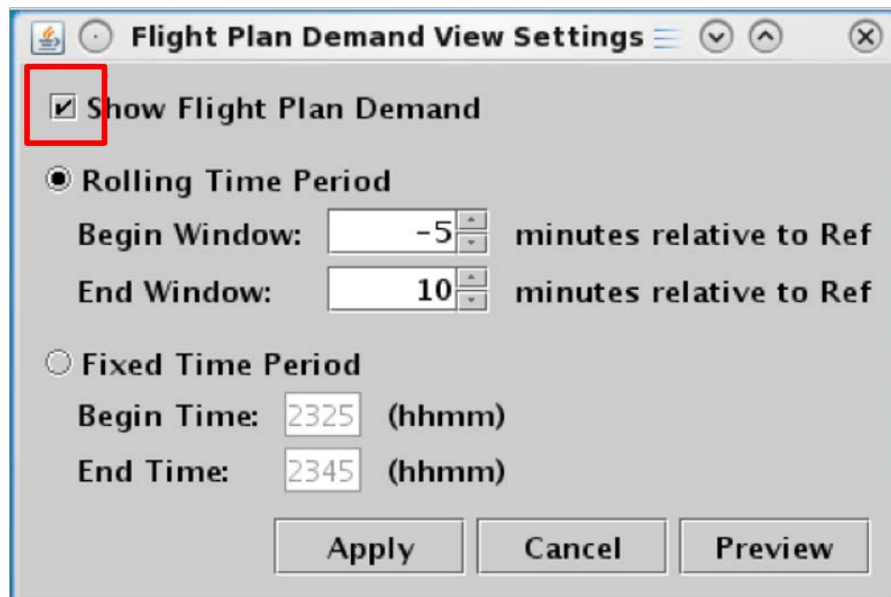


Figure 6.8. Flight Plan Demand View Settings.

To create a Flight Plan Demand with a *Rolling Time Period* (cont'd from above):

Step 4: Select “Rolling Time Period” (Figure 6.9).

Step 5: Enter “Begin Window” and “End Window”, expressed as minutes relative to the Reference Point. In Figure 6.9, the window begins 5 min *below* “Now” time (Reference Point) and ends 10 min *above* “Now” time.

Note: “End Window” value must be greater than “Begin Window” value.
Enter:

- A negative number for a time in the past (*below* “Now” time),
- A positive number for a time in the future (*above* “Now” time),
- 0 (zero) minutes for “Now” time at the Reference Point.

Step 6: Select “Apply” to display the Flight Plan Demand on the timeline or “Preview” to display it without closing the Settings window (Figure 6.9).

Note: As shown on the timeline in Figure 6.10, *above* “Now” time, the window is outlined in white; *below* “Now” time, the window is outlined in magenta.

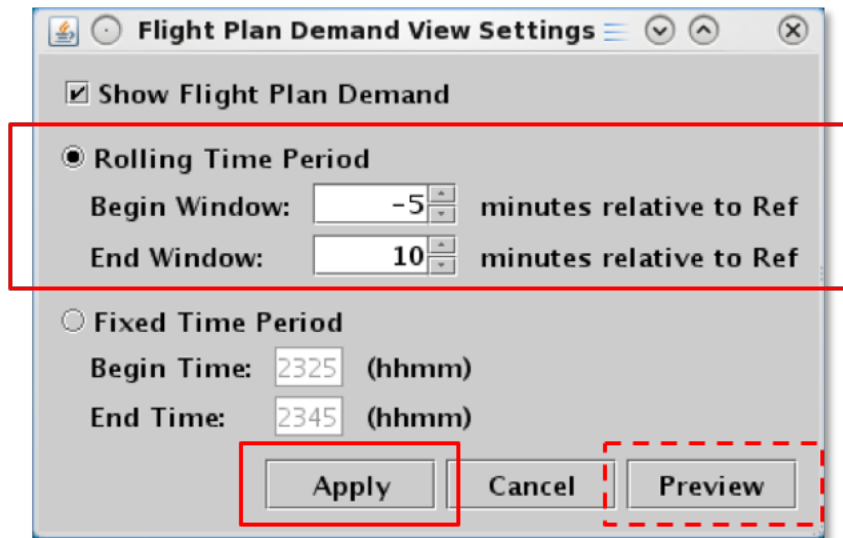


Figure 6.9. Flight Plan Demand View Settings: Rolling Time Period.

The numbers at the bottom of each column show the ratio of arrival flights (white) to departure flights (green) in that period. Flights *above* “Now” time are counted separately from those *below* “Now” time (outlined in magenta).

In Figure 6.10 for example, in the right column, there are 4 arrivals and 10 departures *above* “Now” time and 1 arrival and 4 departures *below* “Now” time (outlined in magenta).

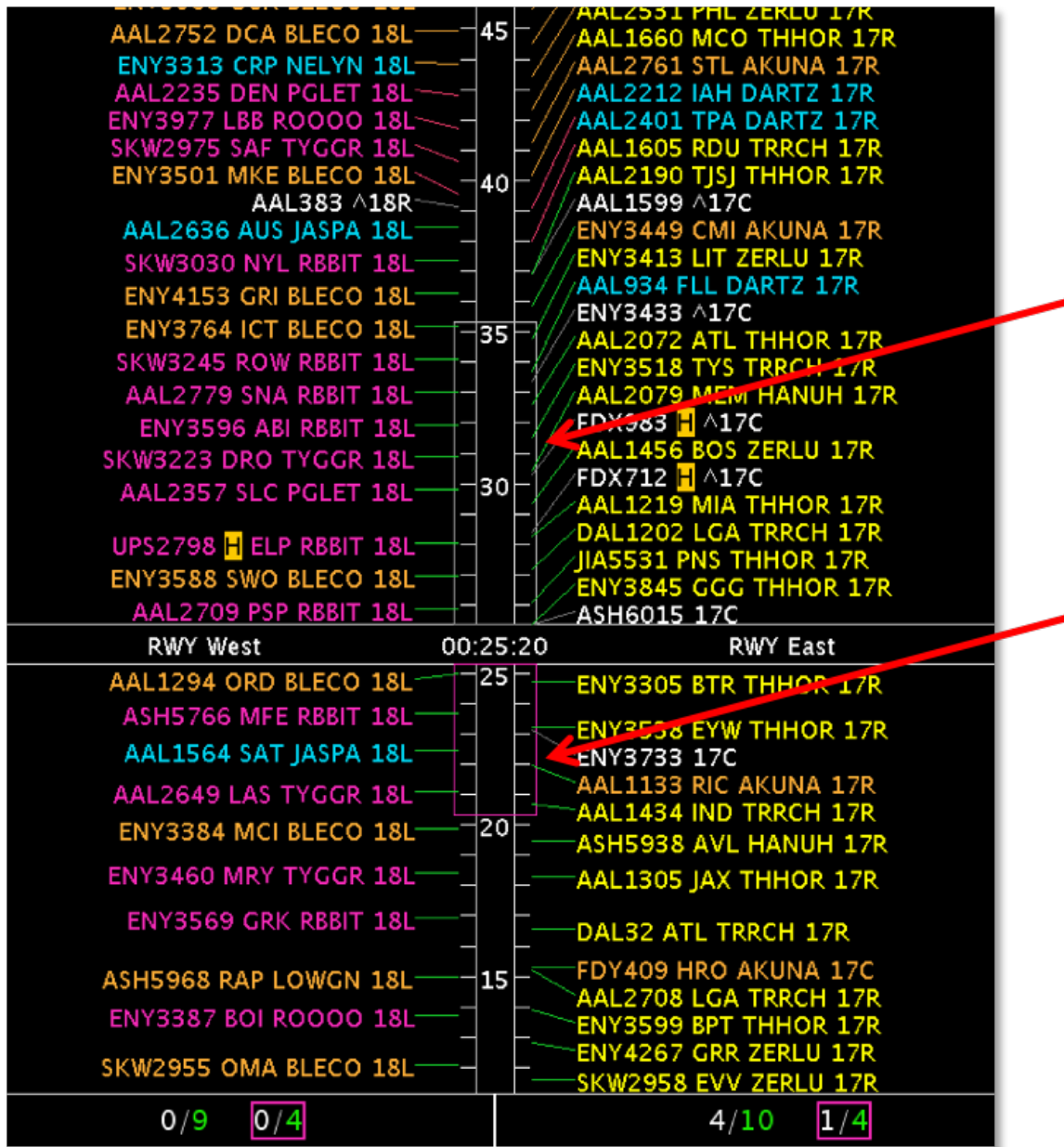


Figure 6.10. Flight Plan Demand with a Rolling Time Period (5 min below “Now” time and 10 above “Now” time, in this example). Above “Now” time, the window is outlined in white; below “Now” time, the window is outlined in magenta.

To create a Flight Plan Demand with a *Fixed Time Period* (cont'd from above):

Step 4: Select “Fixed Time Period” (Figure 6.11).

Step 5: Enter “Begin Time” and “End Time”, expressed in *hhmm* UTC. In Figure 6.11, the window begins at 2350 and ends at 0005 UTC.

Note: “*Begin Time*” must be earlier than “*End Time*”.

Step 6: Select “Apply” to display the Flight Plan Demand on the timeline or “Preview” to display it without closing the Settings window (Figure 6.11).

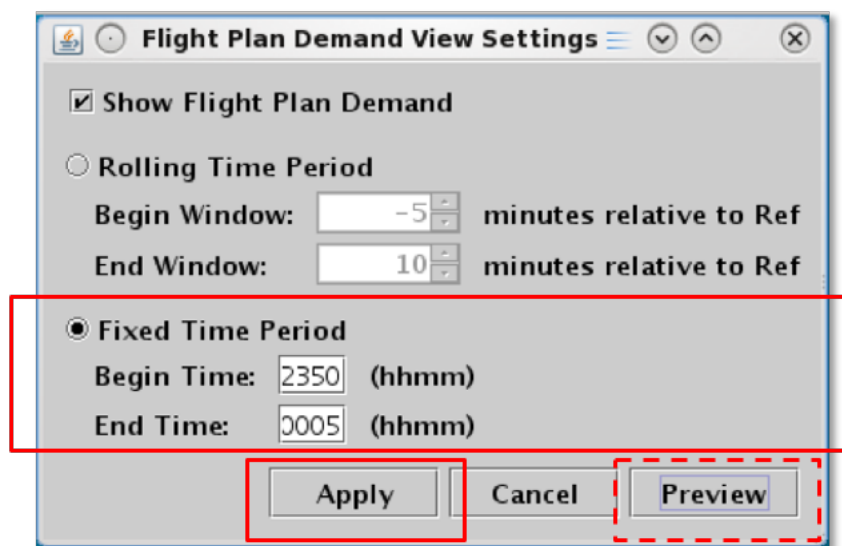


Figure 6.11. Flight Plan Demand View Settings: Fixed Time Period.

The numbers at the bottom of each column show the ratio of arrival flights (white) to departure flights (green) in that period. Flights *above* “Now” time are counted separately from those *below* “Now” time (outlined in magenta).

In Figure 6.12, for example, in the right column, there are 7 arrivals and 10 departures *above* “Now” time and 1 arrival and 3 departures *below* “Now” time (outlined in magenta).

To remove a Flight Plan Demand from the Timeline:

Step 1: Right-click anywhere on the timeline background (anywhere not on a flight datablock).

Step 2: Select “Flight Plan Demand”.

Step 3: Uncheck “Show Flight Plan Demand” (Figure 6.13).

Note: *If multiple Timeline windows are open, the Flight Plan Demand will be removed from all timelines.*

Step 4: Select “Apply” (Figure 6.13).

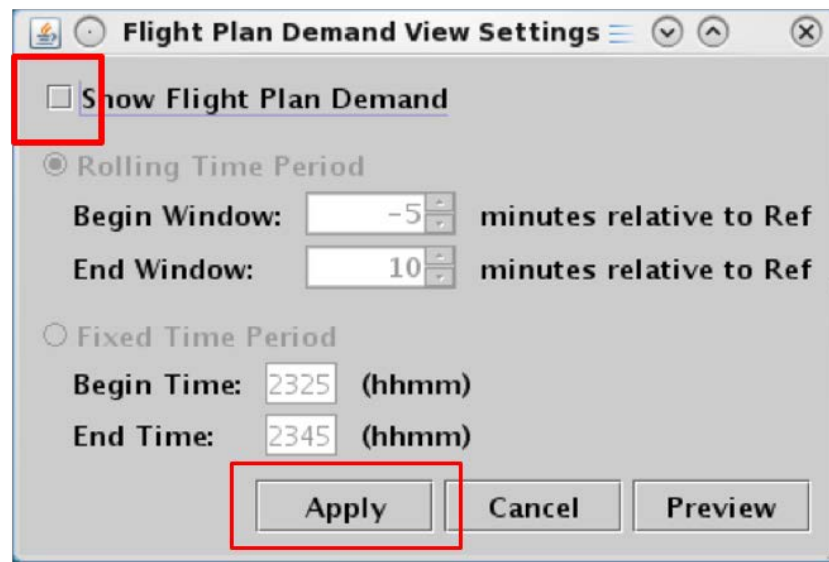


Figure 6.13. Flight Plan Demand View Settings: Uncheck to remove from Timeline(s).

6.6 Timeline: Schedule Configuration Change

Use the “Schedule Configuration Change” option to open the Runway Utilization tab on the TM Actions Panel. See Section 3.1.6 for a full description of the Runway Utilization tab. “Schedule Configuration Change” is available by right-clicking within the center of the timeline (Figure 6.14). Configuration changes are indicated at their start time along the timeline by “CC”, in red (Figure 6.16).

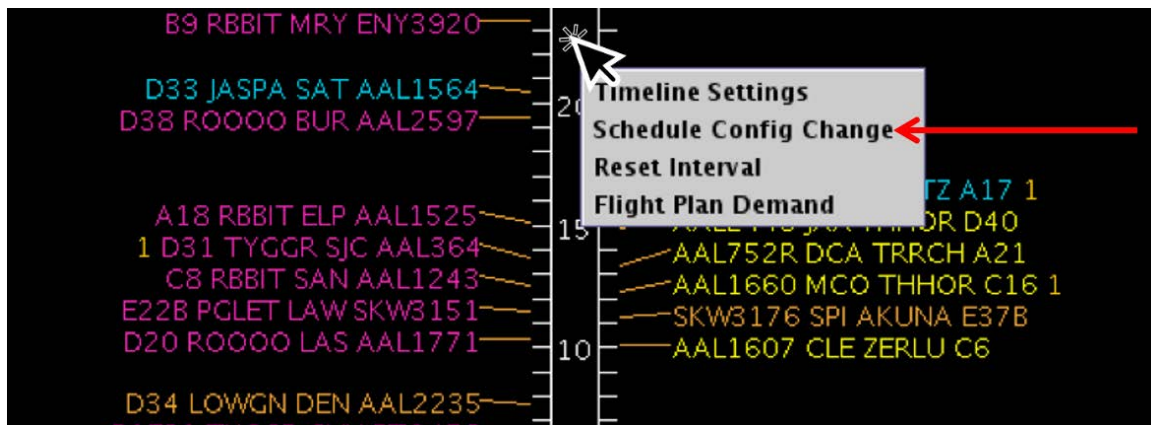


Figure 6.14. Timeline Right-Click Menu: Schedule Config Change (click *in center of timeline*).

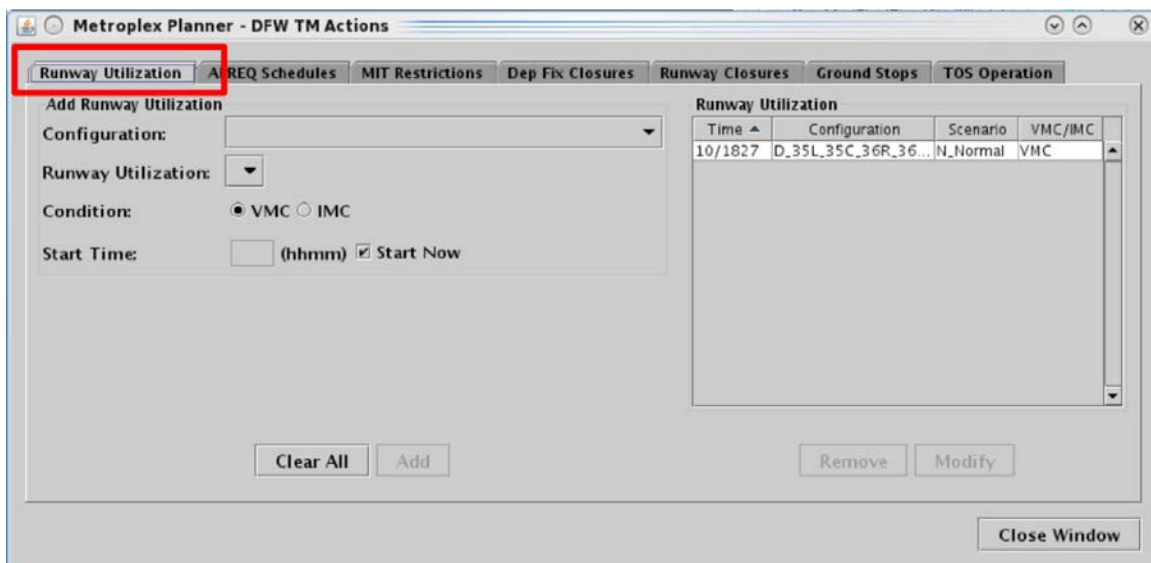


Figure 6.15. TM Actions Panel: Runway Utilization tab (see Section 3.1.6 for more information about the Runway Utilization tab).

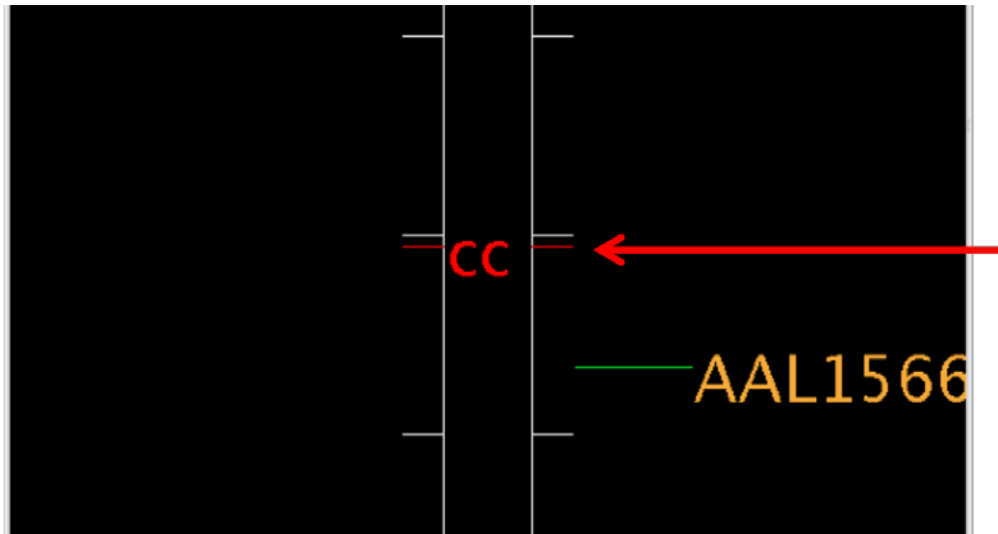


Figure 6.16. Timeline: Runway Utilization changes are indicated at their start time along the timeline by “CC” (in red) for Configuration Change.

6.7 Timeline: Settings

The “Timeline Settings” window can be used to configure timeline parameters, reference point, labels, color schemes, datablock options, and filtering criteria (Figure 6.17).

To open the Timeline Settings window:

- Step 1:** Use the mouse to right-click anywhere on the background of the timeline (i.e., anywhere not on a datablock).
- Step 2:** Select “Timeline Settings” to open the Settings window (Figure 6.17) to open the Timeline Settings window (Figure 6.18).

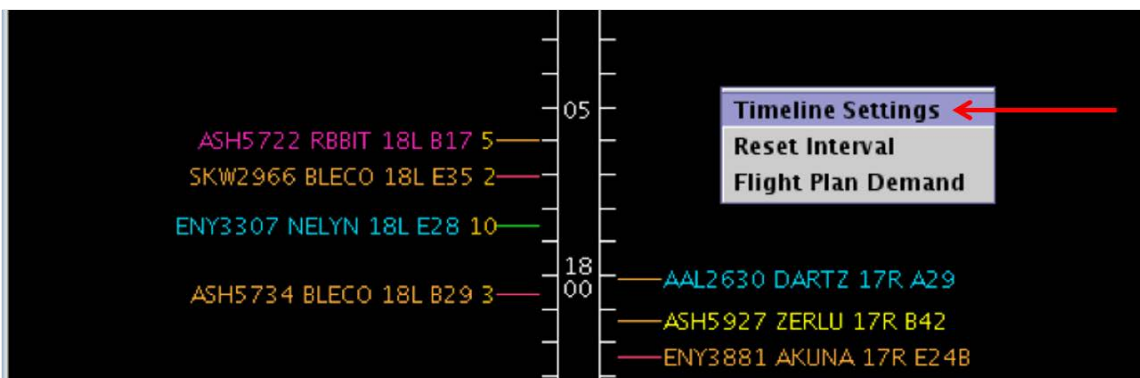


Figure 6.17. Timeline Right-Click Menu: Timeline Settings.

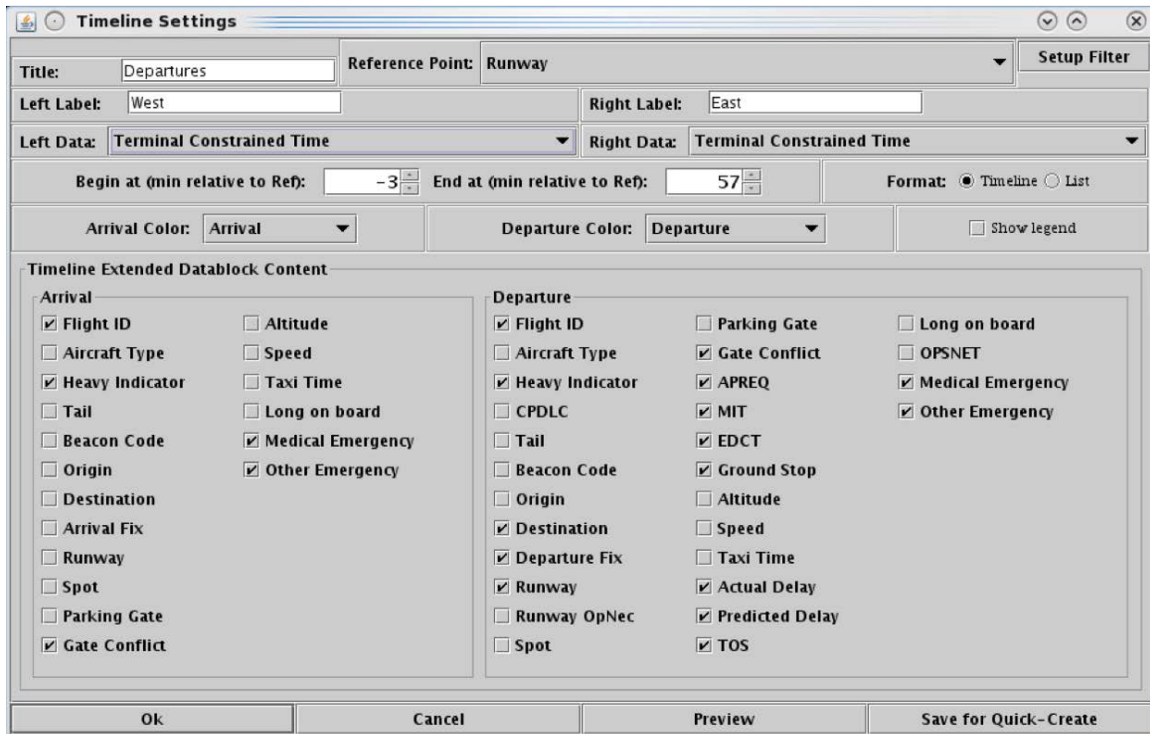


Figure 6.18. Timeline Settings window.

6.7.1 Apply / Preview / Save Timeline Settings

Four buttons are available at the bottom of the Timeline Settings window to apply, cancel, preview, and save timeline settings.

To Preview, Apply, or Cancel changes in Timeline Settings:

Step 1: Make any desired changes in the Timeline Settings window.

Step 2 (Optional): Select “Preview” to view the pending changes on the timeline before closing the Timeline Settings window.

Step 3: Select “Ok” to apply the changes and close the Timeline Settings window (Figure 6.19).

Alternatively: Select “Cancel” to discard any pending changes and close the Timeline Settings window (Figure 6.19).

