



# **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 6.1.2) for use by the Air Route Traffic Control Center (ARTCC), Terminal Radar Approach Control (TRACON), airport Air Traffic Control Tower, and airline Flight Operators. It describes the elements of the Metroplex Planner interface and provides step-by-step instructions for using the tool. In addition to live flight information, traffic management information, and demand/delay predictions, the Metroplex Planner supports Trajectory Option Set (TOS) rerouting. The Metroplex Planner is a component of the NASA Airspace Technology Demonstration 2 (ATD-2) sub-project.



# Table of Contents

<b>Abstract.....</b>	<b>2</b>
<b>Table of Contents.....</b>	<b>3</b>
<b>1 Metroplex Planner: Getting Started.....</b>	<b>10</b>
<b>2 Metroplex Planner: Overview.....</b>	<b>12</b>
<b>3 Metroplex Planner: Toolbar.....</b>	<b>13</b>
<b>3.1 Toolbar: Traffic Management (TM) Actions.....</b>	<b>15</b>
3.1.1 TMI Restrictions.....	15
3.1.2 Airport Settings.....	16
3.1.3 TM Actions: APREQ Schedules Tab.....	17
3.1.4 TM Actions: MIT Restrictions Tab.....	23
3.1.5 TM Actions: Departure Fix Closures Tab.....	31
3.1.6 TM Actions: Ground Stops Tab.....	37
3.1.7 Apply Constraints to TMI Restrictions.....	45
3.1.7.1 Add a Constraint.....	47
3.1.7.2 View Constraints.....	50
3.1.7.3 Modify a Constraint.....	52
3.1.7.4 Remove a Constraint.....	55
3.1.7.5 TMI-Restriction Constraints.....	58
3.1.8 TM Actions: Runway Utilization Tab.....	74
3.1.8.1 Make an Immediate Change.....	76
3.1.8.2 Schedule a Future Change.....	79
3.1.8.3 Schedule Multiple Changes.....	82
3.1.8.4 Modify a Future Change.....	84
3.1.8.5 Remove a Future Change.....	86
3.1.9 TM Actions: Runway Closures Tab.....	88
3.1.10 TM Actions: DCC Advisories Tab.....	95
3.1.10.1 DCC Advisories Table: Toolbar.....	96
3.1.11 TM Actions: TOS Operation Tab.....	107
3.1.11.1 TOS Submissions.....	110
3.1.11.2 Excluded Destinations.....	114

3.1.11.3 CDR List.....	122
3.1.11.4 CDR Restrictions .....	145
<b>3.2 Toolbar: Create.....</b>	<b>176</b>
3.2.1 Map .....	176
3.2.2 Table .....	178
3.2.3 Timeline .....	178
3.2.4 Graph.....	179
<b>3.3 Toolbar: Show Window .....</b>	<b>180</b>
<b>3.4 Toolbar: Taxi List.....</b>	<b>181</b>
3.4.1 AMA Time Legend.....	183
3.4.2 Calculating Delay in the Taxi List.....	183
3.4.3 Configure Taxi List.....	184
<b>3.5 Toolbar: Trajectory Option Set (TOS).....</b>	<b>188</b>
<b>3.6 Toolbar: Settings.....</b>	<b>189</b>
3.6.1 Global Flights Settings.....	189
3.6.2 TOS Alerts.....	195
3.6.3 Gate Conflicts.....	198
3.6.4 Map Clock .....	200
3.6.5 Load/Save Settings .....	202
3.6.5.1 Save a New Setting .....	202
3.6.5.2 Load a Saved Setting.....	203
3.6.5.3 Update a Saved Setting.....	204
<b>3.7 Toolbar: Search .....</b>	<b>205</b>
<b>3.8 Toolbar: Notifications.....</b>	<b>208</b>
3.8.1 About Notifications.....	208
3.8.2 Examples of Notifications.....	209
3.8.3 Notification Panel.....	209
3.8.4 Acknowledge New Notifications.....	210
<b>3.9 Toolbar: Runway Utilization.....</b>	<b>212</b>
<b>3.10 Toolbar: TOS Icon.....</b>	<b>213</b>
<b>3.11 Toolbar: TOS Approval Mode.....</b>	<b>214</b>
3.11.1 TOS Approval Mode: Time to Expiration .....	214

<b>4 Metroplex Planner: Maps.....</b>	<b>215</b>
<b>4.1 Map: Moving the Map .....</b>	<b>218</b>
<b>4.2 Map: Flight Icons.....</b>	<b>219</b>
<b>4.3 Map: Select a Flight.....</b>	<b>220</b>
<b>4.4 Map: Flight Datablocks .....</b>	<b>222</b>
<b>4.5 Map: Menu Bar.....</b>	<b>229</b>
4.5.1 File Menu .....	229
4.5.1.1 Recycle Flights.....	229
4.5.1.2 Shutdown Display .....	230
4.5.2 View Menu .....	231
4.5.2.1 Show Toolbar.....	231
4.5.2.2 Clear Highlighted Flights .....	233
4.5.2.3 TOS Routes.....	234
4.5.2.4 Legend .....	236
4.5.2.5 Airport Settings.....	239
4.5.2.6 Change Font Size .....	245
4.5.3 Help Menu.....	246
4.5.3.1 About .....	247
4.5.3.2 Flights Table Help.....	248
4.5.3.3 Map Help .....	249
4.5.3.4 Timeline Help .....	251
<b>4.6 Map: Toolbar .....</b>	<b>252</b>
4.6.1 Set Up Datablocks .....	252
4.6.1.1 Color Schemes .....	253
4.6.1.2 Flight Datablock Display.....	257
4.6.1.3 Extended Datablock Config.....	259
4.6.1.4 Declutter Tags.....	261
4.6.1.5 Map Datablock Content.....	263
4.6.2 Toggle Arrival / Departure Datablocks.....	275
4.6.3 Zoom In / Zoom Out.....	276
4.6.4 Reset Zoom .....	277
4.6.5 Set Up Range Rings.....	277
4.6.6 Rotate Map .....	280
4.6.7 Set up Arrival/Departure Fixes and Airports .....	281

4.6.7.1	Arrival Fix .....	281
4.6.7.2	Departure Fix .....	283
4.6.7.3	Airports.....	287
4.6.7.4	TRACON Maps .....	290
4.6.8	Set Up Target Trails.....	293
4.6.9	Open/Close Links .....	296
4.6.10	Set Up Map.....	301
4.6.11	TOS Route Availability Labels .....	304
<b>4.7</b>	<b>Map: Other Flight and Airport Information .....</b>	<b>308</b>
4.7.1	Tarmac Rule / Long On Board .....	308
4.7.2	Runway Closures.....	309
<b>4.8</b>	<b>Map: Flight Right-Click Menu.....</b>	<b>310</b>
<b>5</b>	<b>Metroplex Planner: Tables .....</b>	<b>311</b>
<b>5.1</b>	<b>Flights Table.....</b>	<b>312</b>
5.1.1	Flights Table: Select a Flight.....	312
5.1.2	Flights Table: Sort .....	315
5.1.3	Flights Table: Toolbar.....	316
5.1.3.1	Edit Filters .....	316
5.1.3.2	Show/Hide Columns .....	323
5.1.3.3	Table Color Settings.....	334
5.1.3.4	Save for Quick Create .....	341
5.1.4	Flights Table: Search .....	343
5.1.5	Flights Table: Right-Click Menu.....	344
<b>5.2</b>	<b>Aircraft Table.....</b>	<b>345</b>
5.2.1	Aircraft Table: Select an Aircraft .....	345
5.2.2	Aircraft Table: Sort.....	346
5.2.3	Aircraft Table: Toolbar .....	346
5.2.3.1	Show/Hide Columns .....	346
5.2.3.2	Table Color Settings.....	349
<b>5.3</b>	<b>Departure Fix Status Table .....</b>	<b>350</b>
5.3.1	Configure Window .....	350
<b>5.4</b>	<b>TOS Departure Table .....</b>	<b>354</b>
5.4.1	TOS Departure Table: Flights Included in the Table .....	355