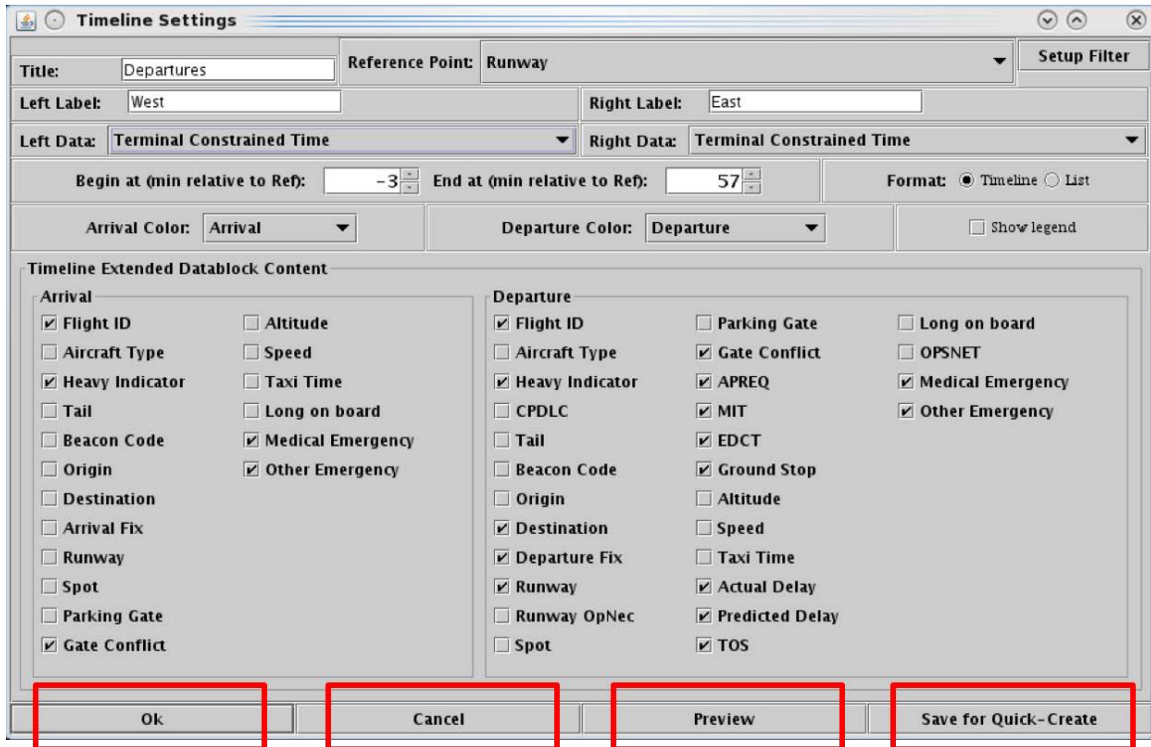


Figure 6.19. Timeline Settings: “Ok”, “Cancel”, “Preview” and “Save for Quick Create” buttons.

To Save Timeline settings:

- Step 1:** Use the mouse to right-click anywhere on the background of the timeline (i.e., anywhere not on a datablock) to open “Timeline Settings”.
- Step 2:** Select “Save for Quick Create” to save current timeline settings (Figure 6.19).
- Step 3:** Enter the preferred file name for future access (e.g., “Tower” in Figure 6.20).
- Step 4:** Select “Save”.

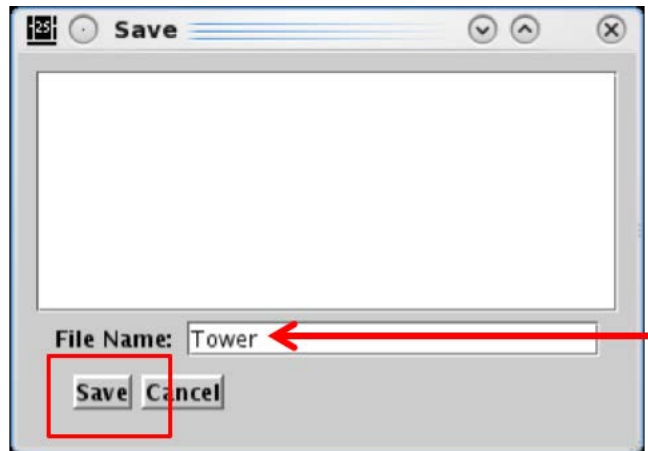


Figure 6.20. Timeline Settings: Save for Quick Create. Enter file name (in this example, “Tower”).

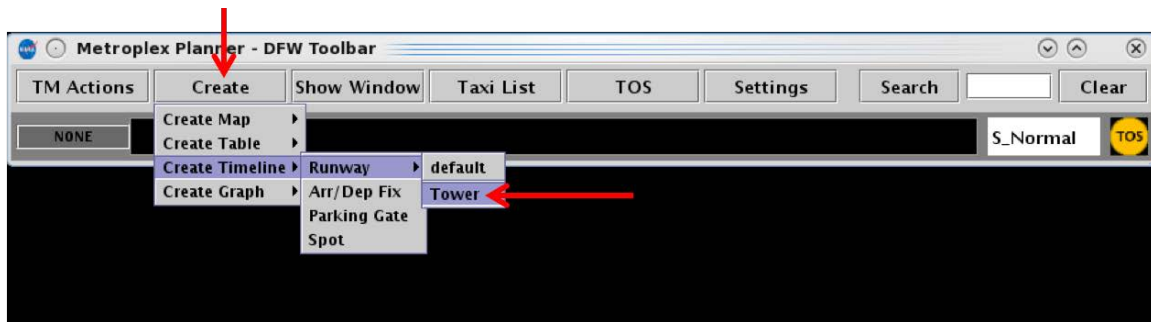


Figure 6.21. Create a Timeline using a saved configuration (in this example, “Tower”).

6.7.2 Reference Point

Use the Timeline Settings window to change the timeline reference point.

To change the Reference Point of existing Timeline:

Step 1: In the Timeline Settings window, click on the “Reference Point” dropdown menu and select a reference point (e.g., “Runway” in Figure 6.22):

- Runway
- Arr/Dep Fix
- Parking gate
- Spot

Step 2: Select “Preview” to view the pending changes on the timeline before closing the Settings window or “Apply” to apply the changes and close the Settings window.

Note: The selected reference point applies to both sides of a timeline and is displayed in the title bar of the window and next to “Now” time (Figure 6.23).

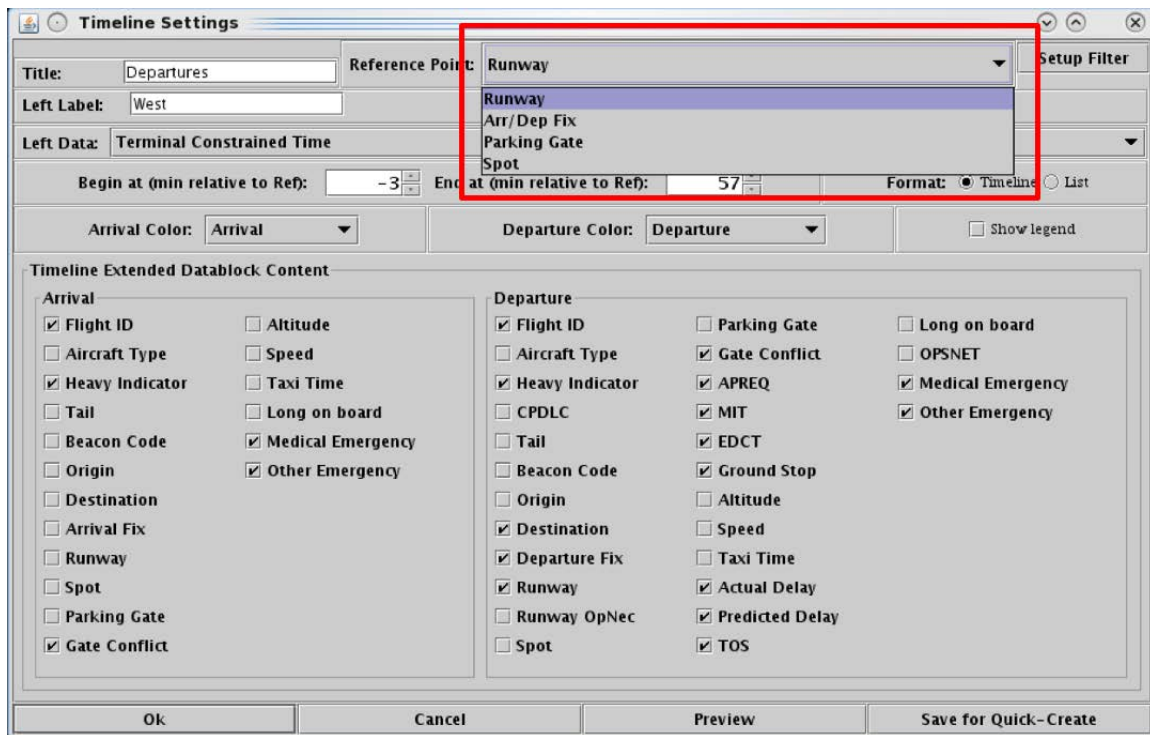


Figure 6.22. Timeline Settings: Reference Point.

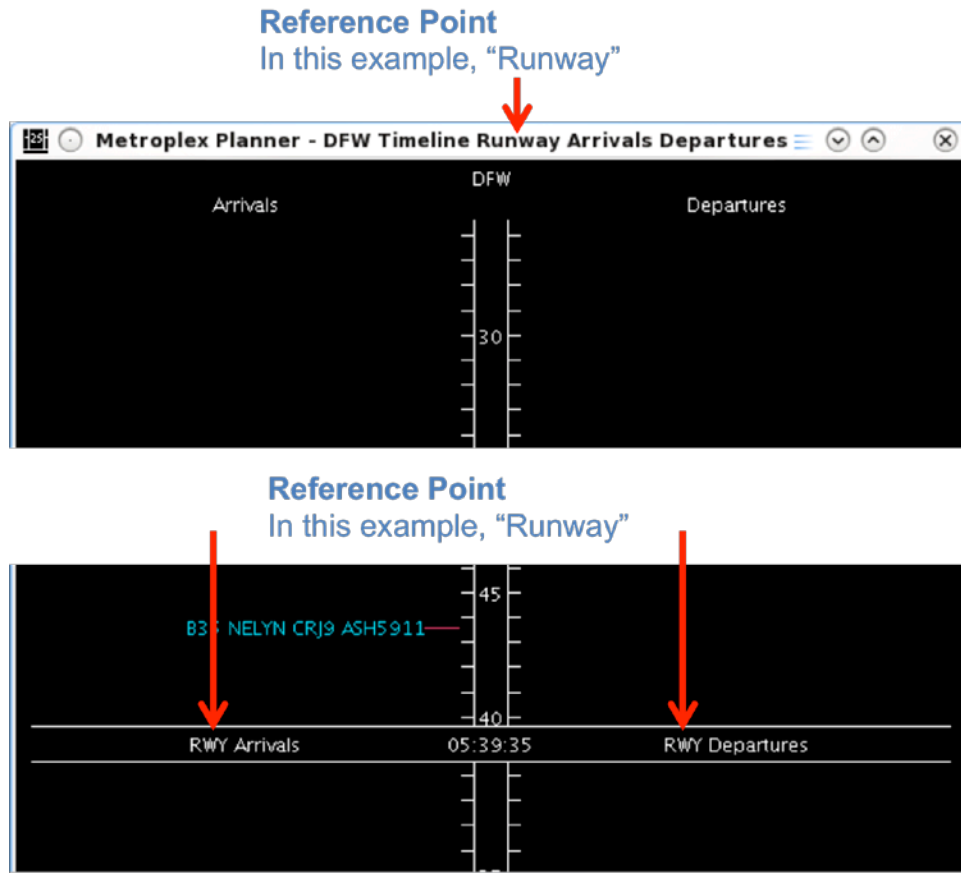


Figure 6.23. Timeline: Reference Point.

6.7.3 Labels

The title of the timeline and the left/right column labels can be changed in the Timeline Settings window. Note, the title and column labels do not affect the content of the timeline and are independent of any timeline filters.

To change the Timeline title:

Step 1: In the Timeline Settings window, edit the content of the "Title" text box (Figure 6.24).

Step 2: Select "Preview" to view the pending changes on the timeline before closing the Settings window or "Apply" to apply the changes and close the Settings window.

Note: The timeline Title is updated (e.g., "DFW" in Figure 6.25).

To change the label for the left and/or right sides of the Timeline:

Step 1: In the Timeline Settings window, edit the content of the "Left Label" and "Right Label" text boxes (Figure 6.24).

Step 2: Select "Preview" to view the pending changes on the timeline before closing the Settings window or "Apply" to apply the changes and close the Settings window.

Note: The timeline's Left and Right Labels are updated (e.g., "Arrivals" and "Departures" in Figure 6.25).

Timeline Settings

Title: DFW Reference Point: Runway Setup Filter

Left Label: Arrivals Right Label: Departures

Left Data: Terminal Constrained Time Right Data: Terminal Constrained Time

Begin at (min relative to Ref): -5 End at (min relative to Ref): 55 Format: Timeline List

Arrival Color: Arrival Departure Color: Departure Gate Show legend

Timeline Extended Datablock Content

Arrival	Departure
☒ Flight ID	☒ Flight ID
☐ Aircraft Type	☐ Aircraft Type
☒ Heavy Indicator	☒ Heavy Indicator
☐ Tail	☐ Tail
☐ Beacon Code	☐ Beacon Code
☐ Origin	☐ Origin
☐ Destination	☒ Destination
☐ Arrival Fix	☒ Departure Fix
☐ Runway	☒ Runway
☐ Spot	☐ Runway OpNec
☐ Parking Gate	☐ Spot
☒ Gate Conflict	☒ Gate Conflict
☐ Altitude	☐ Parking Gate
☐ Speed	☒ Gate Conflict
☐ Taxi Time	☒ APREQ
☐ Long on board	☒ MIT
☐ Medical Emergency	☒ EDCT
☒ Other Emergency	☒ Ground Stop
	☐ Altitude
	☐ Speed
	☐ Taxi Time
	☐ Actual Delay
	☒ Predicted Delay
	☒ TOS
	☐ Long on board
	☐ OPSNET
	☒ Medical Emergency
	☒ Other Emergency

Ok Cancel Preview Save for Quick-Create

Figure 6.24. Timeline Settings: Title and Left/Right Labels.

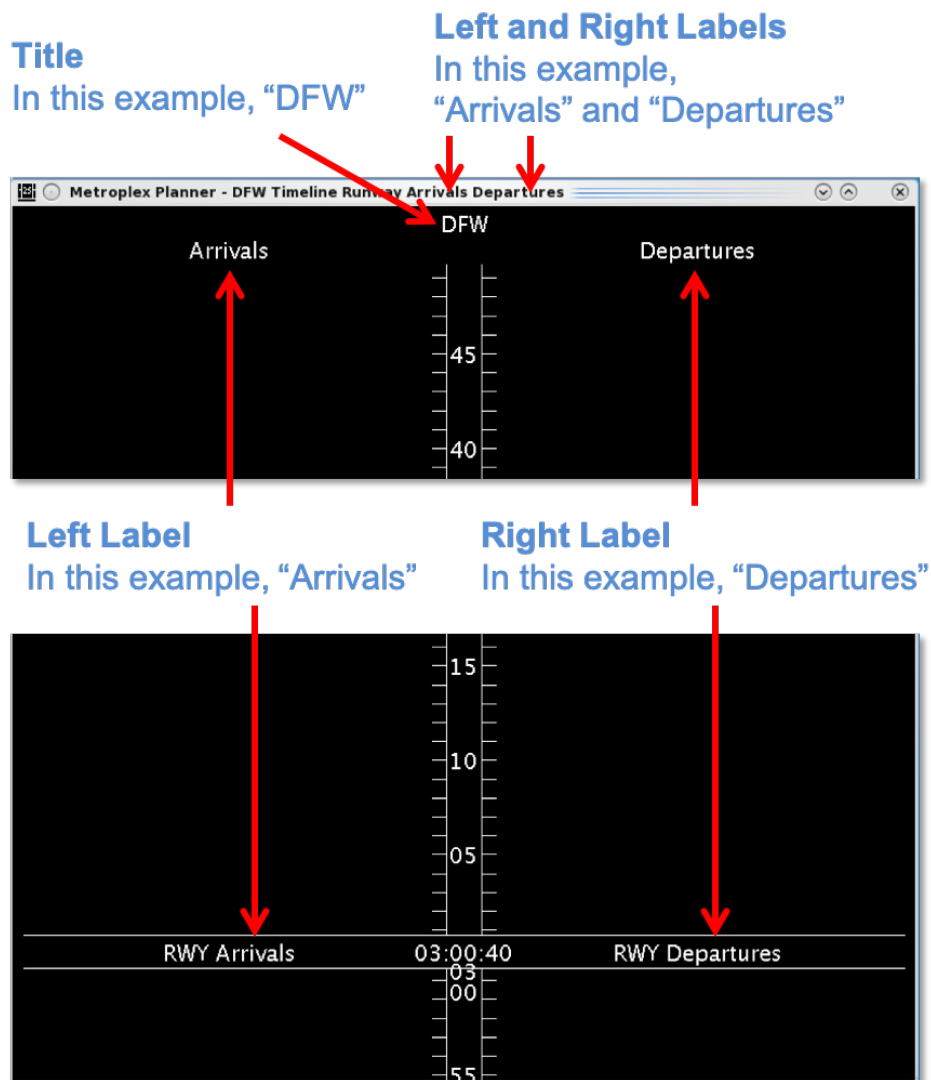


Figure 6.25. Timeline: Title ("DFW") and Left/Right Labels ("Arrivals" and "Departures").

6.7.4 Setup Filter

Filters are used for configuring what information is displayed on a timeline. For example, the filter can be used to display west runways on the left side of the timeline and east runways on the right side. Filters can also be configured to show flights with only certain TMIs, like APREQs on a timeline.

Variables that can be used for applying filters to timelines are listed in Table 6.2.

Variables are used in combination with a *modifier* ("=" equal to or "!" not equal to). Multiple fields can be used in combination by selecting "and" or "or" as a *qualifier*.

Table 6.2. Timeline: Filter Fields

Filter Field	Options
Airline	[enter text]
Arr/Dep	[Arrival/Departure]
Arr Fix	[dropdown list; varies by TRACON]
Coord State	Indicates the coordination of TOS rerouting between the Flight Operator and ATC. • Not Submitted – <i>None</i> of this flight’s TOS route options have been submitted to ATC by the Flight Operator. • FO (Flight Operator) Submitted – <i>At least one</i> of this flight’s TOS routes has been submitted to ATC by the Flight Operator. • ATC Approved – <i>One</i> of this flight’s TOS route options has been approved by ATC. ATC is expected to amend the flight plan using the revised route. • Reroute Filed – This flight’s original flight plan has been amended according to the TOS route option approved by ATC. • FO (Flight Operator) Excluded – The Flight Operator has excluded this flight from TOS Operations. • ATC Excluded – <i>All</i> TOS route options for this flight are excluded from TOS Operations because of ATC restrictions. When a CDR or destination is restricted by a Fix closure, MIT restriction, APREQ, EDCT, Ground Stop, DCC Route Advisory, or User-entered restrictions, it is <i>automatically</i> excluded from TOS Operations.
Dep Fix	[dropdown list; varies by TRACON]
Dep Gate	Terminal-area Departure Gate
Dest	[3-digit airport code dropdown list]
Destination has APREQ	[Yes/No]
Eligibility State	Indicates the flight’s eligibility for TOS rerouting. • Potential – <i>At least one</i> of the flight’s TOS routes is a “Potential” route (predicted Delay Savings is <i>less than</i> the Relative Trajectory Cost (RTC)). • Candidate – <i>At least one</i> of the flight’s TOS routes is a “Candidate” route (predicted Delay Savings is <i>greater than or equal to</i> the Relative Trajectory Cost (RTC)). • Excluded – <i>All</i> TOS route options for this flight are excluded because of Flight Operator or ATC exclusions.
Engine Type	[Prop/Turbo/Jet]

Flight Status	Flight Status: • Scheduled Out: A departure flight that has not yet pushed back from the gate. • Pushback: A departure flight that is pushing back. • Out: A departure flight that is taxiing in the Ramp Area. • Taxiing AMA: A departure flight that is taxiing in the Airport Movement Area (AMA). • In Queue: A departure flight inside the queue detection box of the assigned runway. • Departed: A departure flight that is airborne. • Scheduled In: An arrival flight that is not yet being tracked. • Enroute Arr: An arrival flight that is in the enroute airspace. • Term Area Arr: An arrival flight that is inside the terminal airspace. • On Final: An arrival flight that is on final approach. • On: An arrival flight that has landed. • In Ramp: An arrival flight that is taxiing in the Ramp. • In: An arrival flight that is parked at the gate. • Return to Gate: A departure that is returning to the gate, after pushing back. • Suspended: A departure flight that was scheduled to have already departed, but no updates have been received. • Cancelled: A flight that has been cancelled by the airline. • Unknown: A flight with an unknown status. <i>*Not all types are available at all airports.</i>
Gate	Parking gate [dropdown list; varies by Airport]
Has Acknowledged APREQ	[Yes/No]
Had EDCT	[Yes/No]
Has MIT	[Yes/No]
Has Fix MIT	[Yes/No]
Has Destination MIT	[Yes/No]
Has Jet Route MIT	[Yes/No]
Is Hidden	[Yes/No]
Origin	[3-digit airport code dropdown list]
Runway	[dropdown list; varies by Airport]
Spot	[dropdown list; varies by Airport]
Tail	[Is Set/Not Set]
Weight Class	[A, B, C, D, E, F]

To Filter the Timeline:

Step 1: In the Timeline Settings window, select “Setup Filter” (Figure 6.26).

Step 2: Select the “Left” or “Right” tab to filter the left or right side of the timeline (e.g., “Right” in Figure 6.27).

Step 3: Select a variable from the dropdown menu in the “Field” column (e.g., “Runway” in Figure 6.27).

Step 4: Select a modifier from the dropdown list in the “Operator” column (e.g., “=” in Figure 6.27).

Step 5: Select an option from the dropdown list or enter text to populate the “Values” field (e.g., “DFW:35R” in Figure 6.27).

Step 6 (Optional): Additional filters can be applied by making entries on a new row. Select “Add Fields” if more rows are not visible. Begin new rows by selecting a qualifier (i.e., “AND” or “OR”).

Step 7: Begin new rows by selecting a qualifier (i.e., “AND” or “OR”).

Note: *Follow the same steps to apply filters to the other timeline column.*

Step 8: When complete, select “Ok” to close the Setup Filter window.

Step 9: Select “Preview” to view the pending changes on the timeline before closing the Settings window or “Apply” to apply the changes and close the Settings window.

Note: *An existing filter can be modified by changing the selections in the Field, Operator, or Values columns.*

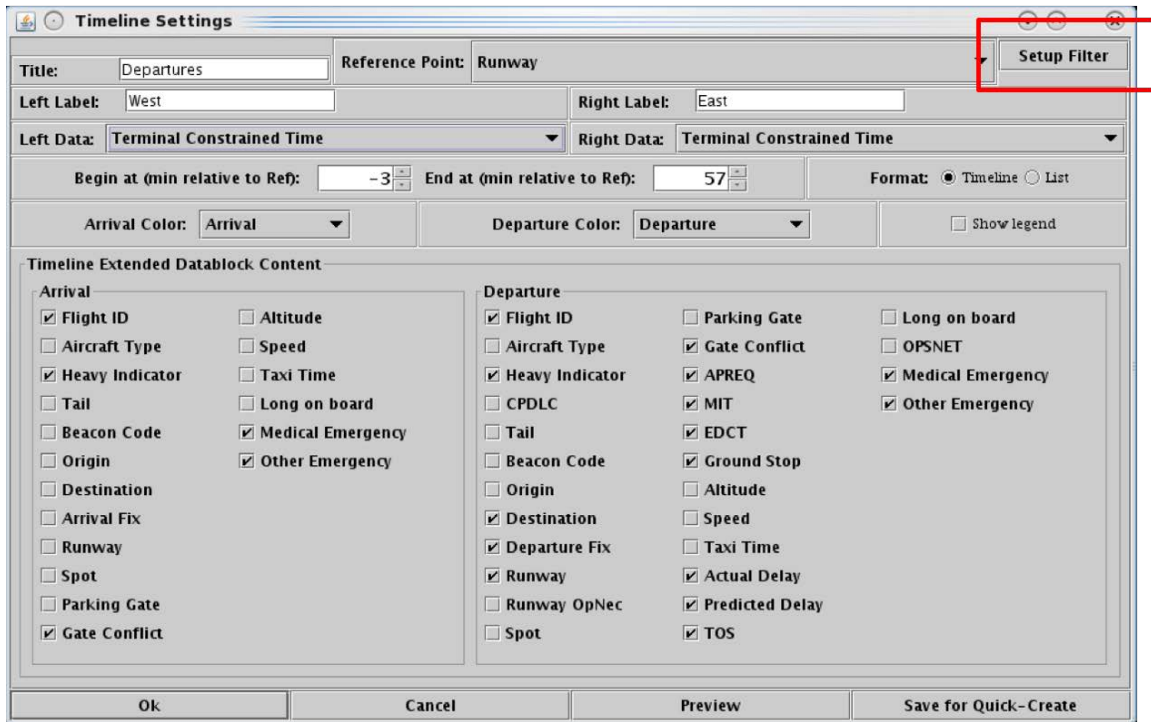


Figure 6.26. Timeline Settings: Setup Filter.