5.4.2	TOS Departure Table: Add/Close Tables .....	355
5.4.3	TOS Departure Table: Select a Flight.....	357
5.4.4	TOS Departure Table: “Top” TOS Route.....	359
5.4.5	TOS Departure Table: Sort .....	361
5.4.6	TOS Departure Table: Toolbar.....	362
5.4.6.1	Edit Filters .....	363
5.4.6.2	Show/Hide Columns .....	372
5.4.6.3	Table Color Settings.....	383
5.4.6.4	Save for Quick Create .....	394
5.4.6.5	TOS Departure Table Properties.....	395
5.4.7	TOS Departure Table: Search .....	396
5.4.8	TOS Departure Table: Right-Click Menu.....	398
5.4.8.1	Scratch Pad .....	399
5.4.8.2	Submit TOS Route (for Flight Operator users) .....	402
5.4.8.3	Undo Submit (for Flight Operator users) .....	406
5.4.8.4	Approve TOS Route (for ATC users) .....	408
5.4.8.5	Undo Approve (for ATC users) .....	412
5.4.8.6	Exclude from TOS (for Flight Operator users).....	414
5.4.8.7	Undo Exclude from TOS (for Flight Operator users) .....	416
<b>5.5</b>	<b>TOS Flight Menu .....</b>	<b>418</b>
5.5.1	TOS Flight Menu: Routes .....	419
5.5.2	TOS Flight Menu: Select a Route.....	420
5.5.3	TOS Flight Menu: Sort .....	422
5.5.4	TOS Flight Menu: Toolbar.....	422
5.5.4.1	Edit Filters .....	422
5.5.4.2	Show/Hide Columns .....	426
5.5.4.3	Table Color Settings.....	429
5.5.5	TOS Flight Menu: Right-Click Menu.....	433
<b>6</b>	<b>Metroplex Planner: Timelines.....</b>	<b>434</b>
<b>6.1</b>	<b>Timeline: Reference Point .....</b>	<b>435</b>
6.1.1	Runway .....	436
6.1.2	Arrival/Departure Fix.....	436
6.1.3	Parking Gate.....	436
6.1.4	Spot.....	436

<b>6.2</b>	<b>Timeline: Leader Lines</b>	<b>437</b>
<b>6.3</b>	<b>Timeline: Select a Flight</b>	<b>439</b>
<b>6.4</b>	<b>Timeline: Moving the Timeline</b>	<b>440</b>
<b>6.5</b>	<b>Timeline: Flight Right-Click Menu</b>	<b>442</b>
<b>6.6</b>	<b>Timeline: Background Right-Click Menu</b>	<b>443</b>
6.6.1	Reset Interval	443
6.6.2	Flight Plan Demand	443
6.6.3	Schedule Configuration Change	450
6.6.4	Timeline Settings	452
6.6.4.1	Save for Quick Create	453
6.6.4.2	Reference Point	456
6.6.4.3	Title	458
6.6.4.4	Labels	462
6.6.4.5	Filter	464
6.6.4.6	Left /Right Data Type	473
6.6.4.7	Begin and End Times	475
6.6.4.8	Format	478
6.6.4.9	Color Scheme	481
6.6.4.10	Legend	483
6.6.4.11	Datablocks	486
<b>6.7</b>	<b>Timeline: TMI Compliance</b>	<b>501</b>
6.7.1	Timeline: Expect Departure Clearance Time (EDCT)	501
6.7.2	Timeline: APREQ/CFR	503
<b>7</b>	<b>Flight Right-Click Menu</b>	<b>504</b>
7.1.1	Exclude from APREQ	504
7.1.2	Exclude from Fix Closure	505
7.1.3	Exclude from Ground Stop	505
7.1.4	Exclude from MIT	506
7.1.5	Change Runway	507
7.1.6	Change Departure Fix	508
7.1.7	Change Parking Gate	509
7.1.8	OPSNET	509
7.1.9	Emergency	510