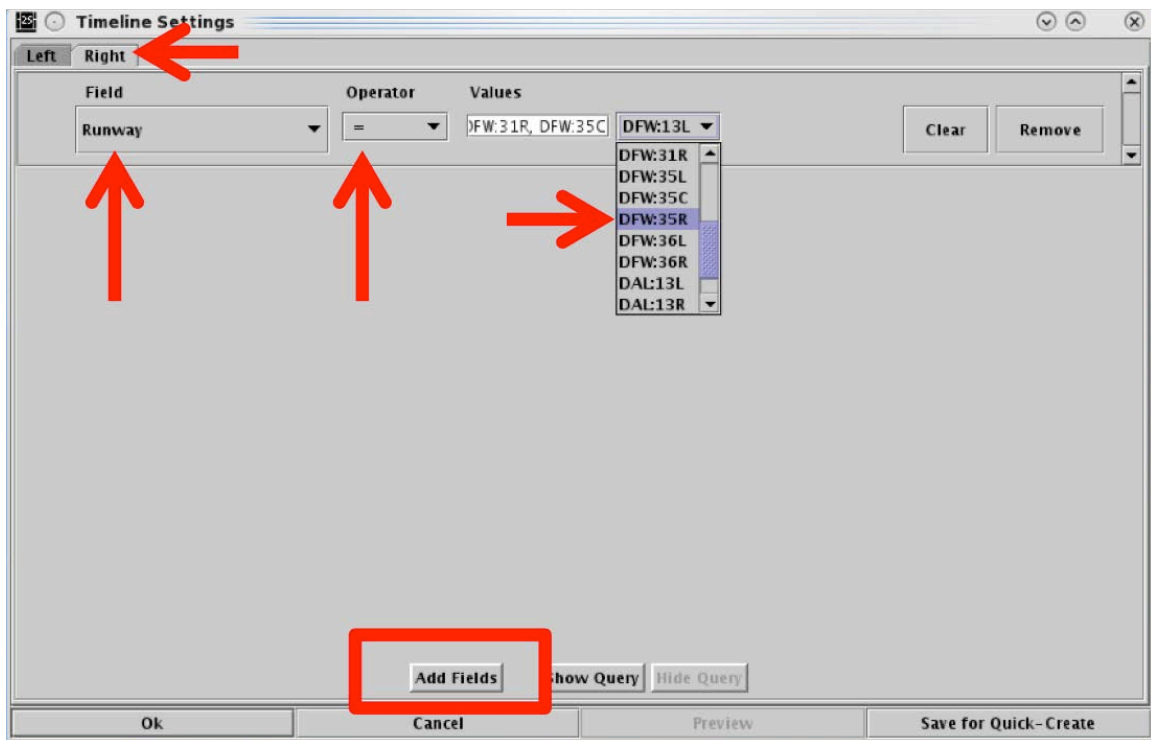


Figure 6.27. Timeline Settings: Enter Filter Criteria.

Note that adding or modifying timeline filters does not change the title or the left/right labels. Labels must be edited manually.

To remove or clear a filter from the Timeline:

Step 1: In the Timeline Settings window, select “Setup Filter”.

Step 2: Select “Remove” to delete the entire row.

Alternatively: Select “Clear” to clear the “Value” field in that row.

Step 3: When complete, select “Ok” to close the Setup Filter window.

Step 4: Select “Preview” to view the pending changes on the timeline before closing the Settings window or “Apply” to apply the changes and close the Settings window.

6.7.5 Left Data/Right Data

A flight is positioned on the timeline based on a prediction of when that flight will reach the reference point that has been selected for that timeline (i.e., Parking Gate, Spot, Runway, or Arr/Dep Fix). Users can select one of three methods for computing the time at which a flight is expected to reach the reference point: Undelayed Time, Surface Constrained Time, or Terminal Constrained Time.

Each of these Data Types predicts the earliest time at which a flight can reach the reference point, however, each method bases that prediction on different criteria.

- **Undelayed Time** is the earliest time at which a flight can reach the reference point as predicted by the ATD-2 scheduling systems, based on:
 - a flight’s predicted trajectory,
 - a constant taxi speed in the Ramp, and
 - a constant taxi speed in the AMA.

No other flights (i.e., traffic) are considered in this calculation.

- **Surface Constrained Time** is the earliest time at which a flight can reach the reference point as predicted by the ATD-2 scheduling systems, based on:
 - *Undelayed Time* + expected separation between flights.
- **Terminal Constrained Time** is the earliest time at which a flight can reach the reference point as predicted by the ATD-2 scheduling systems, based on:
 - *Surface Constrained Time* + additional separation between flights based on the demand of multiple airports at departure fixes at the terminal boundary, as well as terminal restrictions applied to the departures.

The ATD-2 scheduler updates time predictions (i.e., the flight’s position along the timeline) every 10 seconds. Data are not available for all combinations of Reference

Point and Data Type. Data availability for each Reference Point/Data Type is displayed in Table 6.3.

Table 6.3. Timeline Data Availability: Reference Point by Left/Right Data Type

	Reference Point			
Data Type	Parking Gate	Spot	Runway	Arr/Dep Fix
Undelayed Time	<i>Departures and Arrivals</i>	<i>Departures and Arrivals</i>	<i>Departures and Arrivals</i>	<i>Departures and Arrivals</i>
Surface Constrained Time	<i>Departures and Arrivals</i>	<i>Departures and Arrivals</i>	<i>Departures and Arrivals</i>	<i>Departures and Arrivals</i>
Terminal Constrained Time	<i>Unavailable</i>	<i>Unavailable</i>	<i>Departures and Arrivals</i>	<i>Departures only</i>

To change Left or Right Timeline data type:

Step 1: In the Timeline Settings window, click on the “Left Data” or “Right Data” dropdown menus to change the data used on each side of the timeline (e.g., “Left Data” in Figure 6.28).

Step 2: Select a data type from the dropdown menu (e.g., “Terminal Constrained Time” in Figure 6.28):

- Surface Constrained Time
- Terminal Constrained Time
- Undelayed Time

Note: *Because each of the three data types base their prediction on different factors, a flight’s position on the timeline may change when the data type is changed.*

Step 3: Select “Preview” to view the pending changes on the timeline before closing the Settings window or select “Apply” to apply the changes and close the Settings window.

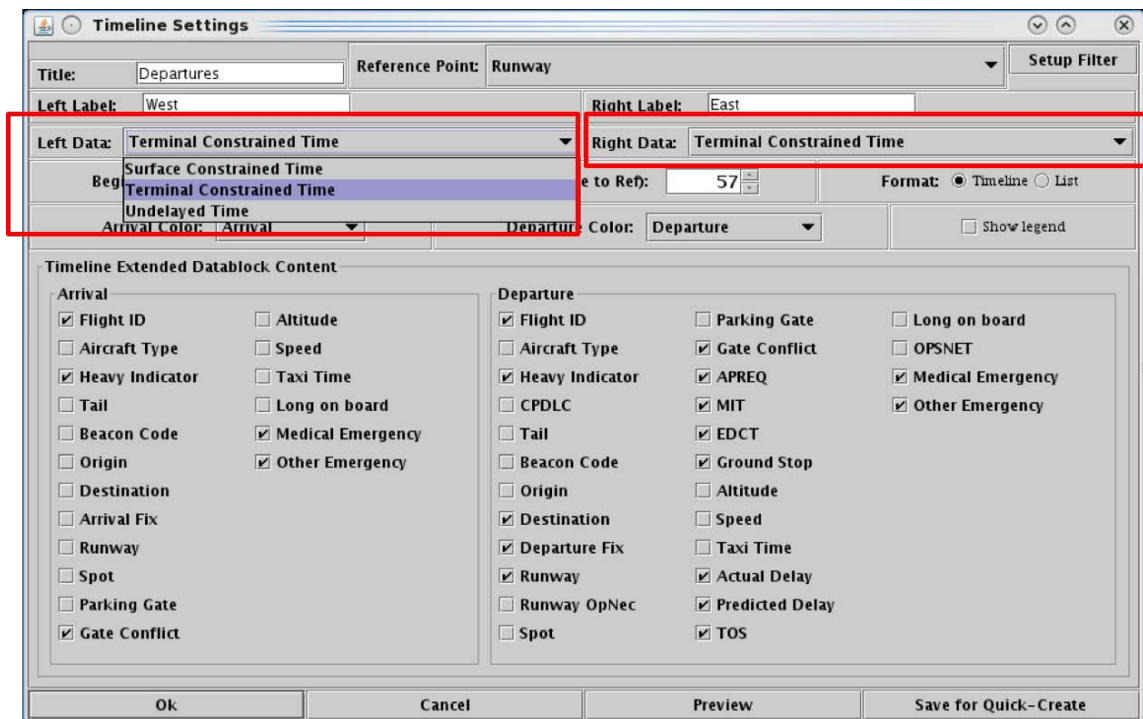


Figure 6.28. Timeline Settings: Left/Right data.

6.7.6 Duration

The duration, or the size of the visible window, of the timeline display can be configured by adjusting the “Begin at” and “End at” times. The “Begin” time represents where the timeline display should start, relative to “Now” time at the Reference Point. The “End” time represents where the timeline display should end, relative to “Now” time at the Reference Point. The difference between these two times is the size of the visible timeline window.

Use a negative number to indicate minutes past the “Now” time (past) and a positive number to indicate minutes ahead of the “Now” time (future).

For example, if the “Begin at” time is -5 minutes, the timeline display will start 5 minutes past “Now” time. If the “End at” time is 55 minutes, the timeline display will extend 55 minutes into the future, compared to “Now” time. In this example, the timeline duration (window of time) is a total of 60 minutes.

To change the duration of the Timeline:

Step 1: In the Timeline Settings window:

- Enter minutes in the “Begin at (min relative to Ref)” field (e.g., “-3” in Figure 6.29).
- Enter minutes in the “End at (min relative to Ref)” field (e.g., “57” in Figure 6.29).

Note: Depending on user preference, both the “Begin at” and “End at” times:

- Can be positive (to create a window of time in the future), or
- Can be negative (to create a window of time in the past), or
- The Begin time can be in the past (i.e., negative number), while the End time is in the future (i.e., positive number), creating a window of time that includes “Now” time at the Reference Point.

Step 2: Select “Preview” to view the pending changes on the timeline and select “OK” to apply the changes and close the Settings window.

The screenshot shows the 'Timeline Settings' dialog box. The 'Title' is 'Departures' and the 'Reference Point' is 'Runway'. The 'Left Label' is 'West' and the 'Right Label' is 'East'. The 'Left Data' and 'Right Data' are both set to 'Terminal Constrained Time'. The 'Begin at (min relative to Ref)' field is set to -3 and the 'End at (min relative to Ref)' field is set to 57. The 'Format' is set to 'Timeline'. The 'Arrival Color' is 'Arrival' and the 'Departure Color' is 'Departure'. The 'Show legend' checkbox is unchecked. The 'Timeline Extended Datablock Content' section has two columns: 'Arrival' and 'Departure'. The 'Arrival' column has checkboxes for Flight ID, Aircraft Type, Heavy Indicator, Tail, Beacon Code, Origin, Destination, Arrival Fix, Runway, Spot, Parking Gate, and Gate Conflict. The 'Departure' column has checkboxes for Flight ID, Aircraft Type, Heavy Indicator, CPDLC, Tail, Beacon Code, Origin, Destination, Runway, Runway OpNec, Spot, Parking Gate, Gate Conflict, Long on board, OPSNET, Medical Emergency, Other Emergency, APREQ, MIT, EDCT, Ground Stop, Altitude, Speed, Taxi Time, Actual Delay, Predicted Delay, and TOS.

Figure 6.29. Timeline Settings: Begin at and End at times (in minutes).

6.7.7 Format

The Timeline can be displayed in either a timeline or list format. In the *Timeline* format, datablocks are displayed on a timeline relative to the expected arrival time at the reference point (e.g., expected takeoff time at the Runway; Figure 6.31 left).

In the *List* format, datablocks are not listed relative to a timeline (Figure 6.31 right). Instead, flights are displayed in the order in which they are expected to reach the reference point without considering the specific time they are expected to reach the reference point. The ordering of the list is bottom-up, with the flights that will reach the reference point the earliest on the bottom of the list.

To change the Timeline/List format:

Step 1: Open the Timeline Settings window.

Step 2: Select the “Timeline” or “List” option in the “Format” field (Figure 6.30).

Step 3: Select “Preview” to view the pending changes on the timeline before closing the Settings window or select “Apply” to apply the changes and close the Settings window.

The screenshot shows the 'Timeline Settings' window. The 'Format' field is highlighted with a red box and is set to 'Timeline' (indicated by a selected radio button). The window includes fields for Title, Reference Point, Left/Right Labels, Left/Right Data, Begin/End times, Arrival/Departure Colors, and a section for 'Timeline Extended Datablock Content' with various checkboxes for arrival and departure data. At the bottom are buttons for 'Ok', 'Cancel', 'Preview', and 'Save for Quick-Create'.

Figure 6.30. Timeline Settings: Format.

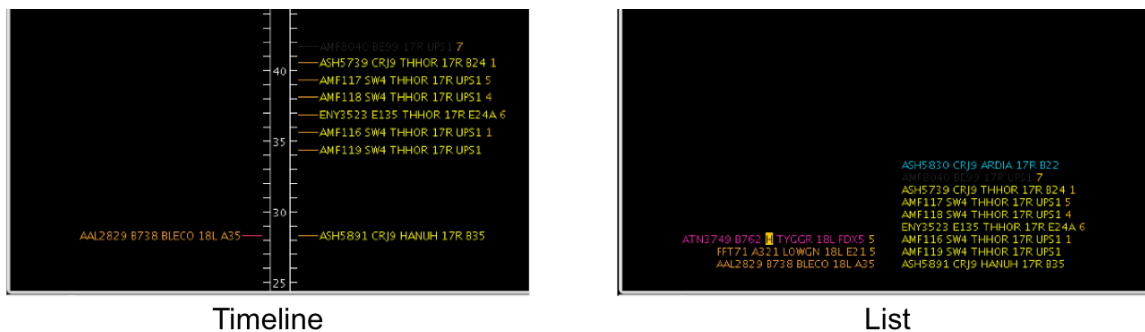


Figure 6.31. Timeline: Timeline format (left), List format (right).

6.7.8 Color Scheme

Use the Timeline Settings window to select a color scheme for departure and arrival datablocks.

To change the Color Scheme for Timeline datablocks:

Step 1: Open the Timeline Settings window.

Step 2a: Click on the “Departure Color” dropdown menu to select a departure color scheme (e.g., “Departure Fix” in Figure 6.32):

- Departure
- Departure Fix
- Departure Gate
- Departure Runway
- Aircraft Weight

Step 2b: Click on the “Arrival Color” dropdown menu to select an arrival color scheme (e.g., “Arrival Runway” in Figure 6.33):

- Arrival
- Arrival Fix
- Arrival Runway
- Aircraft Weight

Step 3: Select “Preview” to view the pending changes on the timeline before closing the Settings window or “Apply” to apply the changes and close the Settings window.

Note: *Color-coding schemes on the timeline apply to datablocks only. The color of leader lines is determined by flight status and does not change by color scheme.*

Note: *Flights designated as an emergency are always shown in red, regardless of selected color scheme.*

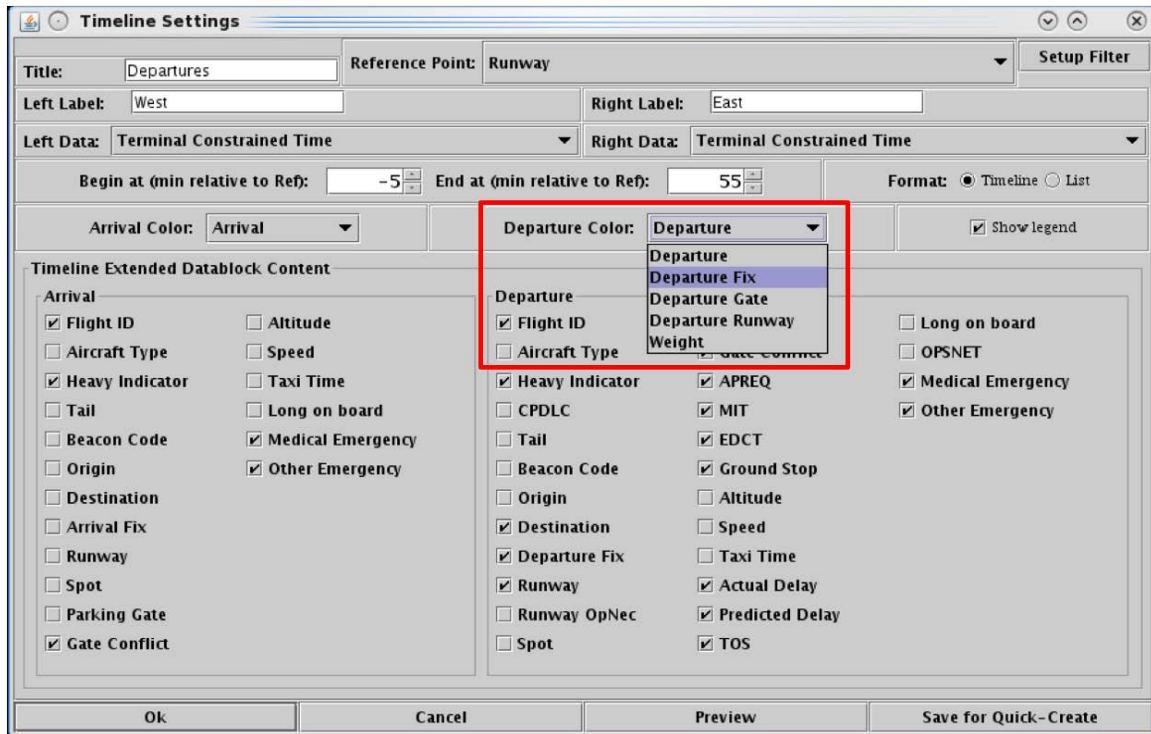


Figure 6.32. Timeline Settings: Departure Color Schemes.

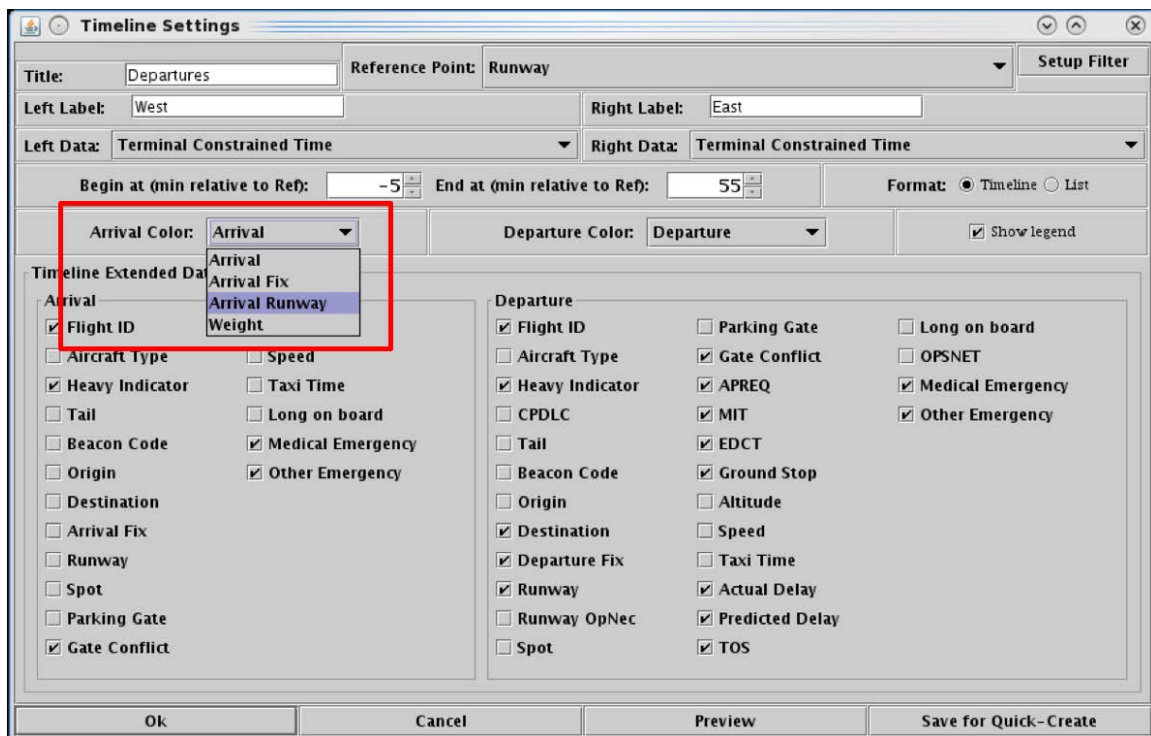


Figure 6.33. Timeline Settings: Arrival Color Schemes.

Depending on the chosen color scheme, a flight may be shown in white or grayed-out when it is departing from/arriving at airports in the same TRACON or departing/arriving at the same airport. In Figure 6.34, for example, a flight is filed to depart from and arrive at the same airport; it is grayed-out on the Timeline when “Departure Gate” is selected as the color scheme.



Figure 6.34. Timeline: Exceptions to the chosen Color Scheme.

6.7.9 Legend

The interactive timeline legend displays the color coding for the selected color scheme (e.g., Arrival/Departure, Departure Fix, Departure Gate, Departure Runway, Runway, and Weight) and allows the user to control which categories are displayed on the timeline.

To Show/Hide the Timeline Legend:

Step 1: In the Timeline Settings window, check the box next to “Legend” to display the legend at the bottom of the timeline window (Figure 6.35).

Alternatively: Uncheck the box to hide the legend.

Step 2: Select “Preview” to view the pending changes on the timeline before closing the Settings window or “Apply” to apply the changes and close the Settings window.

Note: *Colors displayed in the legend are determined by the selected arrival/departure color schemes. Colors are pre-assigned and cannot be changed.*

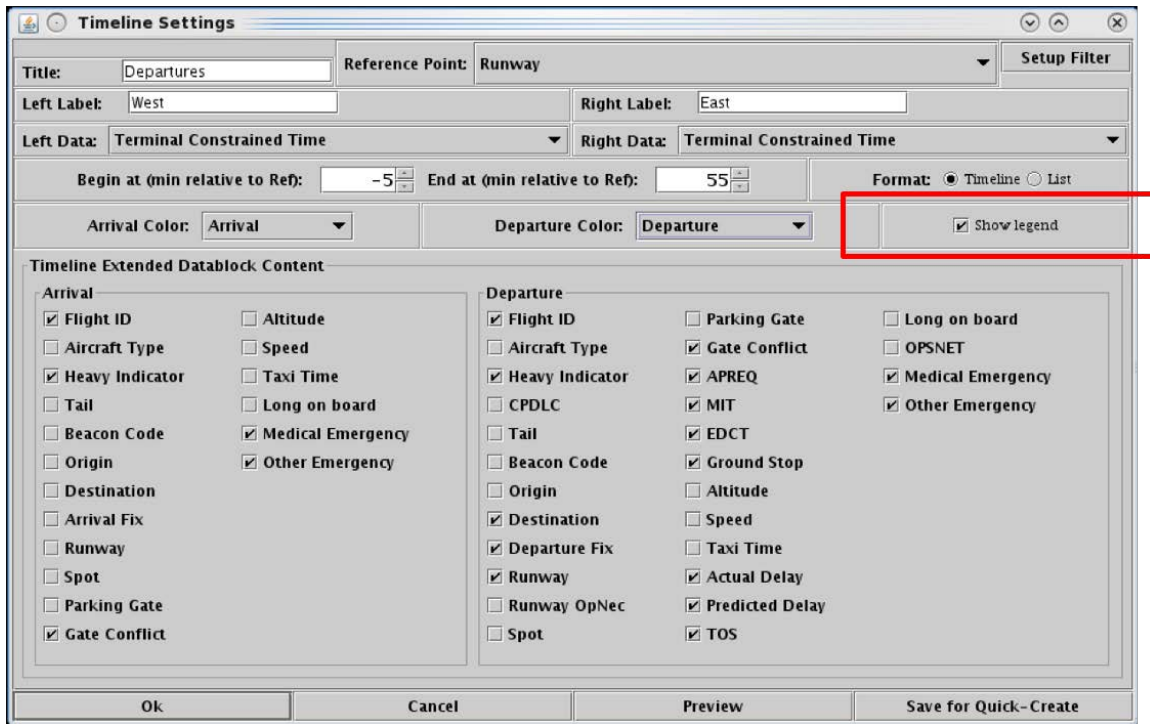


Figure 6.35. Timeline Settings: Show legend.

To Select/Deselect categories in the Legend:

Step 1: In the Timeline legend, uncheck a category (e.g., “West” Departure Gate in Figure 6.36, right) to remove flights in that category from the timeline.

Note: *The datablocks of flights in the deselected category appear grayed-out in timeline (e.g., Figure 6.36 right).*

Step 2: Recheck the box to show those datablocks in the timeline again.

Alternatively: To re-select all categories in the legend at once, select the “All” checkbox (Figure 6.37).