7.1.10 Suspend .....	511
7.1.11 Return to Ramp.....	512
7.1.12 Delete Datablock .....	513
7.1.13 Properties.....	514
<b>8 Metroplex Planner: Graphs .....</b>	<b>518</b>
<b>8.1 Demand Graph.....</b>	<b>519</b>
<b>8.2 Delay Graph .....</b>	<b>520</b>
<b>8.3 Graph: Settings .....</b>	<b>521</b>
8.3.1 Reference Point .....	522
8.3.2 Title.....	523
8.3.3 Set Up Filter .....	523
8.3.4 Demand Type (Demand Graphs Only).....	525
8.3.5 Data Aggregation (Demand Graphs Only) .....	527
8.3.6 Legend.....	528
8.3.7 Max Height.....	529
8.3.8 Begin At / End At Times.....	530
8.3.9 Bin Size .....	531
8.3.10 Rules for TOS Flights (Demand Graphs Only).....	532
<b>Appendix A: Acronyms.....</b>	<b>533</b>

# 1 Metroplex Planner: Getting Started

To open the Metroplex Planner, start by using the green bar on the left side of the display to access “My Desktop” (Figure 1.1).

**To access “My Desktop”:**

**Step 1:** Use the mouse to hover over the green bar on the left side of the desktop display to reveal the menu (Figure 1.1).

**Step 2:** Select “My Desktop” from the menu (Figure 1.1).

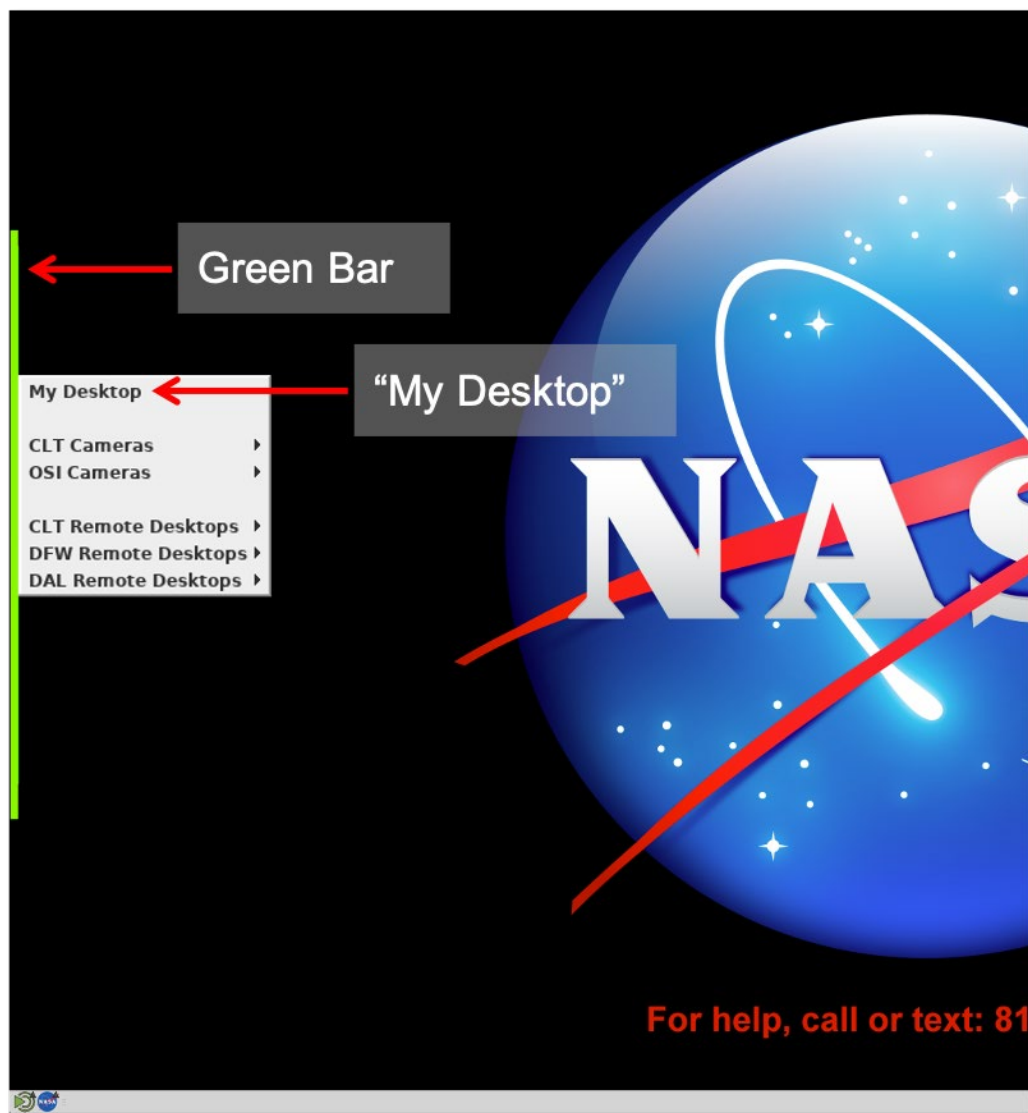


Figure 1.1. Use the green bar on the left of the display to navigate to “My Desktop.”



Once on “My Desktop”, use the NASA icon menu to open the Metroplex Planner (Figure 1.2).