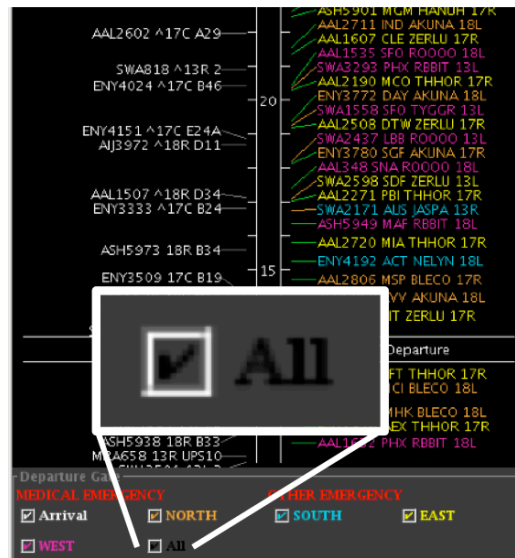
Note: *“Emergency” flights cannot be deselected in the Legend.*



"West" Departure Gate *Selected*

"West" Departure Gate *Unselected*
(West-Gate flights grayed-out)

Figure 6.36. Timeline Legend (deselect/select a category in the Timeline legend).



"All" *Selected*

Figure 6.37. Timeline Legend (check "All" to re-select all legend categories).

6.7.10 Datablocks

The content of timeline datablocks can be configured by selecting/deselecting options in the Timeline Settings window menu. While departure and arrival datablocks can be

configured independently of each another, the configuration for departure datablocks applies to all departure flights in that timeline, while the configuration for arrival datablocks applies to all arrival flights in that timeline.

To change the content of Timeline datablocks:

Step 1: Open the Timeline Settings window.

Step 2: In the “Timeline Extended Datablock Content” selection menu, select items to include in Departure flight datablocks and items to include in Arrival flight datablocks (Figure 6.38).

Alternatively: Deselect items to exclude them from the Departure/Arrival datablocks.

Step 3: Select “Preview” to view the pending changes on the timeline before closing the Settings window or “Apply” to apply the changes and close the Settings window.

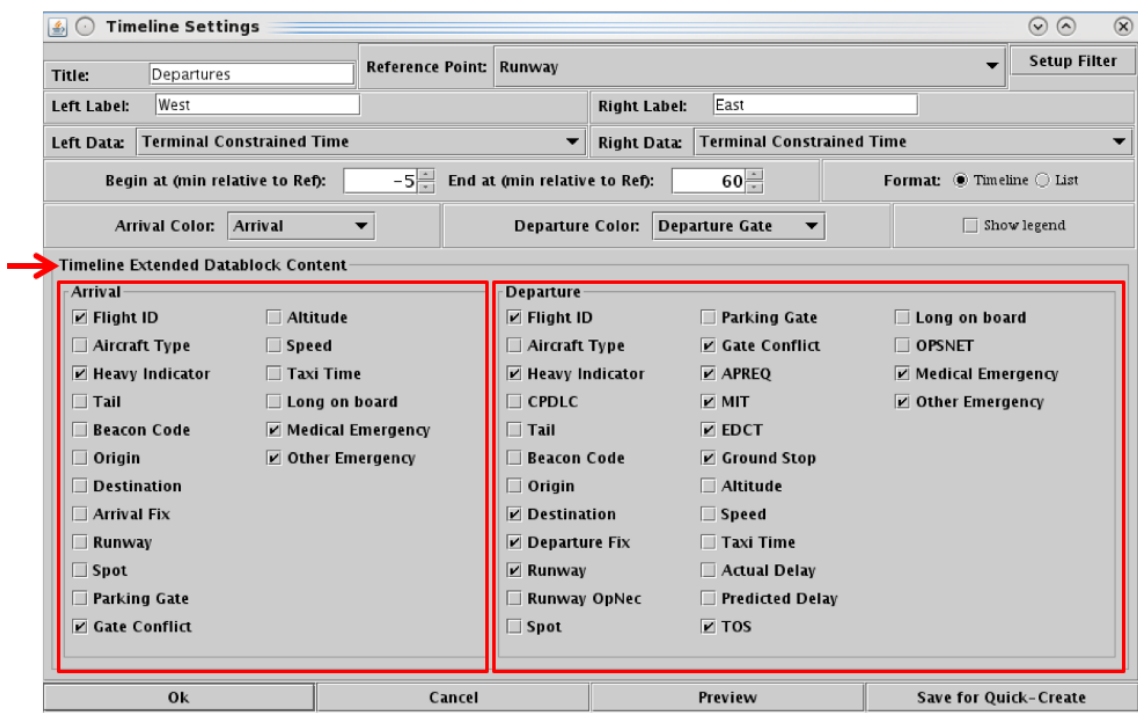
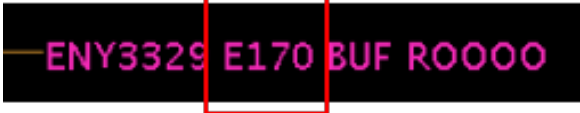
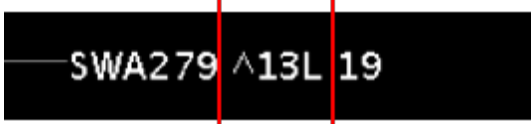


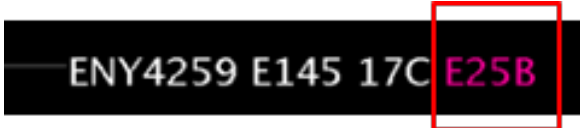
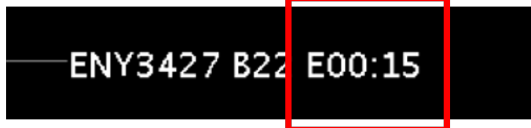
Figure 6.38. Timeline Settings: Timeline Extended Datablock Content.

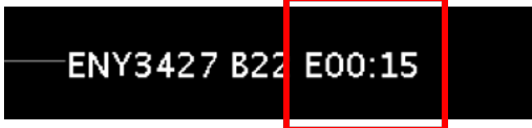
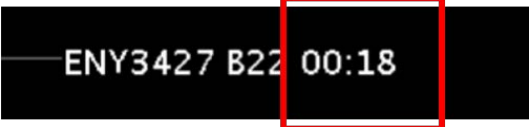
Data elements that can be included in Timeline datablocks are listed in Table 6.4.

Table 6.4. Datablock Data Element Information

Datablock Data Element	Description of Display	Arrivals, Departures, or Both
Flight ID	Flight number (call sign).  For General Aviation (GA) flights, tail number is used. 	Both
Aircraft Type	Aircraft type (e.g., A320, E135). 	Both
Heavy Indicator	‘Heavy’ aircraft (e.g., B777) indicated by a black “H” highlighted in yellow.  ‘Super Heavy’ aircraft (e.g., A380) indicated by a black “S” highlighted in white. 	Both
Tail	Aircraft tail number. 	Both
Beacon Code	Aircraft beacon code. When unknown, “UNK” is displayed.  	Both

Origin	3-letter origin airport code. 	Both
Runway	Departure, Prior to Takeoff: The assigned/expected runway is displayed.  If the User changes the runway assignment, an up-arrow symbol “^” is displayed before the runway.  Departure, After Takeoff: After takeoff (i.e., below the Runway reference point on the Timeline), the <i>actual</i> departure runway is displayed.  Arrival, Prior to Landing: An up-arrow symbol “^” displayed next to the arrival runway indicates one of two things: • The runway prediction is supplied by TBFM. • Or, the runway prediction supplied by TBFM has been changed by the TRACON in the scratch pad.  When no up-arrow is shown, the ATD-2 STBO system is using actual flight track data to determine that the aircraft is lined up on final for a specific RWY (usually about 8-10 miles out).	Both

	 Arrival, After Landing: After landing (i.e., below the Runway reference point on the Timeline), the <i>actual</i> arrival runway is displayed.	
Spot	Predicted/actual spot to leave/enter the Ramp Area. 	Both
Parking Gate	Assigned gate. When unknown, “UNK” is displayed. 	Both
Gate Conflict	The parking gate is displayed in magenta when a gate conflict is detected. 	Both
Altitude	Altitude in feet/100. In this example, 38,000 ft. 	Both
Speed	Ground speed in kts/10. Displayed for both flights in air and flights on the surface during taxi. In this example, 400 kts. 	Both
Taxi Time	Taxi Time display for Arrivals: Not yet landed: Estimated (E) taxi time from: Target Landing Time (TLDT) to Target In-Block Time (TIBT) (Ehh:mm). 	Both

	• Landed: Estimated (E) taxi time from: Actual Landing Time (ALDT) to Target In-Block Time (TIBT) (Ehh:mm).  • Once at the gate: Actual taxi time from: Actual Landing Time (ALDT) to Actual In-Block Time (AIBT) (hh:mm).  Taxi Time display for Departures: • At Pushback: Estimated (E) taxi time from: Actual Off-Block Time (AOBT) to Target Takeoff Time (TTOT) (Ehh:mm).  • After wheels-up (OFF): Actual taxi time from: Actual Off-Block Time (AOBT) to Actual Takeoff Time (ATOT) (hh:mm). 	
Long on Board (LOB)	LOB indicator (yellow, orange, or red): • For arrivals, the LOB timer starts at touchdown and is continuously computed as the current time minus the Actual Landing Time (ALDT) until the arrival is in the gate. • For departures, the LOB timer starts at pushback and is continuously computed as the current time minus the Actual Off-Block Time (AOBT) until the flight takes off. 	Both

Medical Emergency	A flight designated as a <i>medical</i> emergency is displayed in red with a red “+” symbol highlighted in white. 	Both
General (non-medical) Emergency	A flight designated as a <i>general</i> emergency is displayed in red with a red “!” symbol highlighted in white. 	Both
Arrival Fix	Predicted/actual arrival fix. 	Arrival
Destination	3-letter destination airport code. 	Both
Departure Fix	Assigned departure fix. 	Departure
Runway Operational Necessity	“OpNec”, in light green, when the runway has been changed for Operational Necessity. 	Departure
Actual Delay	Delay incurred by a flight in the AMA (in minutes). Actual Delay = Current Duration of AMA Time – Undelayed AMA Time. Actual Delay is displayed on the Timeline when greater than 0 minutes.  Example: If a flight’s current duration of AMA Time is 30 min and its Undelayed AMA Time is 10 min, then its Actual Delay (<i>at this moment</i>) is 20 min. Actual Delay stops accruing at takeoff.	Departure

	*Not available at all airports.	
APREQ	Flights subject to an APREQ restriction: • Symbology displayed next to an APREQ flight indicates the available scheduling capability for that flight: Automatic mode (solid lightning bolt), Semi-Automatic mode (hollow lightning bolt), or Call for Release mode (telephone).  • “APREQ” indicates the flight is subject to an APREQ, but the wheels-up time has not yet been negotiated.  • The APREQ release time is color-coded to indicate expected compliance with the -2/+1 minute compliance window. Red: The flight is predicted to be released from the runway <i>later</i> than the compliance window.  Green: The flight is predicted to be released from the runway <i>within</i> the compliance window.  Yellow: The flight is predicted to be released from the runway <i>earlier</i> than the compliance window. 	Departure

MIT (Miles-In-Trail)	"##M" indicates flight is subject to an MIT restriction. —AAL2334 PHL AKUNA 17R 15M	Departure
EDCT	Flights subject to an EDCT restriction: The EDCT wheels-up time is color-coded to indicate expected compliance with the -5/+5 minute compliance window. Red: The flight is predicted to be released from the runway <i>later</i> than the compliance window. —SKW5216 ORD BLECO 18L E:2015 Green: The flight is predicted to be released from the runway <i>within</i> the compliance window. —SKW5216 ORD BLECO 18L E:2015 Yellow: The flight is predicted to be released from the runway <i>earlier</i> than the compliance window. —SKW5216 ORD BLECO 18L E:2105	Departure
Ground Stop	“GS” displayed when flight is subject to a Ground Stop. —AAL299 EWR TRRCH 17R GS	Departure
Predicted Delay	In general, the difference between predicted time, including constraints, and undelayed time (in minutes). <i>*Predicted Delay is displayed on the Timeline when greater than 0 minutes.</i> <u>When the Timeline Data Type is set to <u>Surface Constrained Time</u>:</u> Predicted Delay = Target Takeoff Time (TTOT) – Undelayed Takeoff Time (UTOT). The delay (in minutes) that the flight is predicted to encounter, at the runway, caused by: Predicted delay from surface traffic competing for the runway.	Departure

	—ASH5903 VPS HANUH 17R 9 <i>Example:</i> If a flight's TTOT is 20:09 UTC and its UTOT is 20:00 UTC, then Predicted Delay is 9 min. <u>When the Timeline Data Type is set to <i>Terminal Constrained Time</i>:</u> Predicted Delay = Terminal Controlled Time (TCOT) – Undelayed Takeoff Time (UTOT). The delay (in minutes) that the flight is predicted to encounter, at the runway, caused by both: 1. Predicted delay from surface traffic competing for the runway, and 2. Predicted delay from terminal-area restrictions being passed back to the surface. —ASH5894 JAN THOR 17R 22 <i>Example:</i> If a flight's TCOT is 21:22 UTC and its UTOT is 21:00 UTC, then Predicted Delay is 22 min.	
TOS	Trajectory Option Set (TOS) Operations: Submitted: The Flight Operator has submitted one, or more, TOS route options for this flight, indicated with a black "T" highlighted in white. —AAL383 IAD TRRCH 17R T Approved: ATC has approved a TOS route option has for this flight, indicated with a black "T" highlighted in green. —AAL383 IAD THOR->AKUNA 17R T	Departure

6.8 Timeline: TMI Compliance

Compliance indicators are used to show the status of a flight's compliance with its controlled release time.

6.8.1 Timeline: Expect Departure Clearance Time (EDCT)

The EDCT wheels-up time is color-coded to indicate expected compliance with the -5/+5 min compliance window (Table 6.5).

Table 6.5. EDCT Compliance Indicator Color Information

Compliance Indicator Color	Description
Red	Flight is projected to be released from the runway <i>later</i> than its -5/+5 min EDCT compliance window.
Green	Flight is projected to be released from the runway <i>within</i> its -5/+5 min EDCT compliance window.
Yellow	Flight is projected to be released from the runway <i>earlier</i> than its -5/+5 min EDCT compliance window.

Select an EDCT flight on the timeline to view the flight's predicted takeoff time relative to the EDCT's -5/+5 min compliance window outlined in yellow (Figure 6.39).

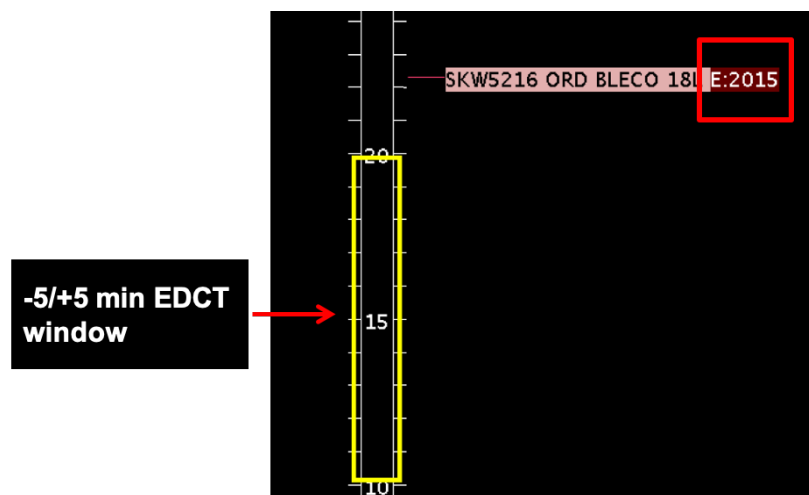


Figure 6.39. EDCT compliance on the Timeline: If the flight is projected to be released from the runway *later* than its -5/+5 min EDCT compliance window, the EDCT is highlighted in red.

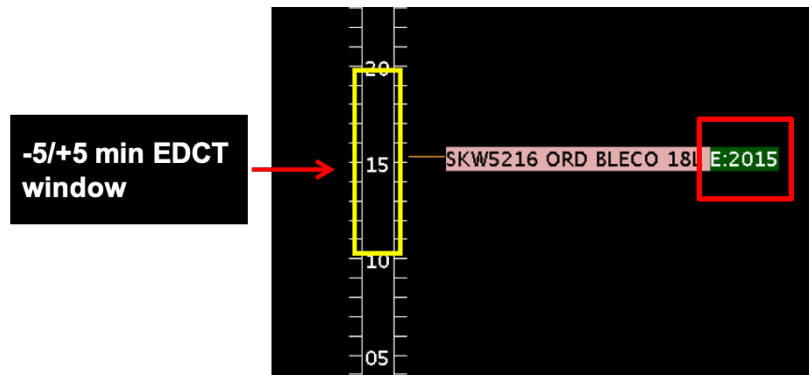


Figure 6.40. EDCT compliance on the Timeline: If the flight is projected to be released from the runway *within* its -5/+5 min EDCT compliance window, the EDCT is highlighted in green.

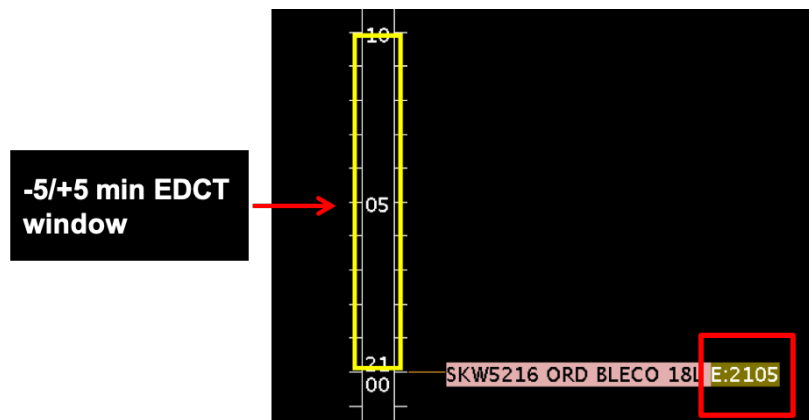


Figure 6.41. EDCT compliance on the Timeline: If the flight is projected to be released from the runway *earlier* than its -5/+5 min EDCT compliance window, the EDCT is highlighted in yellow.

6.8.2 Timeline: APREQ/CFR

The APREQ wheels-up time is color-coded to indicate expected compliance with the -2/+1 min compliance window (Table 6.6).

Table 6.6. APREQ/CFR Compliance Indicator Colors Information

Compliance Indicator Color	Description
Red	Flight is projected to be released from the runway <i>later</i> than its -2/+1 min APREQ compliance window.
Green	Flight is projected to be released from the runway <i>within</i> its -2/+1 min APREQ compliance window.
Yellow	Flight is projected to be released from the runway <i>earlier</i> than its -2/+1 min APREQ compliance window.

6.9 Timeline: Right-Click Menu

**Note: Menu options and functionality vary by version of the Metroplex Planner.*

Additional options available on the right-click menu on the Timeline can include:

- TOS Flight Menu (described separately in Section 5.4.8.1)
- Scratch Pad (described separately in Section 5.4.8.2)
- Exclude from APREQ (Section 6.9.1)
- Exclude from Fix Closure (Section 6.9.2)
- Exclude from Ground Stop (Section 6.9.3)
- Exclude from MIT (Section 6.9.4)
- Change Runway (Section 6.9.5)
- Change Departure Fix (Section 6.9.6)
- Change Parking Gate (Section 6.9.7)
- OPSNET (Section 6.9.8)
- Emergency (Section 6.9.9)
- Suspend (Section 6.9.10)
- Return to Ramp (Section 6.9.11)
- Delete Datablock (Section 6.9.12)
- Properties (Section 6.9.13)

Options on a right-click menu vary by type of flight (arrival or departure), current flight status (e.g., Scheduled Out, Taxiing in the AMA, or Departed), and by version of the Metroplex Planner (i.e., ATC or Flight Operator).

These options are also available on the Map, Flights Table, and TOS Departure (if applicable) right-click menus.

6.9.1 Exclude from APREQ

**Note: This menu option is only available in the ATC version of the Metroplex Planner.*

ATC can use the right-click menu to exclude a flight from an APREQ restriction (Figure 6.42, left). Alternatively, select “Undo Exclude from APREQ” to restore the APREQ restriction (Figure 6.42, right).

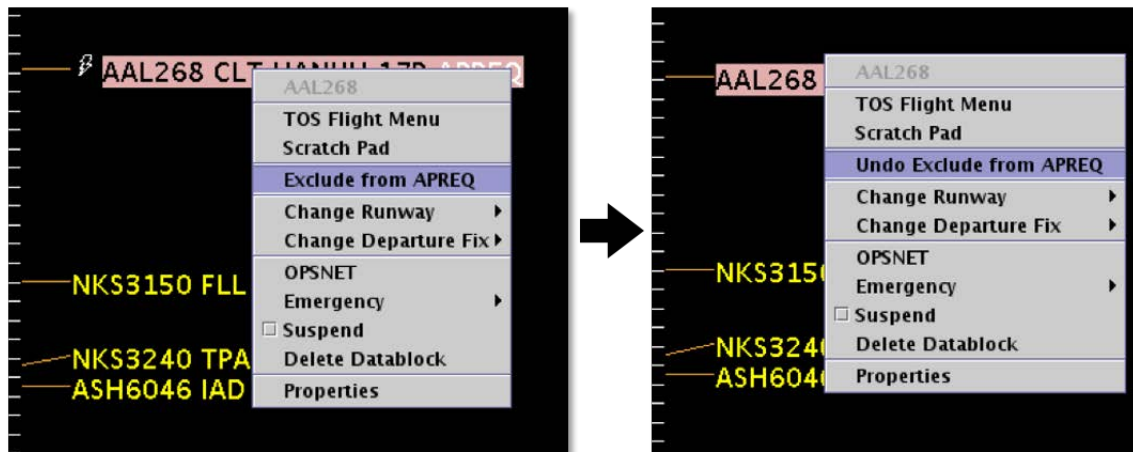


Figure 6.42. Right-click Menu: Exclude from APREQ (left), Undo Exclude from APREQ (right).

6.9.2 Exclude from Fix Closure

**Note: This menu option is only available in the ATC version of the Metroplex Planner.*

ATC can use the right-click menu to exclude a flight from a Departure Fix closure (Figure 6.43, left). Alternatively, select “Undo Exclude from Fix Closure” to restore the Fix closure (Figure 6.43, right).



Figure 6.43. Right-click Menu: Exclude from Fix Closure (left), Undo Exclude from Fix Closure (right).

6.9.3 Exclude from Ground Stop

**Note: This menu option is only available in the ATC version of the Metroplex Planner.*

ATC can use the right-click menu to exclude a flight from a Ground Stop (Figure 6.44, left). Alternatively, select “Undo Exclude from Ground Stop” to restore the Ground Stop restriction (Figure 6.44, right).

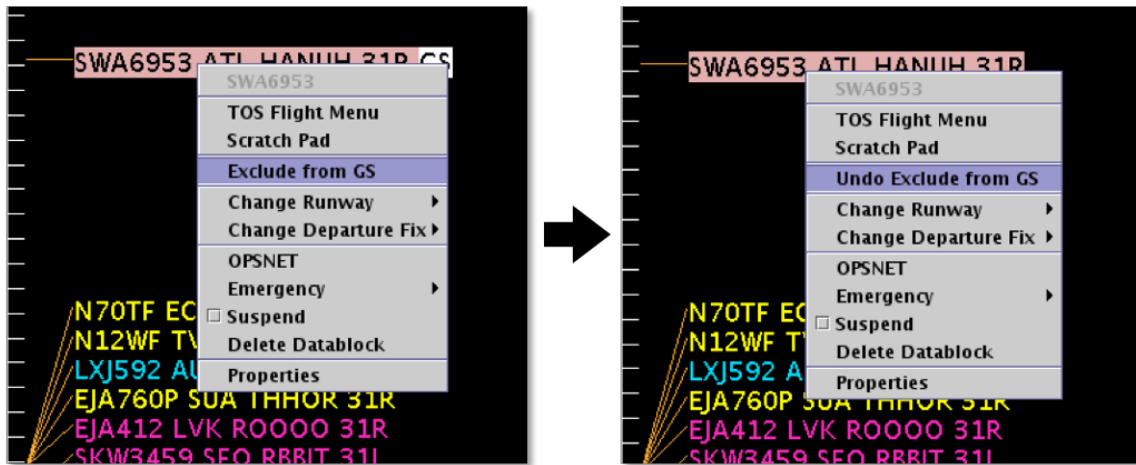


Figure 6.44. Right-click Menu: Exclude from Ground Stop (left), Undo Exclude from Ground Stop (right).

6.9.4 Exclude from MIT

**Note: This menu option is only available in the ATC version of the Metroplex Planner.*

ATC can use the right-click menu to exclude a flight from an MIT restriction (Figure 6.45, left). Alternatively, select “Undo Exclude from MIT” to restore the MIT restriction (Figure 6.45, right).