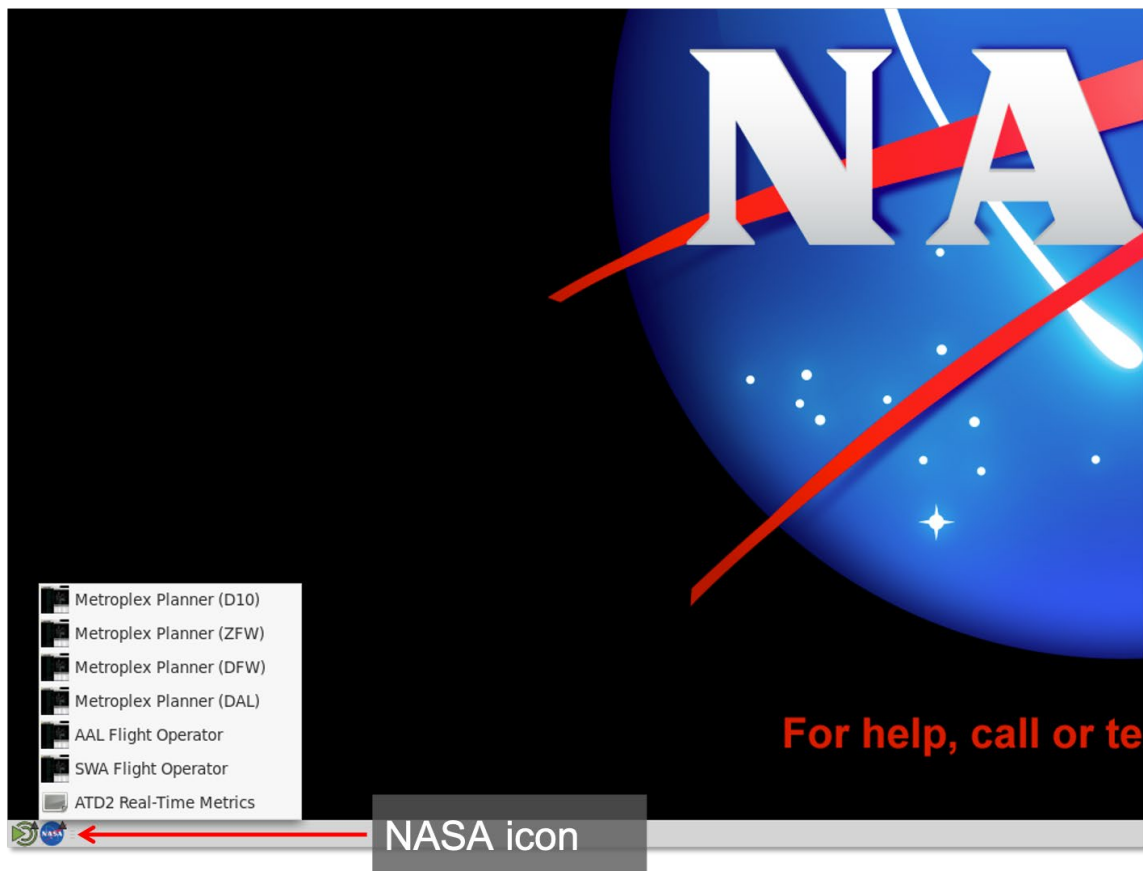
**To open the Metroplex Planner:**

*Note: As described in the previous step, ensure that “My Desktop” has been selected.*

**Step 1:** From “My Desktop”, select the NASA icon on the taskbar, in the lower left of the display (Figure 1.2).

**Note: Menu options vary.**

**Step 2:** Select “Metroplex Planner” from the menu (Figure 1.2).



**Figure 1.2. On the NASA icon menu, select “Metroplex Planner” (menu options vary).**

## 2 Metroplex Planner: Overview

The Metroplex Planner displays live flight information on the airport surface and in the metroplex terminal area, traffic demand predictions, airport information, Traffic Management Initiatives (TMIs), and Trajectory Option Set (TOS) information, including delay savings predictions and TOS route availability.

The interactive display consists of five primary elements, each displayed in their own window: toolbar, maps, tables, timelines, and graphs (Figure 2.1).

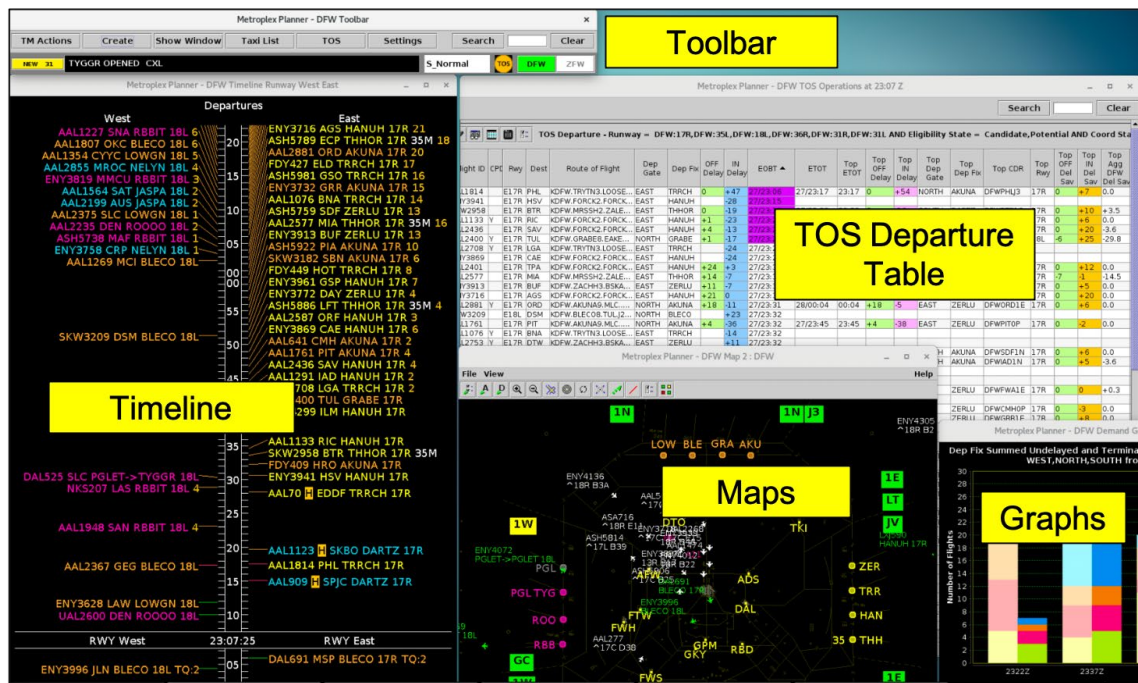


Figure 2.1. Metroplex Planner interface.