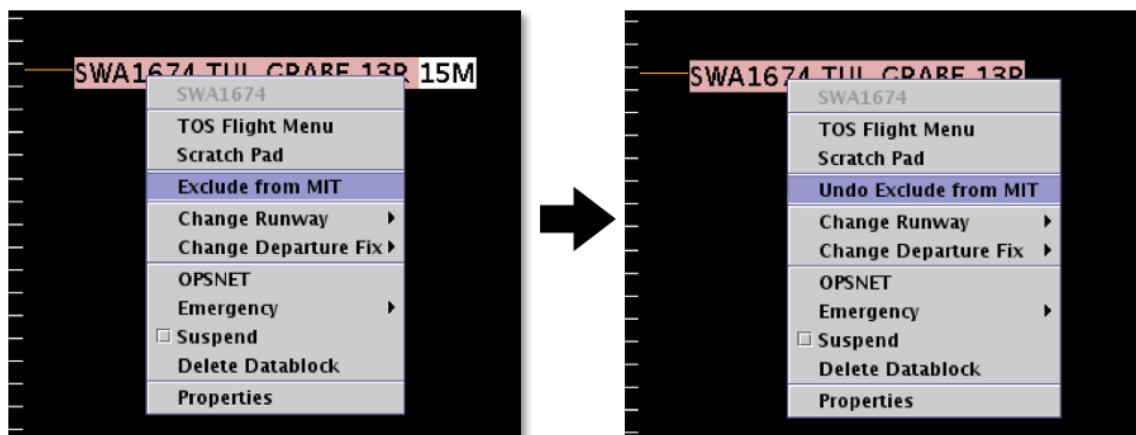


Figure 6.45. Right-click Menu: Exclude from MIT (left), Undo Exclude from MIT (right).

6.9.5 Change Runway

**Note: This menu option is only available in the ATC version of the Metroplex Planner.*

ATC can use the right-click menu to change a flight’s runway (Figure 6.46).

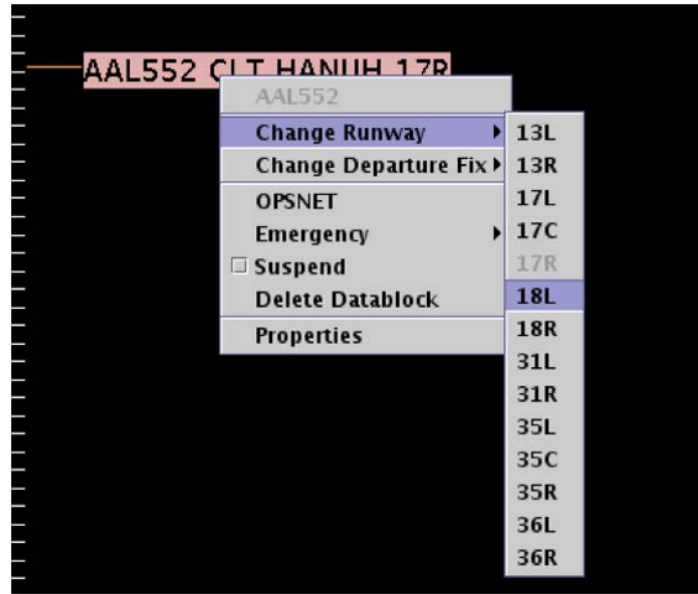


Figure 6.46. Right-click Menu: Change Runway.

The runway can also be changed for multiple flights. Hold the “Shift” key to select multiple flights. Use the Flight Action Confirmation Panel to confirm (Figure 6.47).

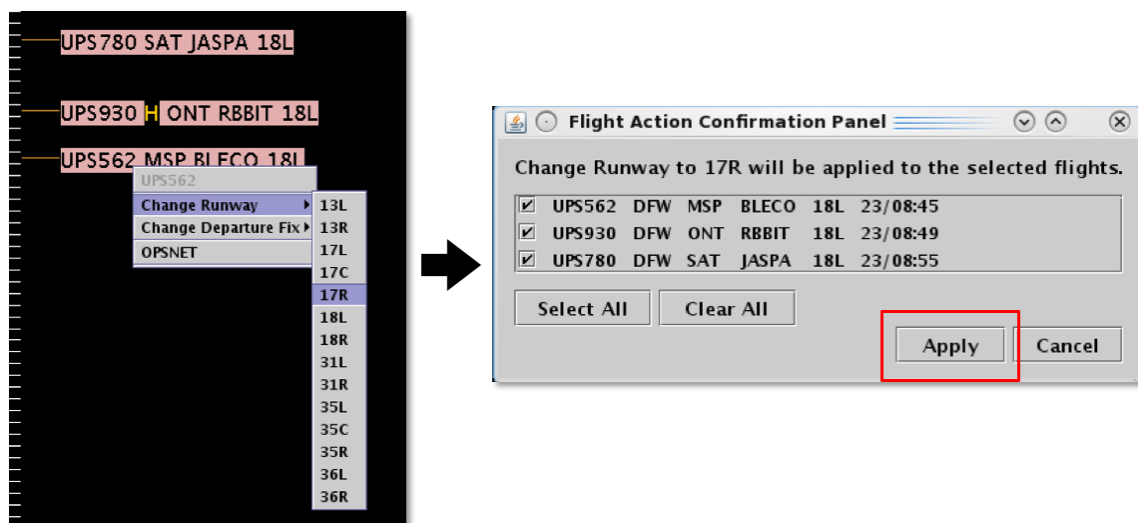


Figure 6.47. Right-Click Menu: Runway change for multiple flights. Use the Flight Action Confirmation Panel to apply the runway changes.

6.9.6 Change Departure Fix

**Note: This menu option is only available in the ATC version of the Metroplex Planner.*

ATC can use the right-click menu to change a flight’s Departure Fix (Figure 6.48).

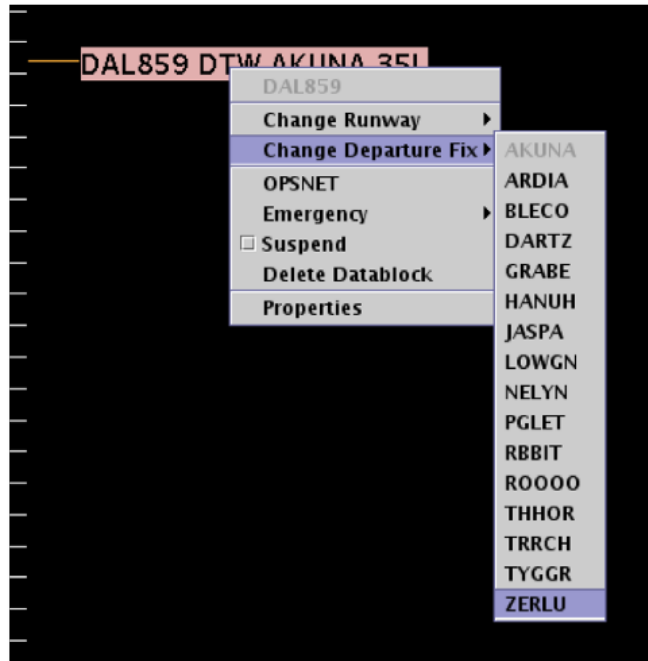


Figure 6.48. Right-Click Menu: Change Departure Fix.

The Departure Fix can also be changed for multiple flights. Hold the “Shift” key to select multiple flights. Use the Flight Action Confirmation Panel to confirm (Figure 6.49).

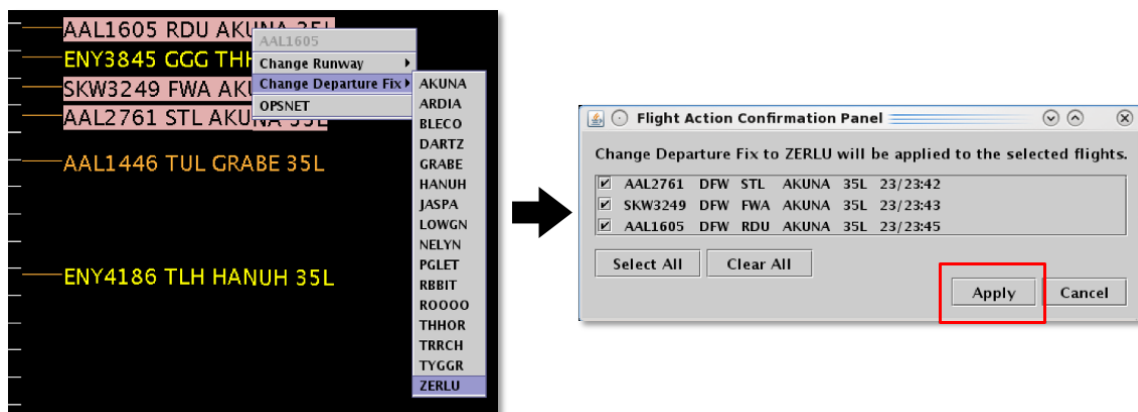


Figure 6.49. Right-Click Menu: Change Departure Fix for multiple flights. Use the Flight Action Confirmation Panel to apply the Fix changes.

6.9.7 Change Parking Gate

Use the right-click menu to change a flight’s Parking Gate (Figure 6.50).

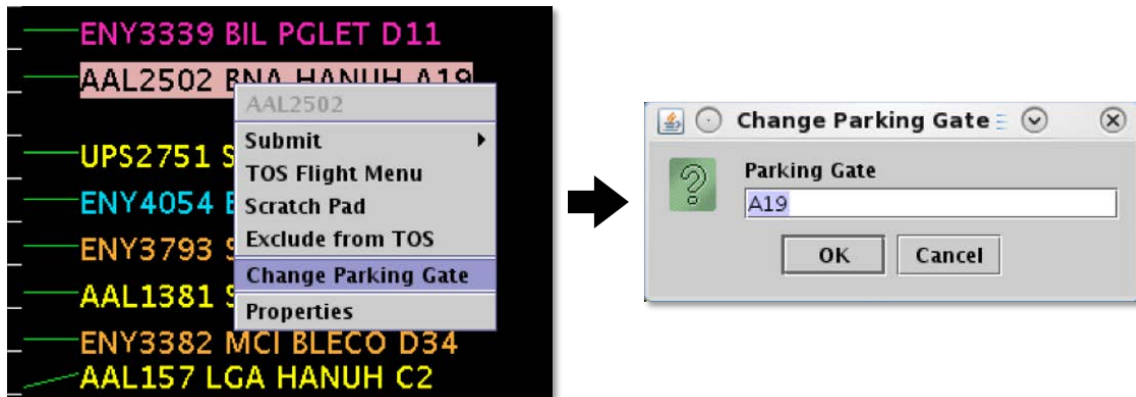


Figure 6.50. Right-Click Menu: Change Parking Gate.

6.9.8 OPSNET

**Note: This menu option is only available in the ATC version of the Metroplex Planner.*

ATC can use the right-click menu to select the “OPSNET” market (Figure 6.51, left). Alternatively, select “Undo OPSNET” to remove the marker (Figure 6.51, right).

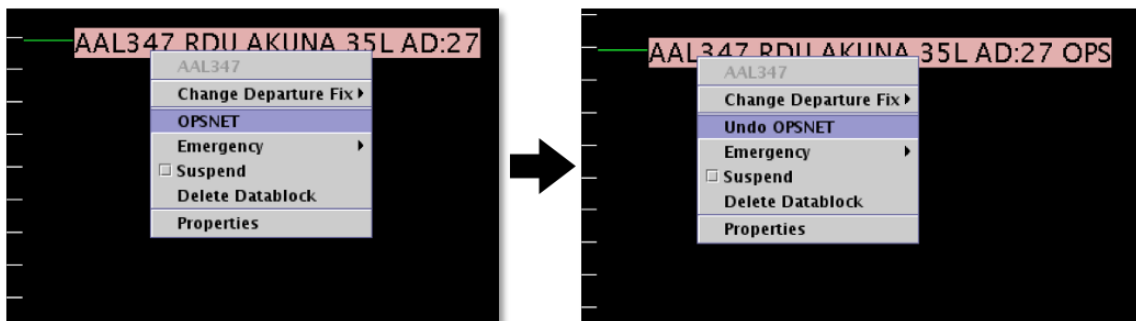


Figure 6.51. Right-Click Menu: OPSNET.

6.9.9 Emergency

**Note: This menu option is only available in the ATC version of the Metroplex Planner.*

ATC can use the right-click menu to change the *medical* emergency status of a flight (Figure 6.52).

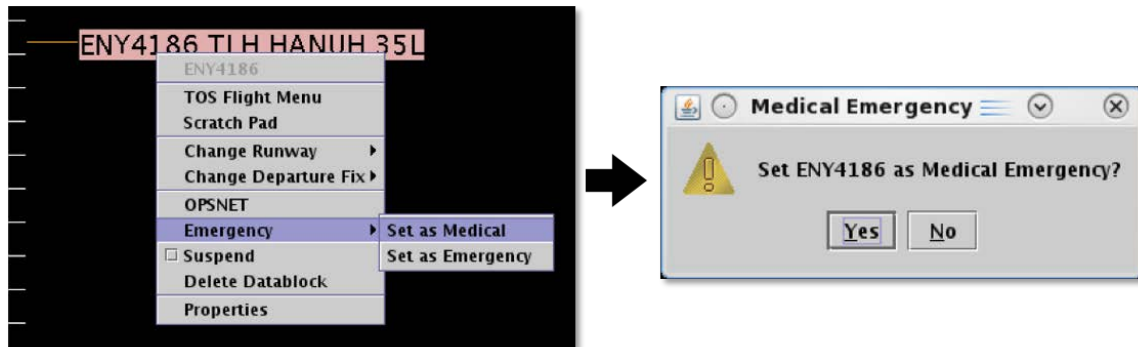


Figure 6.52. Right-Click Menu: Medical Emergency.

Alternatively, select “Remove Medical” to remove the medical emergency (Figure 6.53).



Figure 6.53. Emergency status: Remove Medical.

ATC can also use the right-click menu to change the *general* emergency status of a flight (Figure 6.54).

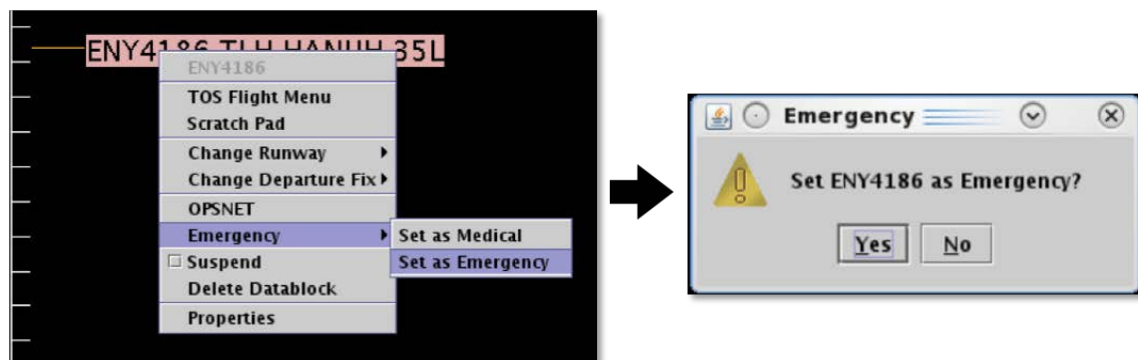


Figure 6.54. Right-Click Menu: General Emergency.

Alternatively, select “Remove Emergency” to remove the general emergency (Figure 6.55).



Figure 6.55. Emergency status: Remove Emergency.

6.9.10 Suspend

**Note: This menu option is only available in the ATC version of the Metroplex Planner.*

ATC can use the right-click menu to “Suspend” a departure flight. The “Suspend” option can be used when a departure flight is temporarily delayed (e.g., mechanical issue), but not permanently cancelled.

Suspending a flight provides a visual cue on the map and a reminder of a delay. It also informs the ATD-2 scheduling system that the flight should be removed from the scheduling cycle.

A suspended flight is removed from the Timeline, but continues to appear on the Map and in the Flights Table. “Suspended” is indicated on the flight icon datablock on map (Figure 6.56).

Ensure that “Suspended Flights” are selected in Map view settings (Section 4.2.2.5).



Figure 6.56. Right-Click Menu: Suspend.

Alternatively, select “Suspend” on the *map* right-click menu to undo the suspension (Figure 6.57). The flight is again displayed on the Timeline.

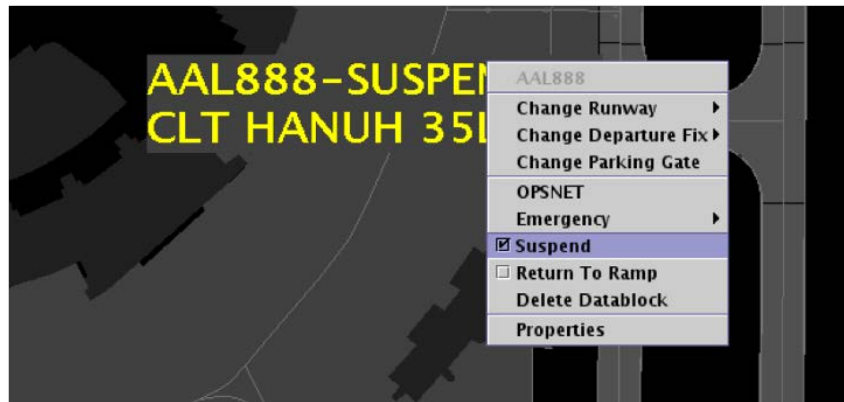


Figure 6.57. Map Right-Click Menu: Select “Suspend” to undo.

6.9.11 Return to Ramp

**Note: This menu option is only available in the ATC version of the Metroplex Planner.*

ATC can use the right-click menu to indicate that a departure flight is returning to the ramp (Figure 6.58). This option can be used when a departure flight needs to return to the ramp area because of a malfunction or some other problem with the flight. Information about the flight’s status, predicted schedule, and advisories are cleared from the ATD-2 scheduler.

The flight is removed from the Timeline, but continues to appear on the Map and in the Flights Table.

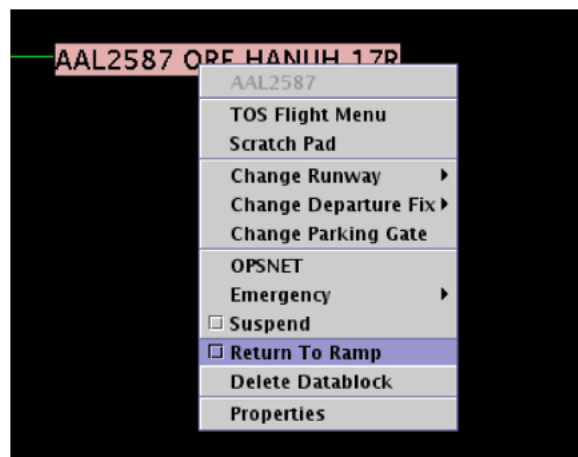


Figure 6.58. Right-Click Menu: Return to Ramp.

Alternatively, select “Return to Ramp” on the *map* right-click menu to undo (Figure 6.59). The flight is again displayed on the Timeline.

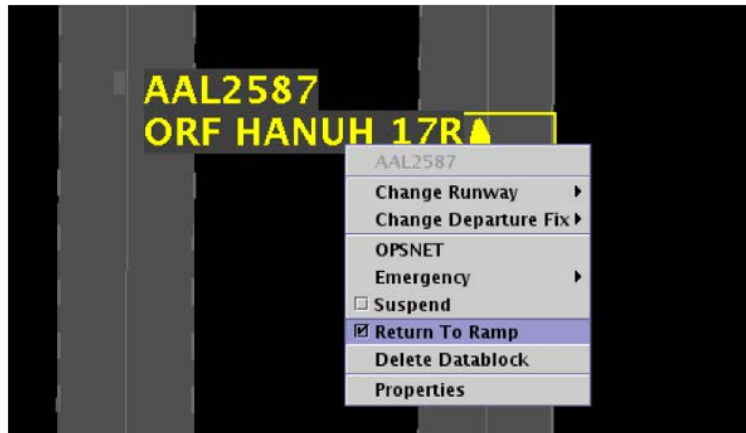


Figure 6.59. Map Right-Click Menu: Return to Ramp.

6.9.12 Delete Datablock

**Note: This menu option is only available in the ATC version of the Metroplex Planner.*

ATC can use the right-click menu to delete a flight's timeline datablock and flight icon on the map (Figure 6.60). The flight continues to appear in the Flights Table. "Delete Datablock" cannot be undone.

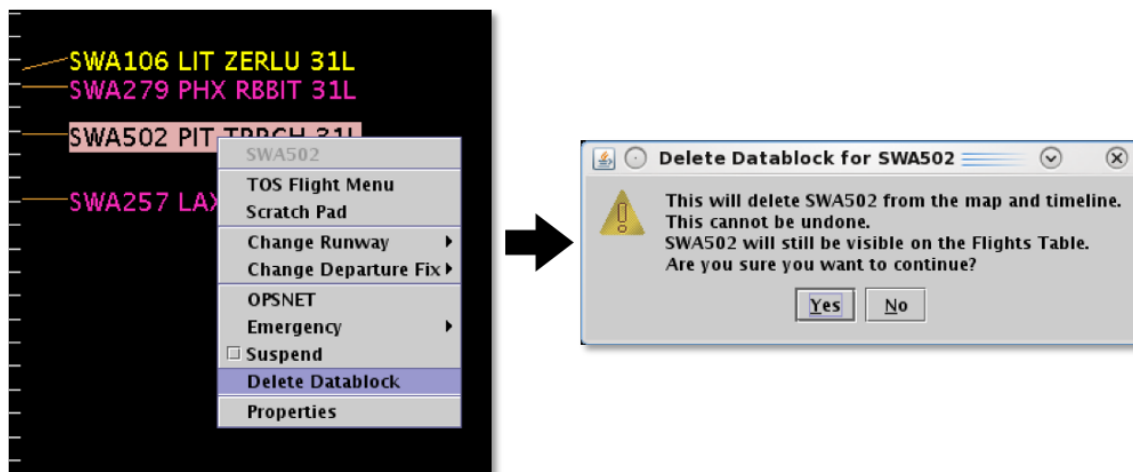


Figure 6.60. Right-click Menu: Delete Datablock.

6.9.13 Properties

Use the right-click menu to open the Flight Properties window menu (Figure 6.61). Each piece of information included in the Flight Properties window (Figure 6.62) is listed in Table 6.7.



Figure 6.61. Right-Click Menu: Flight Properties.

Figure 6.62. Flight Properties window (in this example, for a departure flight).

Table 6.7. Flight Property Information

Flight Property	Description
Flight ID	Flight number (call sign). For General Aviation (GA) flights, tail number is used. The “Find” function can be used to highlight a flight in the timeline, map, Flight Table, and TOS Departure Table (if applicable).

Flight Status	Flight Status: • Scheduled Out: A departure flight that has not yet pushed back from the gate. • Pushback: A departure flight that is pushing back. • Out: A departure flight that is taxiing in the Ramp Area. • Taxiing AMA: A departure flight that is taxiing in the Airport Movement Area (AMA). • In Queue: A departure flight inside the queue detection box of the assigned runway. • Departed: A departure flight that is airborne. • Scheduled In: An arrival flight that is not yet being tracked. • Enroute Arr: An arrival flight that is in the enroute airspace. • Term Area Arr: An arrival flight that is inside the terminal airspace. • On Final: An arrival flight that is on final approach. • On: An arrival flight that has landed. • In Ramp: An arrival flight that is taxiing in the Ramp. • In: An arrival flight that is parked at the gate. • Return to Gate: A departure that is returning to the gate, after pushing back. • Suspended: A departure flight that was scheduled to have already departed, but no updates have been received. • Cancelled: A flight that has been cancelled by the airline. • Unknown: A flight with an unknown status. <i>*Not all types are available at all airports.</i>
Spot	Predicted or actual spot. <i>Use dropdown menu to change.</i>
Parking Gate	Assigned or actual parking gate. <i>Use dropdown menu to change.</i>
Runway	Predicted or actual runway based on flight plan, departure fix, actual location of aircraft, or user input. <i>Use dropdown menu to change.</i>
Departure Fix	Assigned/actual departure fix for a flight (departures only). <i>Use dropdown menu to change.</i>
Category	Arrival or departure.
OUT Time	Predicted or actual pushback time. Predicted time is prefixed by an “E” to indicate estimate.
OFF Time	Predicted or actual takeoff time. Predicted time is prefixed by an “E” to indicate estimate.
ON Time	Predicted or actual landing time. Predicted time is prefixed by an “E” to indicate estimate.
IN Time	Predicted or actual gate arrival time. Predicted time is prefixed by

	an “E” to indicate estimate.
APREQ Release	For flights with APREQ restriction, the APREQ release time.
Departure Gate	Assigned/actual departure gate for a flight (departures only). <i>Use dropdown menu to change.</i>
Route	Filed route reported by FAA system.
Taxi Route	The remaining route for taxiing in the AMA.

7 Metroplex Planner: Graphs

Graphs are used to display aggregate demand and delay information about departure flights. They can be set up in the "Create" Menu on the Metroplex Tool Bar (see Figure 3.168). Like timelines, graphs use pre-assigned color-coding schemes and have user-configurable parameters (Figure 7.1).

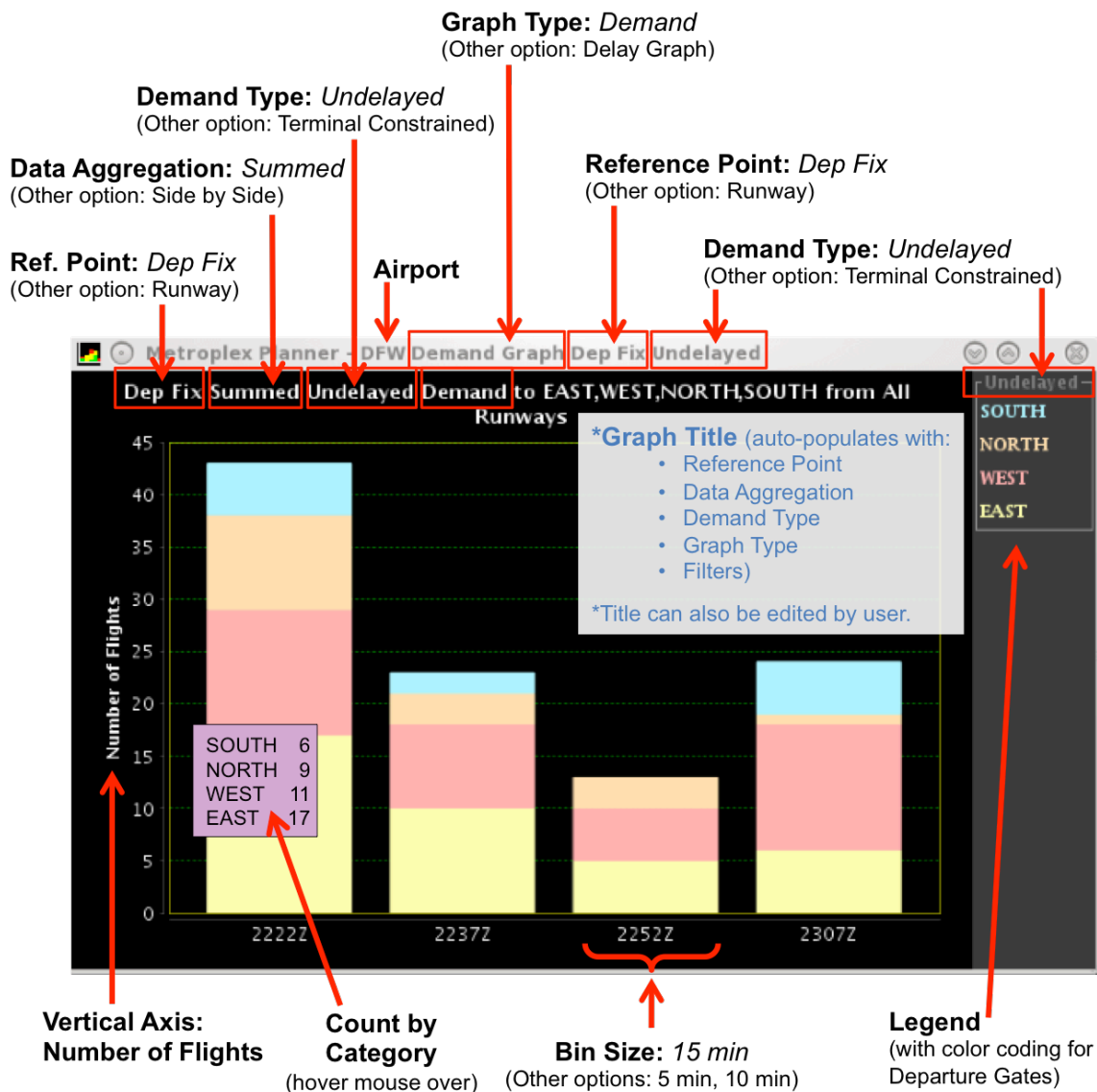


Figure 7.1. Graph overview. *Fields in blue are labels that can be edited by the user.

7.1 Graph Types: Demand and Delay

Graphs can be used to view demand or delay at either a Runway or a Departure Fix.

7.1.1 Demand Graph

Demand graphs are presented in the form of bar graphs. Demand, represented in *number of flights* on the vertical axis, is graphed as a function of time. Time is parsed into “bins”, the size of which are configurable (Figure 7.2).

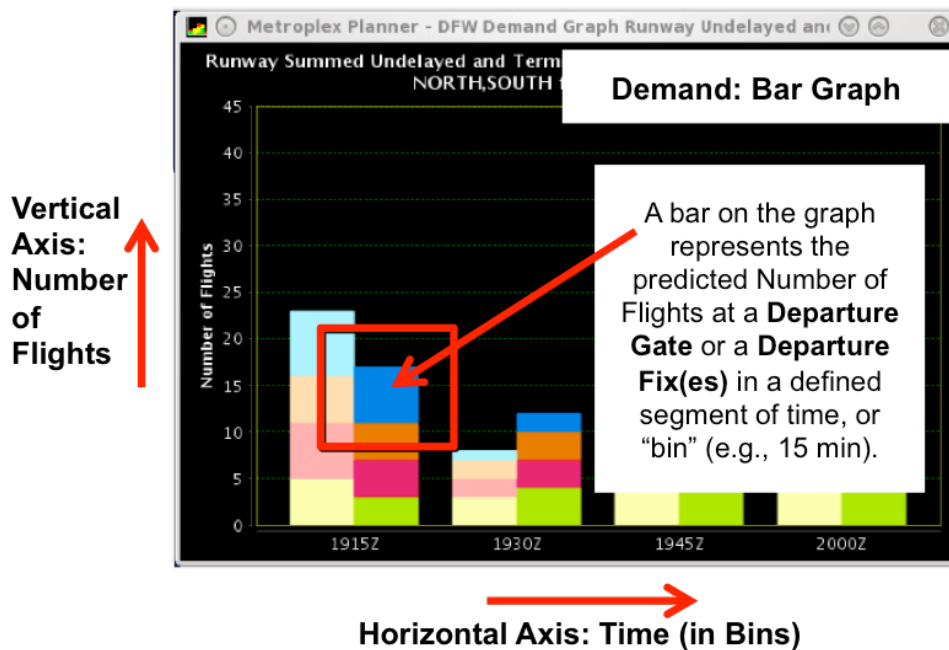


Figure 7.2. Demand Graph: Number of Flights at a Departure Gate or Fix.

7.1.2 Delay Graph

Delay graphs are presented in the form of line graphs. Delay, represented in *average delay in minutes* on the vertical axis, is graphed as a function of time. Time is parsed into “bins”, the size of which are configurable (Figure 7.3).

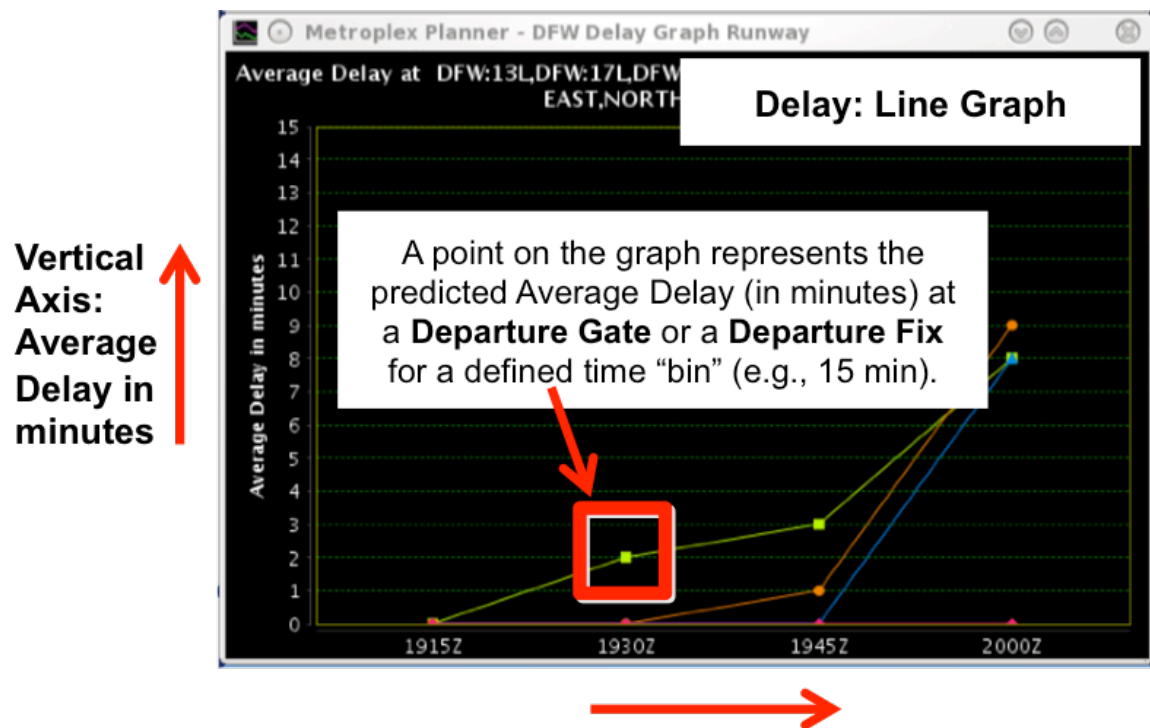


Figure 7.3. Delay Graph: Average Delay at a Runway or a Departure Fix.

7.2 Graph: Reference Point

The reference point is the point from which flights are predicted in the calculation of demand or delay. Both *Demand* and *Delay* Graphs can be created using one of two reference points:

- Runway (Estimated Takeoff Time (ETOT) within time bins), or
- Departure fix (Estimated Departure Fix Time (EDFT) within time bins)

7.3 Graph: Settings

The “Graph Settings” window can be used to configure the reference point, the height of the vertical axis, duration of time on the horizontal axis, graph title, color scheme, and runway filtering criteria.

To open the Graph Settings window:

Step 1: Right-click anywhere on the background of the graph.

Step 2: Select “Graph Settings” to open the Settings window (Figure 7.4).

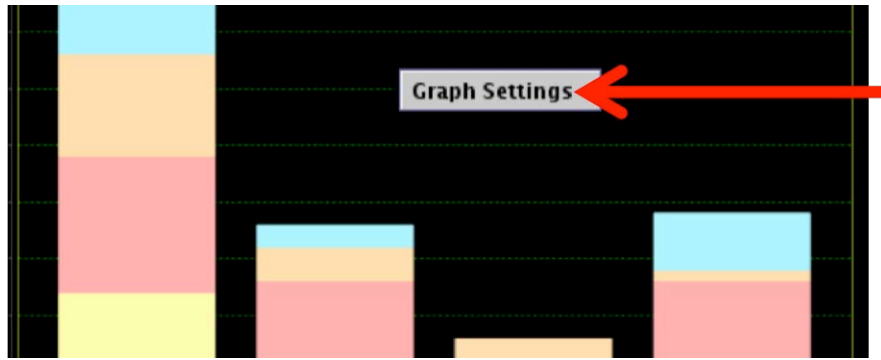


Figure 7.4. Graph Right-Click Menu: Graph Settings.

7.3.1 Apply / Preview / Save Graph Settings

Four buttons are available at the bottom of the Graph Settings window to apply, cancel, preview, and save graph settings.

To Preview, Apply, or Cancel changes in Graph Settings:

- Step 1:** Make any desired changes in the Graph Settings window.
- Step 2 (Optional):** Select “Preview” to view the pending changes on the graph before closing the Graph Settings window (Figure 7.5).
- Step 3:** Select “Ok” to apply the changes and close the Graph Settings window (Figure 7.5).
- Alternatively:** Select “Cancel” to discard any changes and close the Graph Settings window (Figure 7.5).

To Save Graph settings:

- Step 1:** Select “Save for Quick Create” to save Graph Settings (Figure 7.5).
- Step 2:** Enter the preferred file name for future access (e.g., “Tower_JaneDoe” in Figure 7.6).
- Step 3:** Select “Save”.
- Note:** *The saved graph configuration can be selected using the “Create” menu (Figure 7.7).*

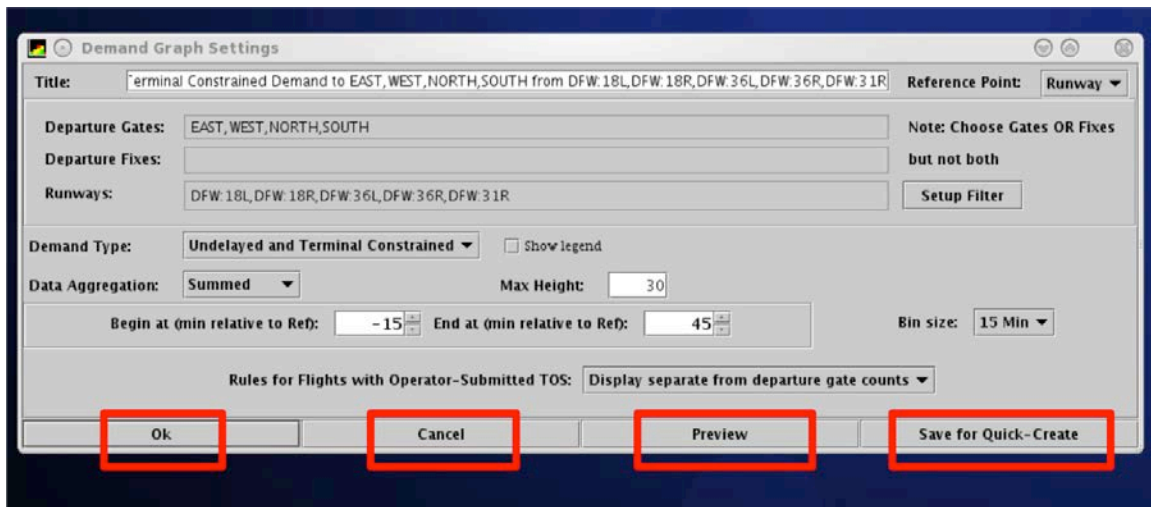


Figure 7.5. Graph Settings window.

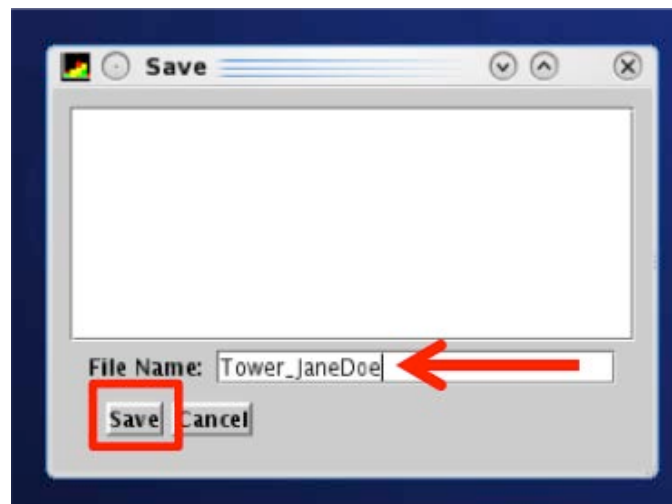


Figure 7.6. Save for Quick Create in Graph settings.

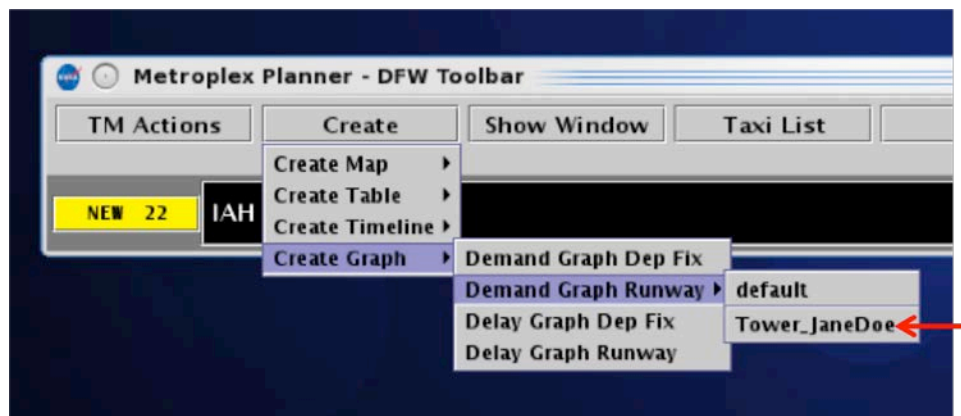


Figure 7.7. Create a Graph using a saved configuration (e.g., Tower_JaneDoe).

7.3.2 Reference Point

The reference point of an existing Demand or Delay Graph can be modified in the Settings window.

To change the Reference Point of an existing Graph:

Step 1: In the Graph Settings window, click on the “Reference Point” dropdown menu and select a reference point (e.g., “Runway” in Figure 7.8):

- Runway
- Dep Fix

Step 2: Select “Preview” to view the pending changes on the graph before closing the Settings window or “Apply” to apply the changes and close the Settings window.

Note: *The Reference Point on the title bar of the graph window and in the graph’s title are automatically updated (e.g., “Dep Fix” in Figure 7.9).*

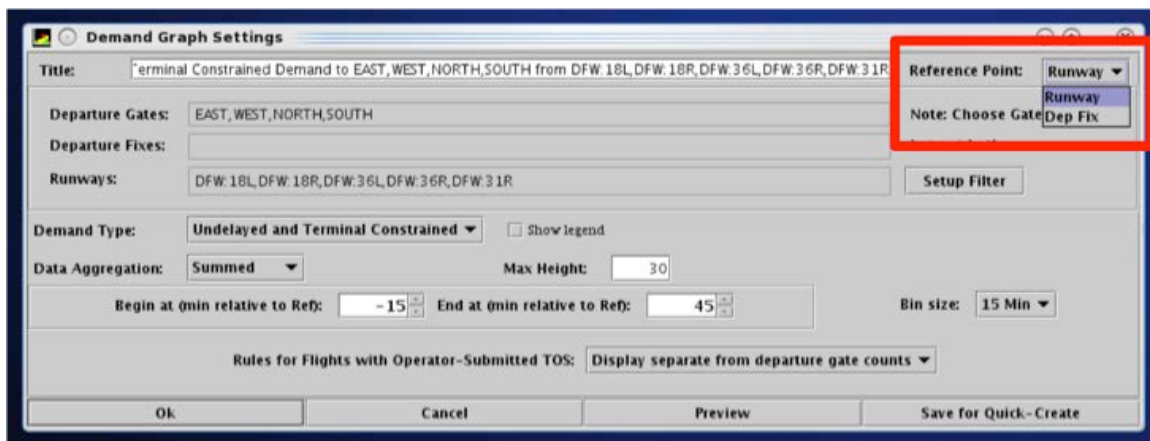


Figure 7.8. Graph Settings window: Reference Point menu.

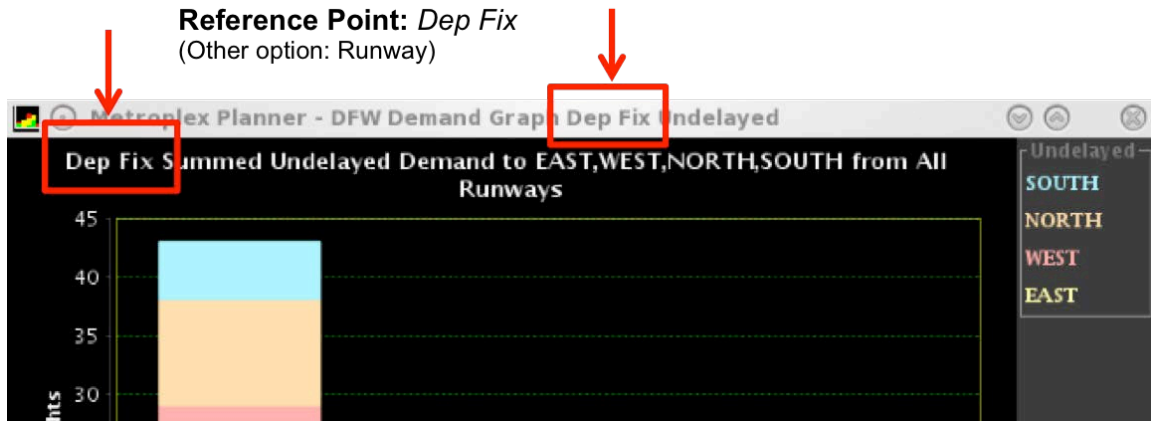


Figure 7.9. Graph Reference Point (e.g., Dep Fix).

7.3.3 Title Label

The title of the graph automatically populates with selected graph parameters (e.g., graph type, filter selections). Alternatively, the graph title can be edited by the user.

7.3.3.1 Demand Graph Title

The title of Demand Graphs automatically populates using the following information (Figure 7.10). These terms will be defined later.

[Graph parameters]:

- Reference Point (Dep Fix or Runway)
- Data Aggregation Type (Summed or Side by Side)
- Demand Type (Undelayed or Terminal Constrained / both)
- Graph Type (Demand)
- Departure Gates selected

to [which reference points]:

- Runway (takeoff time)
- Departure Fixes

from [which resources]:

- Runways (“All Runways” or runways selected in filter)

[Graph parameters] to [Departure Gate(s) / Fix(es)] from [Runway(s)]

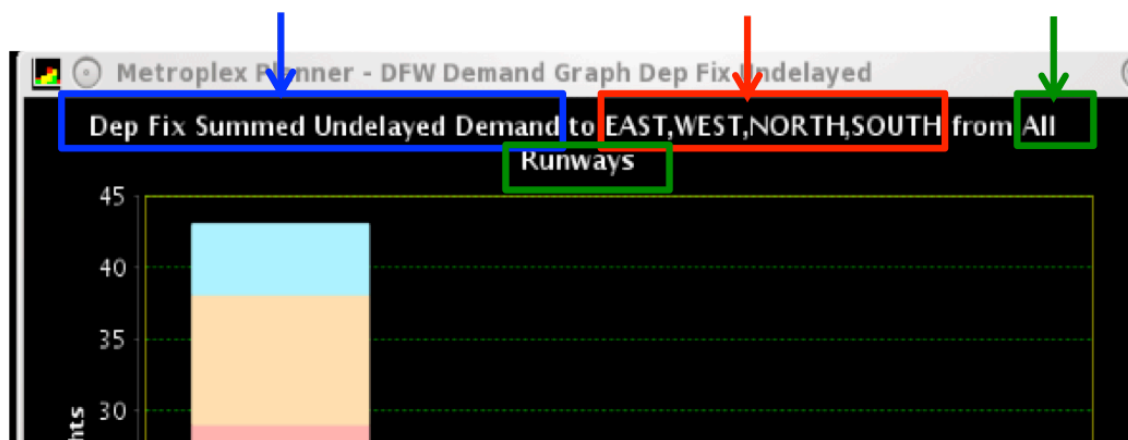


Figure 7.10. Demand Graph Settings: Title (Default)

To customize the title of a Demand Graph:

Step 1: In the Graph Settings window, edit the content of the "Title" text box by typing in the new title (Figure 7.11).

Step 2: Select "Ok" to apply the change or "Preview" to preview the changes on the graph.

Note: The graph title is updated (e.g., "Custom Title Edited by User" in Figure 7.12).

Figure 7.11. Demand Graph Settings: Title.



Figure 7.12. Demand Graph Settings: Title (Custom)

7.3.3.2 Delay Graph Title

The title of Delay Graphs populates automatically using the following information (Figure 7.13):

[Graph Type]:

- Average Delay

at [which reference point]:

- Runways
- Departure Fix

by [which resources]:

- Departure Gates, or
- Departure Fixes
- Which Runways

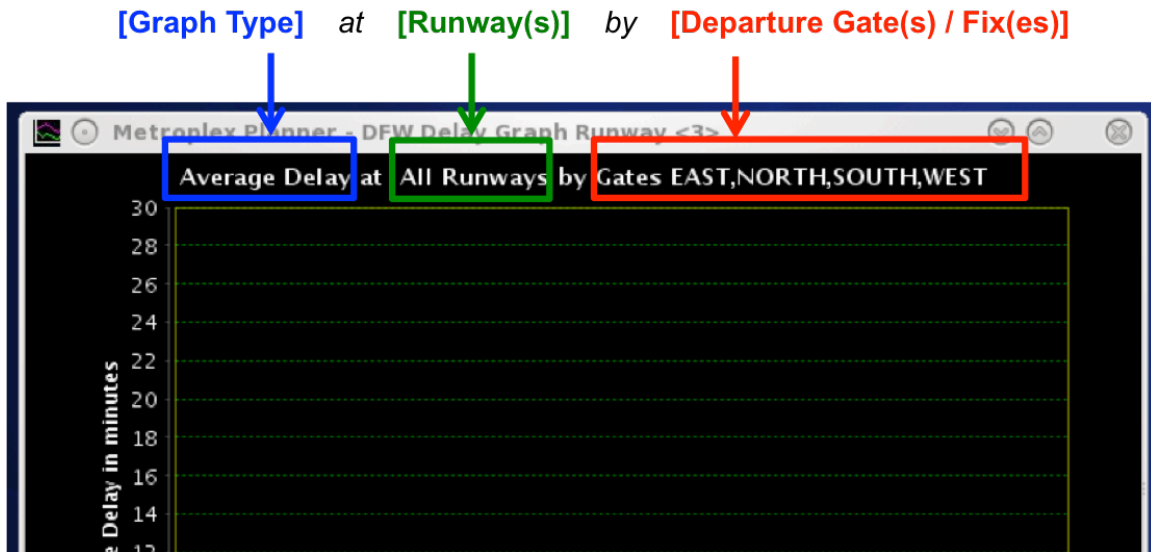


Figure 7.13. Delay Graph Settings: Title (Default)

To customize the title of a Delay Graph:

Step 1: In the Graph Settings window, edit the content of the "Title" text box by typing in the new title (Figure 7.14).