These Metroplex Planner elements are described in the following sections:

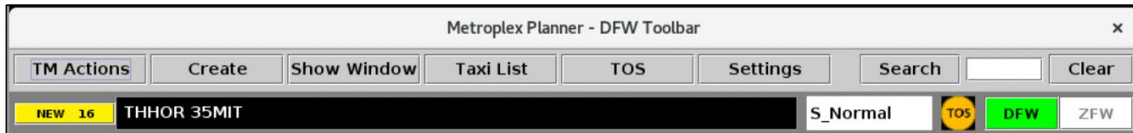
- Section 3: Toolbar
- Section 4: Maps
- Section 5: Tables (including TOS Departure Table)
- Section 6: Timelines
- Section 8: Graphs

Options on the flight right-click menu are described in Section 7. A list of acronyms is provided in Appendix A.

### 3 Metroplex Planner: Toolbar

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

The Toolbar provides access to TMI restriction information, interface controls, configuration settings, and TOS Departure Tables. 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	<p><b>Section 3.1:</b> View, add, modify, or remove TMI restrictions. Change airport configuration and runway utilization (taxi plan). View Command Center Advisories. Activate/deactivate TOS Operations and view, add, or modify TOS route availability settings.</p> <p><i>*Not all options are available in all versions of the Metroplex Planner.</i></p>
Create	<p><b>Section 3.2:</b> Create new, or load previously saved maps, tables, timelines, and graphs in new windows.</p>
Show Window	<p><b>Section 3.3:</b> View list of open maps, tables, timelines, graphs, TOS alerts. Select a window to bring to the front of the display.</p>
Taxi List	<p><b>Section 3.4:</b> View a list of departure flights by airport/runway with AMA delay information.</p> <p><i>*Not available in all versions of the Metroplex Planner.</i></p>
TOS	<p><b>Section 3.5:</b> Display the Trajectory Option Set (TOS) Departure Table.</p>
Settings	<p><b>Section 3.6:</b> Save or load a display configuration. Select display settings for TOS Alerts, Map Clock, Global Flights Settings, and Gate Conflicts.</p>
Search	<p><b>Section 3.7:</b> Search for flight number, a call sign, departure fix, destination airport, or General Aviation flight.</p>

Notification Icon/Banner	<b>Section 3.8:</b> Displays new TMI, TOS Operation, and airport-related notifications.
Runway Utilization	<b>Section 3.9:</b> Field indicates current runway utilization.
Icons	<b>Section 3.10:</b> Icon indicates when Trajectory Option Set (TOS) Operations are active or inactive.

## 3.1 Toolbar: Traffic Management (TM) Actions

*\*Note: TMI-related tabs are available only in ATC versions of the Metroplex Planner.*

Use the Traffic Management (TM) Actions menu to view and modify TMI restrictions, airport configuration, and TOS CDR availability.

### To access the TM Actions panel from the Toolbar:

**Step 1:** On the Toolbar, select “TM Actions” to open the dropdown menu (Figure 3.2).



Figure 3.2. TM Actions dropdown menu (ATC versions of the Metroplex Planner).

### 3.1.1 TMI Restrictions

In ATC versions of the Metroplex Planner, four types of **TMI restrictions** can be viewed and modified on the TM Actions panel. Each is described in the following sections:

- APREQ Schedules (Section 3.1.3)
- Miles-in-Trail (MIT) Restrictions (Section 3.1.4)
- Departure Fix Closures (Section 3.1.5)
- Ground Stops (Section 3.1.6).