Step 2: Step 8: Select "Preview" to view the pending changes on the graph before closing the Settings window or "Apply" to apply the changes and close the Settings window.

Note: The graph title is updated (e.g., "Custom Title Edited by User" in Figure 7.15).

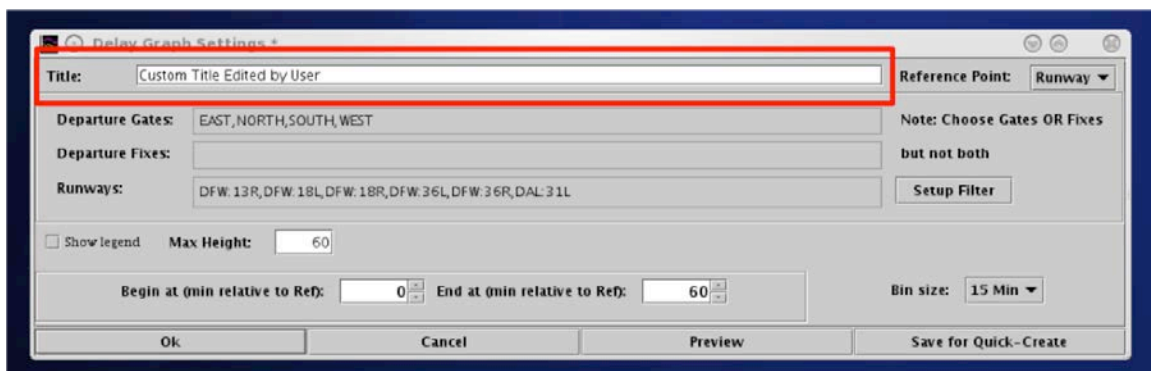


Figure 7.14. Delay Graph Settings: Title.



Figure 7.15. Delay Graph Settings: Title (Custom)

7.3.4 Setup Filter

Filters are used for configuring what information is displayed on Demand and Delay Graphs. Variables that can be used for applying filters to graphs are listed in Table 7.1. The first filter, of course, is in the "Create" Menu, where the user has chosen either Demand or Delay Graph to either the Runway or Departure Fix. In the additional filter within "Graph Settings," the user is required to select either Departure Gates or Departure Fixes as a filter so the results will be either subdivided by Departure Gates or Departure Fixes. In addition, in all graphs the user has the option to filter by particular Runway.

Variables are used in combination with a *modifier* ("=" to include, or "!" to exclude criteria). Multiple fields can be used in combination by selecting "and" or "or" as a *qualifier*.

Table 7.1. Setup Filter Information

Filter Field	Options	Required/Optional
Departure Fix	[dropdown list; varies by TRACON]	Required: Fix or Gate
Departure Gate	[dropdown list; varies by TRACON]	Required: Fix or Gate
Runway	[dropdown list; varies by Airport]	Optional

To edit a Graph filter:

Step 1: In the Graph Settings window, select “Setup Filter” (Figure 7.16).

Required:

Step 2: Select Departure Fix or Departure Gate from the “Field” column (e.g., “Dep Fix” in Figure 7.17).

Step 3: Select a modifier from the dropdown list in the “Operator” column (e.g., “=” in Figure 7.17).

Step 4: Select a single or multiple Departure Fixes (or Departure Gates) from the dropdown list in the “Values” column (e.g., “BLECO, AKUNA, GRABE” in Figure 7.17).

Optional:

Step 5: Runway can be added to the filter by making entries on a new row. Select “Add Fields” if more rows are not already visible.

Step 6: Select a single or multiple Runways from the dropdown list in the “Values” column.

Note: If no Runway filter is applied, all Runways will be included.

Step 7: When complete, select “Ok” to close the Setup Filter window.

Step 8: Select “Preview” to view the pending changes on the graph before closing the Settings window or “Apply” to apply the changes and close the Settings window.

Note: Filter selections are automatically populated in the Graph Settings window and in the Graph Title (e.g., *Departure Fixes: LOWGN, BLECO, GRABE, AKUNA* and *“All Runways”* in Figure 7.18).

The screenshot shows the "Demand Graph Settings" window with the "Setup Filter" tab selected. The "Title" field contains "Terminal Constrained Demand to EAST, WEST, NORTH, SOUTH from DFW:18L, DFW:18R, DFW:36L, DFW:36R, DFW:31R". The "Departure Gates" field contains "EAST, WEST, NORTH, SOUTH". The "Departure Fixes" field is empty. The "Runways" field contains "DFW:18L, DFW:18R, DFW:36L, DFW:36R, DFW:31R". A red box highlights a note: "Note: Choose Gates OR Fixes but not both" and a "Setup Filter" button. The "Demand Type" is set to "Undelayed and Terminal Constrained". The "Data Aggregation" is set to "Summed". The "Max Height" is set to 30. The "Begin at (min relative to Ref):" is set to -15 and the "End at (min relative to Ref):" is set to 45. The "Bin size" is set to 15 Min. The "Rules for Flights with Operator-Submitted TOS:" is set to "Display separate from departure gate counts". The "Reference Point" is set to "Runway".

Figure 7.16. Graph Settings: Setup Filter. Note: User is required to choose Departure Gate or Fixes.

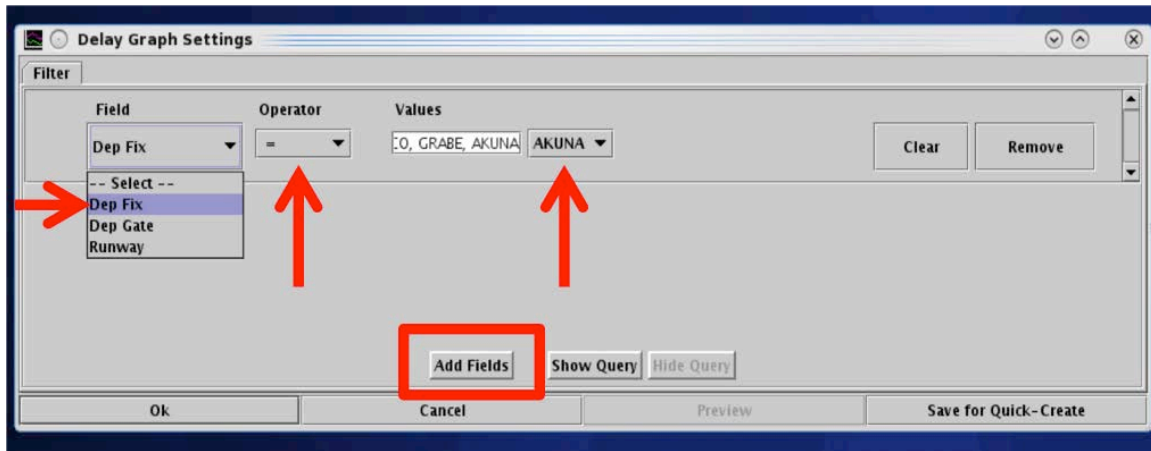


Figure 7.17. Filter Settings: Enter criteria. Note: User is *required* to choose Departure Gate or Fixes.

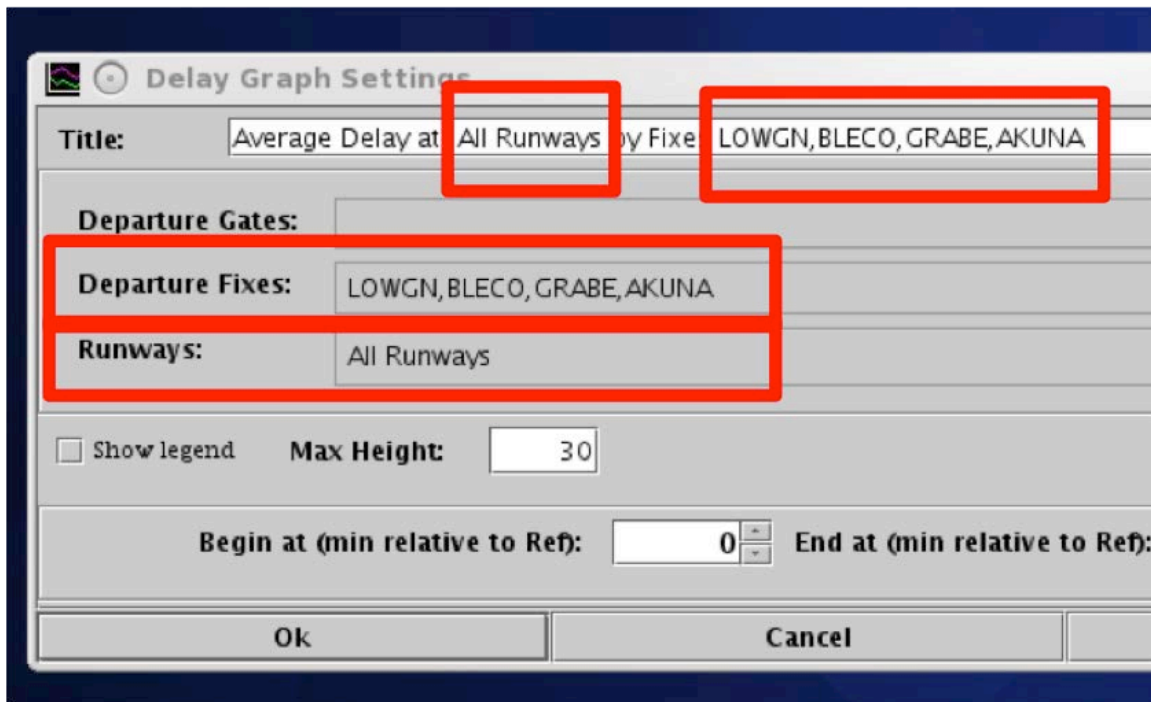


Figure 7.18. Graph Settings: Filter Selections.

To remove or clear graph filters:

Step 1: In the Graph Settings window, select “Setup Filter” (Figure 7.16).

Step 2: Select “Remove” to delete the entire row.

Alternatively: Select “Clear” to clear the “Value” field in that row.

Step 3: When complete, select “Ok” to close the Setup Filter window.

Step 4: Select “Preview” to view the pending changes on the graph before closing the Settings window or “Apply” to apply the changes and close the Settings window.

Note: *The user is required to filter the graph on either Departure Gate or Departure Fix. A Runway filter is optional.*

7.3.5 Demand Type (Demand Graphs Only)

On Demand Graphs, one of two methods for calculating demand can be selected: *Undelayed* or *Terminal Constrained*. If using a side-by-side Demand Graph, both Undelayed and Terminal Constrained data can be displayed simultaneously.

- **Undelayed Demand:** Predicts demand (number of flights) using the earliest time at which flights can reach the two Reference Points, the Runway (ETOT) and the Departure Fix (EDFT), as predicted by the ATD-2 Scheduling systems, based on:
 - a constant taxi speed in the Ramp, and
 - a constant taxi speed in the AMA
 - and, in the case of a Departure Fix Reference Point, a flight's predicted trajectory
- **Terminal Constrained Demand:**

For the Runway Reference Point (ETOT), predicts demand (number of flights) using the earliest time at which flights can reach the Runway Reference Point based on:

 - Undelayed Demand plus terminal restrictions* applied to the departures

For the Departure Fix Reference Point (EDFT), predicts demand (number of flights) within time bins using the earliest time at which flights can reach the Departure Fix based on:

- Undelayed Demand plus terminal restrictions* applied to the departures

*Terminal restrictions include expected separation between flights plus additional separation between flights based on the demand of multiple airports at departure fixes at the terminal boundary, as well as ATC terminal restrictions applied to the departures.

To change the Demand Type for a Demand Graph:

Step 1: In the Graph Settings window, click on the “Demand Type” dropdown menu to change the calculation method (Figure 7.19).

Step 2: Select a Demand Type (e.g., “Terminal Constrained Time” in Figure 7.19):

- Undelayed
- Terminal Constrained
- Undelayed and Terminal Constrained (this option is available only for “summed” graphs and is not available for side-by-side graphs).

Step 3: Select “Preview” to view the pending changes on the graph before closing the Settings window or “Apply” to apply the changes and close the Settings window.

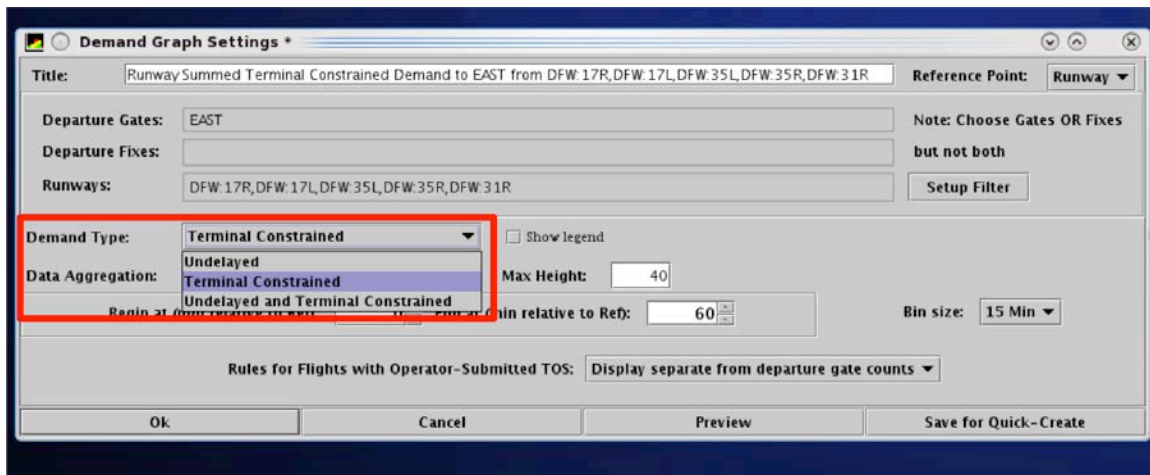


Figure 7.19. Graph Settings: Demand Type.

7.3.6 Data Aggregation (Demand Graphs Only)

On Demand Graphs, one of two data aggregation formats can be selected: Summed or Side-by-Side (Figure 7.20).

- **Summed:** Demand (number of flights) is displayed in a stacked column. Any number of Departure Fixes can be selected in the filter, but will be grouped by Departure Gate. When “Summed” is selected, both Data Types, Undelayed and Terminal Constrained, can be displayed.
- **Side-by-Side:** Demand (number of flights) is displayed in (up to four) side-by-side columns. Up to four Departure Gates or up to four Departure Fixes can be selected in the filter.

To change the Demand Type for a Demand Graph:

Step 1: In the Graph Settings window, click on the “Data Aggregation” dropdown menu to change the graph format (Figure 7.20).

Step 2: Select a data aggregation type (e.g., “Summed” in Figure 7.20):

- Summed, or
- Side-by-Side

Step 3: Select “Preview” to view the pending changes on the graph before closing the Settings window or “Apply” to apply the changes and close the Settings window.

Note: *Hover the mouse over a column of data to see the counts included in that column.*

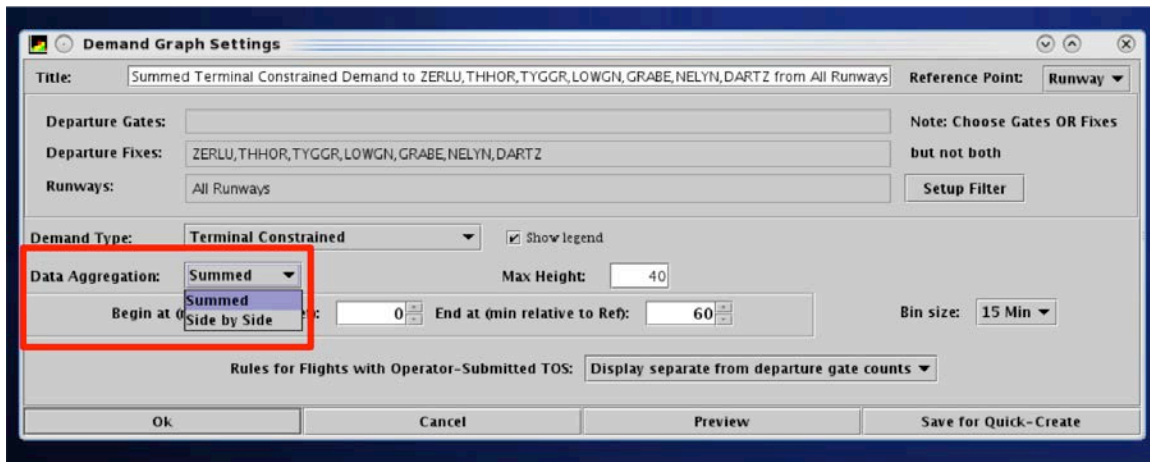
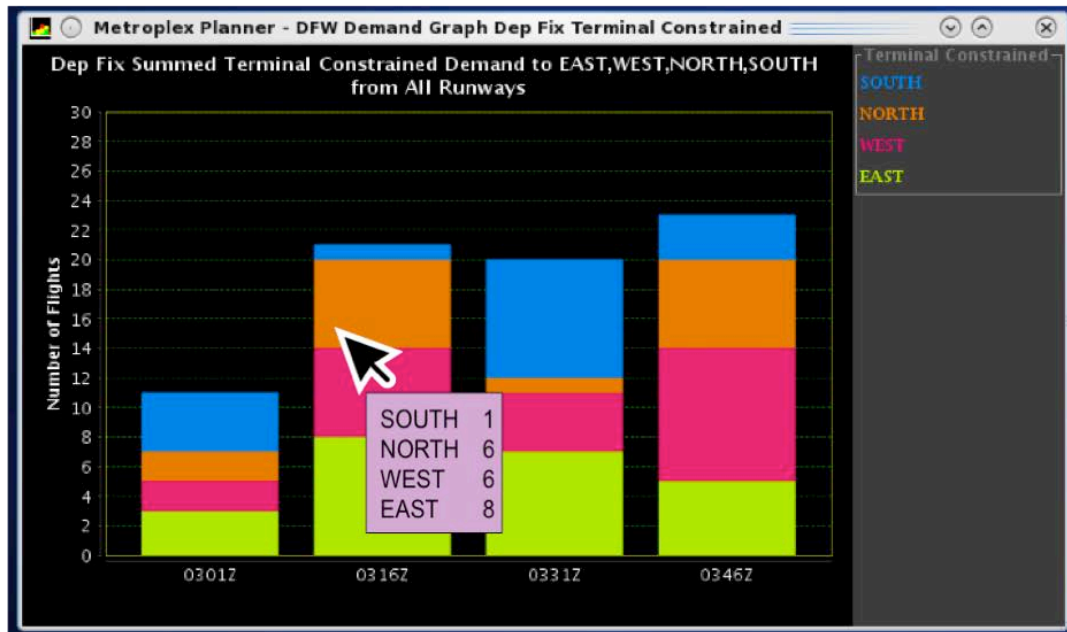
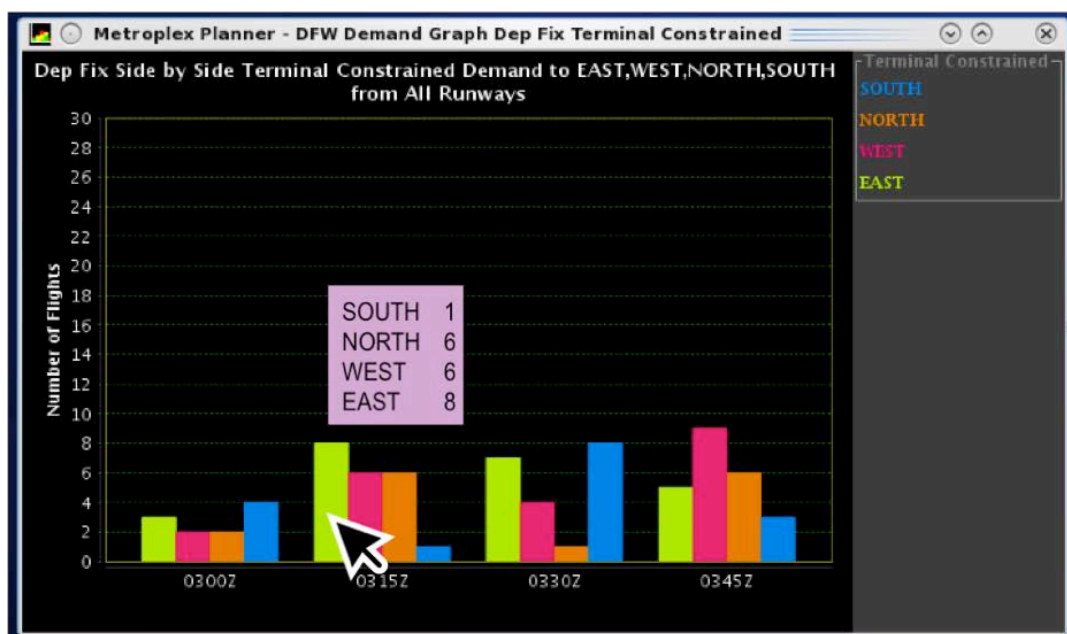


Figure 7.20. Graph Settings: Data Aggregation.

In Figure 7.21, four Departure Gates were selected using the filter. The same data are displayed in a “summed” format (Figure 7.21, top) and in a “side-by-side” format (Figure 7.21, bottom).



Data Aggregation: Summed



Data Aggregation: Side-by-Side

Figure 7.21. Graph Settings: Data Aggregation: Summed vs. Side-by-Side. Hover mouse anywhere over a column to see the number of flights for each Departure Gate.

In Figure 7.22, all sixteen Departure Fixes available in the filter are selected. However, individual Departure Fixes are not displayed on the graph itself, but rather grouped by one of four Departure Gates. Hover the mouse anywhere over a column to view demand (i.e., number of flights) for each individual fix.

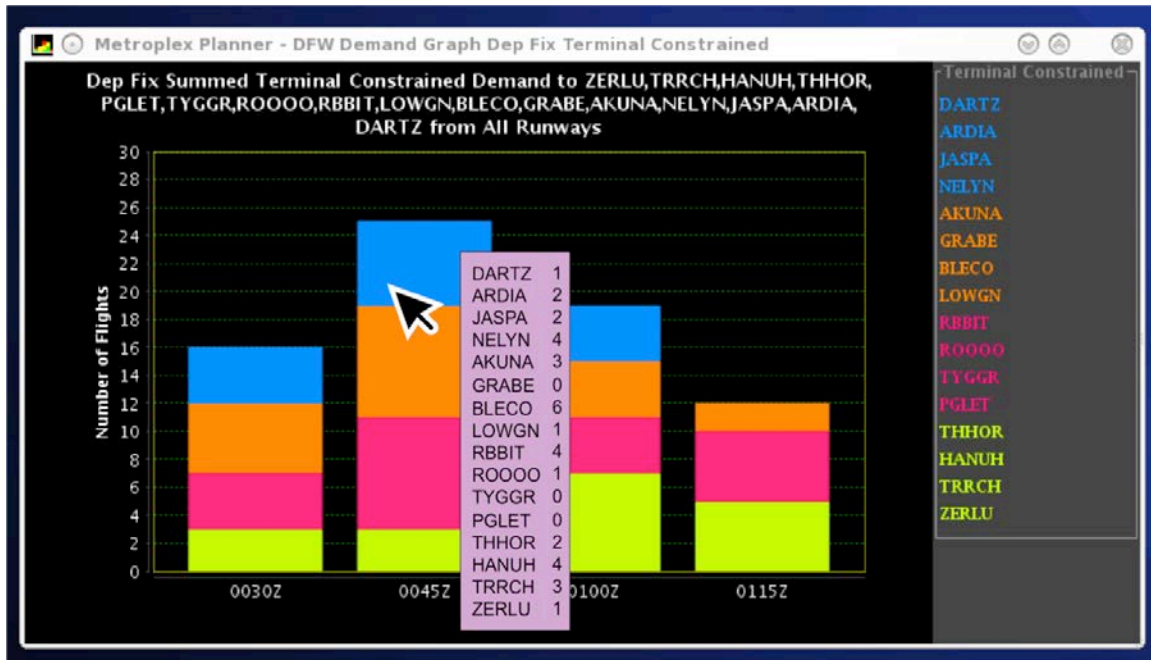


Figure 7.22. Graph Settings: Data Aggregation (Summed). Hover mouse anywhere over a column to see the number of flights for each individual Departure Fix.

To view both Demand Types, *Undelayed* and *Terminal Constrained*, on the same Demand Graph, use a “Summed” graph to create two columns of stacked data (Figure 7.23).

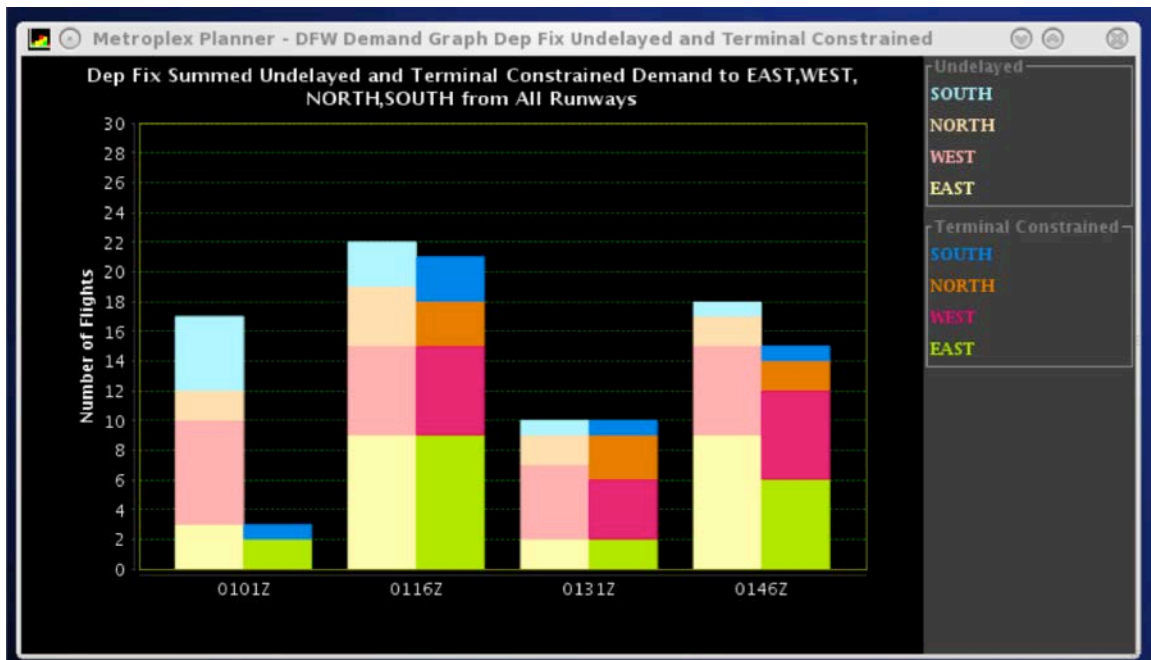


Figure 7.23. Graph Settings: Data Aggregation (Summed) and Data Type (Undelayed and Terminal Constrained).

7.3.7 Max Height

On both Demand and Delay Graphs, the maximum height of the vertical axis (i.e., Number of Flights or Average Delay in minutes) can be adjusted (Figure 7.24).

To change Maximum Height of the Vertical Axis:

Step 1: In the Graph Settings window, enter a value in the “Maximum Height” field (Figure 7.24).

Note: *The maximum value accepted in the “Maximum Height” field is 100. That is:*

- *a maximum of 100 flights on a Demand Graph, or*
- *a maximum of 100 minutes of average delay on a Delay Graph*

Step 2: Select “Preview” to view the pending changes on the graph before closing the Settings window or “Apply” to apply the changes and close the Settings window.

The screenshot shows the 'Demand Graph Settings' dialog box. The 'Title' field contains 'Dep Fix Summed Undelayed and Terminal Constrained Demand to EAST, WEST, NORTH, SOUTH from All Runways'. The 'Reference Point' is set to 'Dep Fix'. The 'Departure Gates' field contains 'EAST, WEST, NORTH, SOUTH'. The 'Departure Fixes' field is empty. The 'Runways' field contains 'All Runways'. The 'Demand Type' is set to 'Undelayed and Terminal Constrained'. The 'Data Aggregation' is set to 'Summed'. The 'Max Height' field is highlighted with a red box and contains the value '30'. The 'Begin at (min relative to Ref)' field contains '0' and the 'End at (min relative to Ref)' field contains '60'. The 'Bin size' is set to '15 Min'. The 'Rules for Flights with Operator-Submitted TOS' is set to 'Include in departure gate counts'. The 'Show legend' checkbox is checked. The 'Setup Filter' button is visible. The 'OK', 'Cancel', 'Preview', and 'Save for Quick-Create' buttons are at the bottom.

Figure 7.24. Graph Settings: Maximum Height for the vertical axis.

7.3.8 Legend

The graph legend indicates the color coding for Departure Gate / Departure Fix shown on the Demand or Delay Graph.

To Show/Hide the Graph Legend:

Step 1: In the Graph Settings window, check the box next to “Legend” to display the legend on the right of the graph window (Figure 7.25).

Alternatively: Uncheck the box to hide the legend.

Step 2: Select “Preview” to view the pending changes on the graph before closing the Settings window or “Apply” to apply the changes and close the Settings window.

Note: *The colors assigned to Departure Gates, Departure Fixes, and airports are pre-assigned and cannot be changed.*

Categories and color coding shown in Demand and Delay Graph legends are determined by a combination of the selected Reference Point (Departure Fix/Runway), Demand Type (Undelayed/Terminal Constrained), filtering applied (Departure Gate/Departure Fix), and TOS preferences.

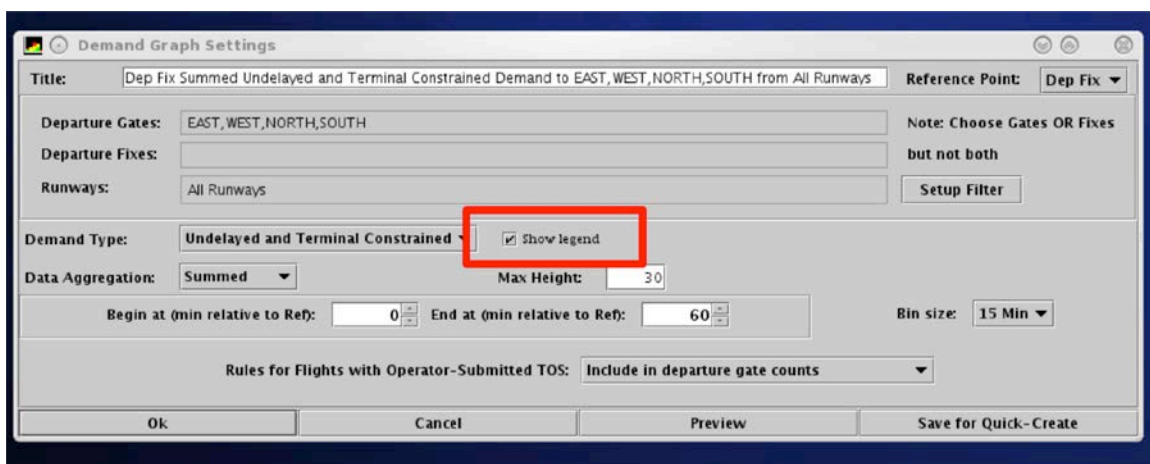


Figure 7.25. Graph Settings: Show legend.

7.3.9 Begin At / End At Times

The duration of time shown on the horizontal axis can be configured by adjusting the “Begin At” and “End At” times in the Graph Settings window. Use a negative number to indicate minutes prior to “Now” time and a positive number to indicate minutes after “Now” time. The “Begin At” time can be up to -180 minutes (3 hours) prior to “Now” time and the “End Time” can be up to 240 minutes (4 hours) past “Now” time (i.e., in the future).

To change the Begin and End Times for a Graph:

Step 1: In the Graph Settings window, enter the “Begin At” and “End At” times (in minutes) (e.g., 0 minutes and 60 minutes in Figure 7.26).

Note: *The times are relative to the selected Reference Point (i.e., Departure Fix or Runway).*

Note: *Depending on the user’s preference, the “Begin At” and “End At” times:*

- *Can both be in the future (i.e., positive numbers, up to 240 minutes), or*
- *Can both be in the past (i.e., negative numbers, up to -180 minutes), or*
- *The “Begin At” time can be in the past (i.e., negative number), while the “End At” time is in the future (i.e., positive number).*

Step 2: Select “Preview” to view the pending changes on the graph before closing the Settings window or “Apply” to apply the changes and close the Settings window.

The screenshot shows the 'Demand Graph Settings' dialog box. The 'Title' field contains 'Dep Fix Summed Undelayed and Terminal Constrained Demand to EAST, WEST, NORTH, SOUTH from All Runways'. The 'Reference Point' is set to 'Dep Fix'. Under 'Departure Gates', 'EAST, WEST, NORTH, SOUTH' is entered. 'Departure Fixes' is empty. 'Runways' is set to 'All Runways'. The 'Demand Type' is 'Undelayed and Terminal Constrained' with a 'Show legend' checkbox checked. 'Data Aggregation' is 'Summed' and 'Max Height' is 30. The 'Begin at (min relative to Ref):' field is 0 and the 'End at (min relative to Ref):' field is 60, both highlighted with a red rectangle. 'Bin size' is 15 Min. The 'Rules for Flights with Operator-Submitted TOS' dropdown is set to 'Include in departure gate counts'. At the bottom are 'Ok', 'Cancel', 'Preview', and 'Save for Quick-Create' buttons.

Figure 7.26. Graph Settings: Begin at and End at times (in minutes relative to the Reference Point).

7.3.10 Bin Size

Bin size represents how much time is included in a single column, or point, on the horizontal axis. Bin size, in combination with the duration created by the difference between “Being At” and “End At” times, determines how many columns, or points, are displayed along the horizontal axis.

For example, if the duration created by the “Begin At” and “End At” times is 60 minutes, and a 10-minute bin size is chosen, *six* columns/points will be shown along the horizontal axis (Figure 7.28); a 15-minute bin will result in *four* columns/points (Figure 7.29).

To change the Bin Size on a Demand or Delay Graph:

Step 1: In the Graph Settings window, click on “Bin Size” to open the dropdown list.

Step 2: Select a Bin Size option from the dropdown list:

- 5 min
- 10 min
- 15 min (e.g., Figure 7.27)

Step 3: Select “Preview” to view the pending changes on the graph before closing the Settings window or “Apply” to apply the changes and close the Settings window.

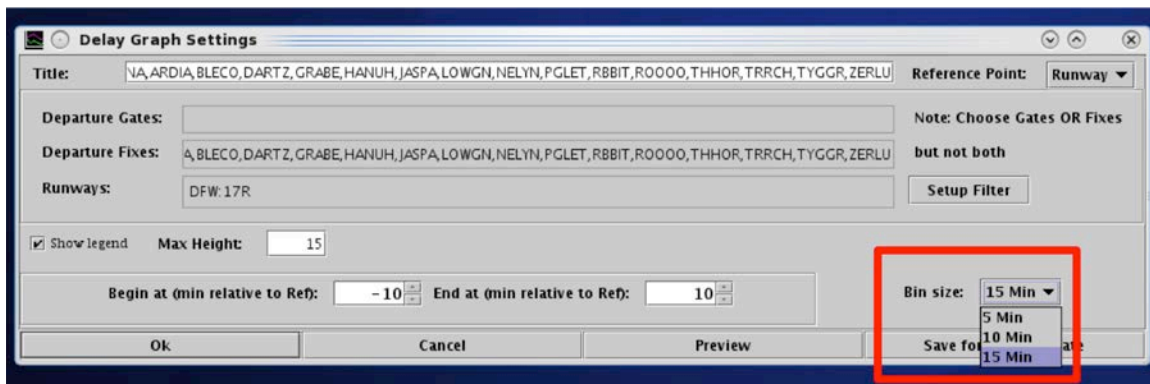


Figure 7.27. Graph Settings: Bin Size (5, 10, or 15 mintes).

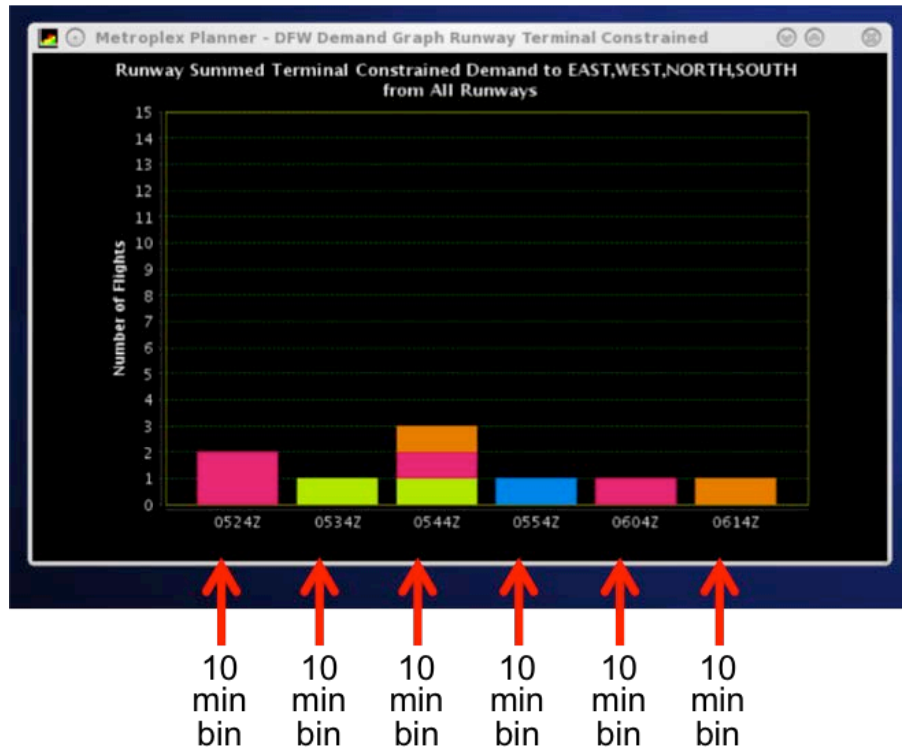


Figure 7.28. Graph Settings: Bin Size = 10 min (with a 60 minute duration): 6 columns.

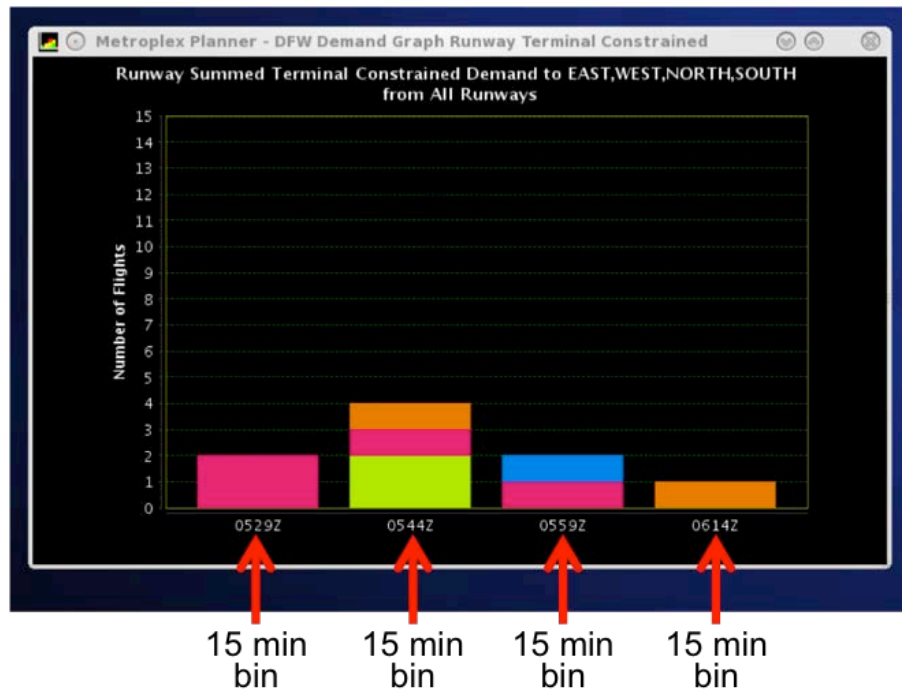


Figure 7.29. Graph Settings: Bin Size = 15 min (with a 60 minute duration): 4 columns.

7.3.11 Rules for TOS Flights (Demand Graphs Only)

On both types of Demand Graphs (Runway and Departure Fix), operator-submitted TOS flights can be included in Departure Gate counts or displayed/counted separately. This option is available when the selected Demand Type is “Terminal Constrained”, but is not available when “Undelayed” demand is used.

To view TOS flights separately on Demand Graphs:

Note: *This setting is available only on Demand Graphs using Terminal Constrained demand.*

Step 1: In the Graph Settings window, click on the “Rules for Flights with Operator-Submitted TOS” dropdown menu.

Step 2: From the dropdown menu, select:

- Include in departure gate counts, or
- Display separate from departure gate counts (Figure 7.30)

Note: *Operator-submitted TOS flights are displayed and counted separately from Departure Gate counts when “Display separate from departure gate counts” is selected (Figure 7.31).*

Step 3: Select “Preview” to view the pending changes on the graph before closing the Settings window or “Apply” to apply the changes and close the Settings window.

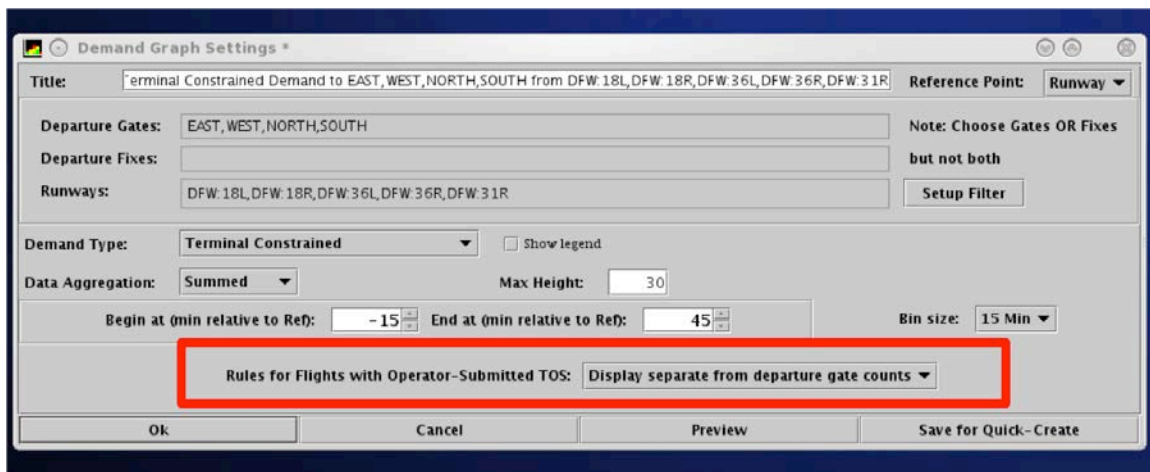


Figure 7.30. Graph Settings: Rules for Flights with Operator-Submitted TOS.

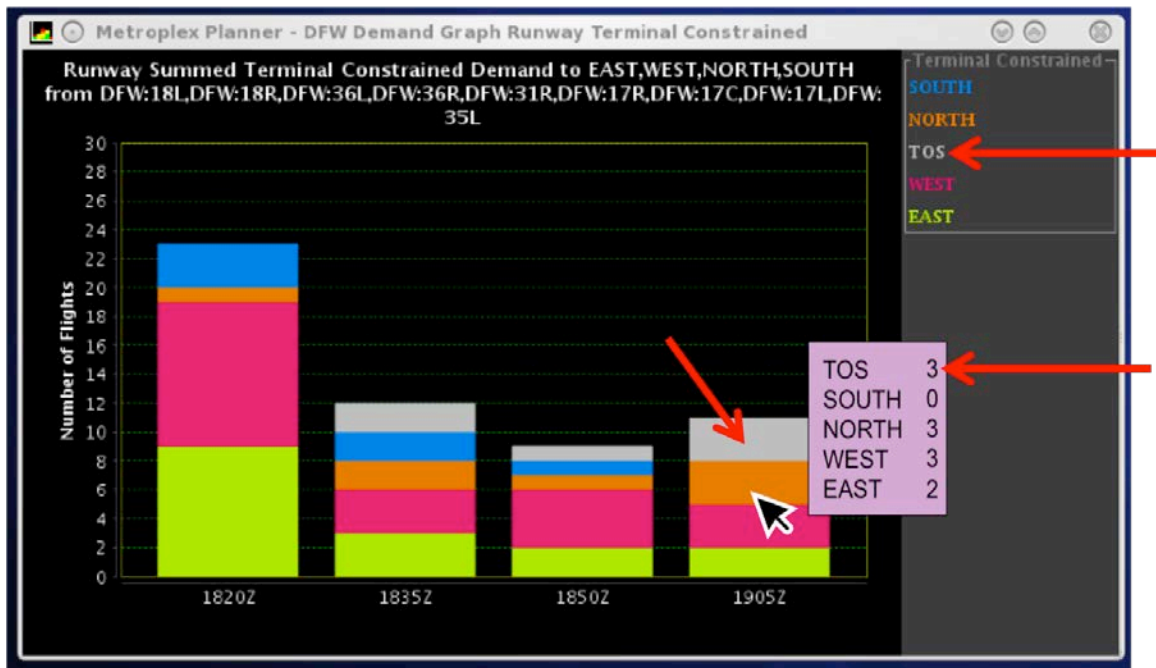


Figure 7.31. Graph Settings: When “Rules for Flights with Operator-Submitted TOS” is selected, TOS flights are displayed (in gray) and counted separately from Departure Gate counts.

Appendix A: Acronyms

This appendix defines acronyms and terms that are used in ATD-2 research.

Acronym	Term
AAL	American Airlines
AC	Aircraft
ACID	Aircraft Identifier
ACK	Acknowledge
ADW	Arrival / Departure Window
AFP	Airspace Flow Program
AIBT	Actual In-Block Time
ALDT	Actual Landing Time
AMA	Airport Movement Area
AMAT	Actual Movement Area entry Time
AOBT	Actual Off-Block Time
APREQ / CFR	Approval Request / Call For Release
AOFF	Actual Takeoff Time
AOUT	Actual Out Time
ARR / DEP	Arrival / Departure
ARRFIX	Arrival Fix
ARTCC	Air Route Traffic Control Center
ASDE-X	Airport Surface Detection Equipment - Model X
ATC	Air Traffic Control
ATCT	Air Traffic Control Tower
ATD-2	Airspace Technology Demonstration 2
ATOT	Actual Takeoff Time
BOS	Boston Logan International Airport
CC	Configuration Change (Runway)
CDM	Collaborative Decision Making
CDR	Coded Departure Route
CID	Computer or Center Identifier
CLT	Charlotte Douglas International Airport

Acronym	Term
CSV	Comma-Separated Values (file type)
CTOP	Collaborative Trajectory Options Program
CTOT	Controlled Takeoff Time
DAL	Delta Air Lines
DAL	Dallas Love Field Airport
DEPFI	Departure Fix
DEST	Destination
DFW	Dallas / Fort Worth International Airport
EDCT	Expected Departure Clearance Time
EDFT	Estimated Departure Fix Time
EFTT	Earliest Feasible Takeoff Time
EOBT	Earliest Off-Block Time
ESTIBT	Estimated In-Block Time
ESTOBT	Estimated Off-Block Time
ETA	Estimated Time of Arrival
ETD	Estimated Time of Departure
ETOT	Estimated Takeoff Time
FAA	Federal Aviation Administration
FDX	FedEx
FUSION	Consolidates all available airport surveillance to simulate a single-sensor radar display system
GA	General Aviation
GDP	Ground Delay Program
GS	Ground Stop
HSV; HSL; RGB; CMYK	COLOR MODELS: Hue, Saturation, Value; Hue, Saturation, Lightness; Red, Green, Blue; Cyan, Magenta, Yellow, Key (Black)
ICAO	International Civil Aviation Organization
ID	Identification
IDAC	Integrated Departure Arrival Capability

Acronym	Term
IOBT	Initial Off-Block Time
LGA	LaGuardia International Airport
LIBT	Airline In-Block Time
LOB	Long on Board
LOBT	Latest Off-Block Time (provided by the airline)
MIT	Miles-In-Trail
NASA	The National Aeronautics and Space Administration
<i>nmi / nm</i>	Nautical miles
OIS	FAA Operational Information System
OPNEC	Operational Necessity
REQ	Request
RMTC	Ramp Manager Traffic Console
RTC	Ramp Traffic Console
RTC	Relative Trajectory Cost
RWY	Runway
SDT	Scheduled Departure Time
SIBT	Scheduled In-Block Time
SID	Standard Instrument Departure
SLDT	Scheduled Landing Time
SMA	Surface Movement Advisor
SMP	Surface Metering Program
SOBT	Scheduled Off-Block Time
STA	Scheduled Time of Arrival
STAR	Standard Terminal Arrival Route
STARS	Standard Automation Replacement System
STBM	Surface Time-Based Metering
STBO	Surface Trajectory-Based Operations
STOT	Scheduled Takeoff Time
SWIM	System-Wide Information Management
TBD	To Be Determined

Acronym	Term
TBFM	Time-Based Flow Management System
TCLT	Terminal Controlled Landing Time
TFDM	Terminal Flight Data Manager
TFM	Traffic Flow Management
TFMS	Traffic Flow Management System
TIBT	Target In-Block Time
TLDT	Target Landing Time
TM	Traffic Management
TMA	Traffic Management Advisor
TMAT	Target Movement Area entry Time
TMI	Traffic Management Initiative(s)
TOBT	Target Off-Block Time
TOS	Trajectory Option Set
TRACON	Terminal RADAR Approach Control
TTOT	Target Takeoff Time
TZ	Track data from TFMS
UAL	United Airlines
UDFT	Undelayed Departure Fix Time
UIBT	Undelayed In-Block Time
ULDT	Undelayed Landing Time
UMAT	Undelayed Movement Area entry Time
UNK	Unknown
UOBT	Undelayed Off-Block Time
UTOT	Undelayed Takeoff Time