TMI restrictions can be entered manually by the ATC-user or populated automatically by automation. 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**. When detected from one of these sources, the restriction populates automatically in the system:

- When 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.
- When a TMI restriction is detected from NTML/TFM, “**TFM**” is displayed in the “Source” column (see an example of a Ground Stop restriction received through TFM in Figure 3.3). TFM restrictions can be removed, but *cannot be modified*, by the ATD-2 user.

Airport	Start ▲	End	Source
ATL	3/1701	3/1815	TFM

Figure 3.3. Source of TMI restriction. In this example, the ATL Ground Stop restriction was received through TFM.

### 3.1.2 Airport Settings

In ATC versions of the Metroplex Planner, two types of **airport-specific settings** can be viewed and modified on the TM Actions panel. See the following sections for descriptions:

- Runway Utilization Tab (Section 3.1.8)
- Runway Closures (Section 3.1.9).

### 3.1.3 TM Actions: APREQ Schedules Tab

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

Use the TM Actions panel to add an APREQ restriction.

#### To manually add an APREQ restriction:

**Step 1:** Select “APREQ Schedules” from the TM Actions dropdown menu (Figure 3.4) to open the APREQ Schedules tab (Figure 3.5).

**Step 2:** Select the resource to which the APREQ restriction will be applied (e.g., “Airport” in Figure 3.6):

- Airport, Departure Fix, Departure Gate, or 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-letter 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 3.6).

**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 3.6).

**Step 6:** If necessary, constraints can be added to the APREQ restriction. See Section 3.1.7 for more information about constraints.

**Step 7:** Select the “Add” button (Figure 3.6).

**Note:** *User-added APREQ restrictions are displayed in the APREQ Schedules table with “User” indicated in the “Source” column (Figure 3.7).*

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

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



Figure 3.4. TM Actions menu: APREQ Schedules.

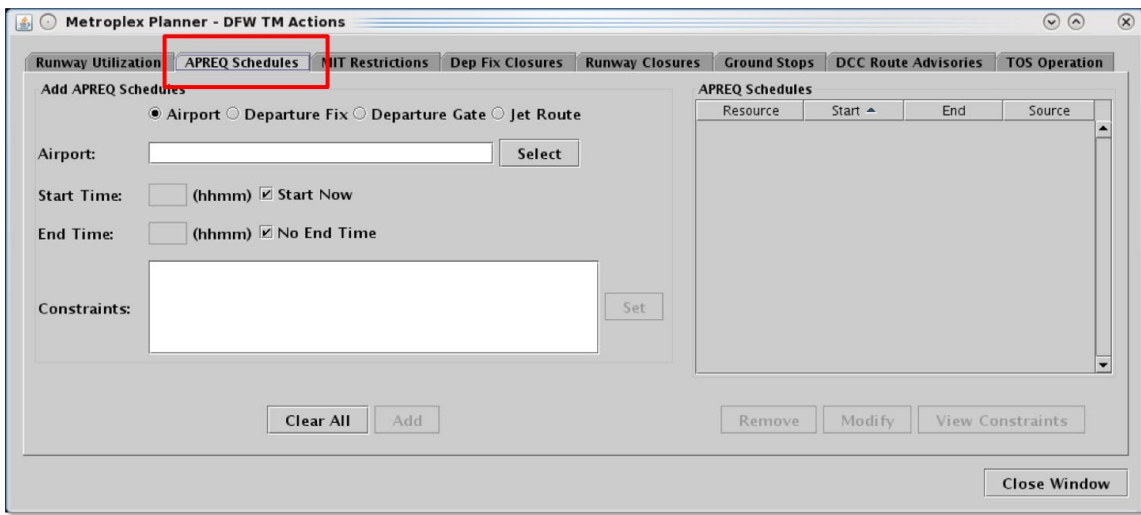


Figure 3.5. TM Actions panel: APREQ Schedules tab (ATC versions of the Metroplex Planner).



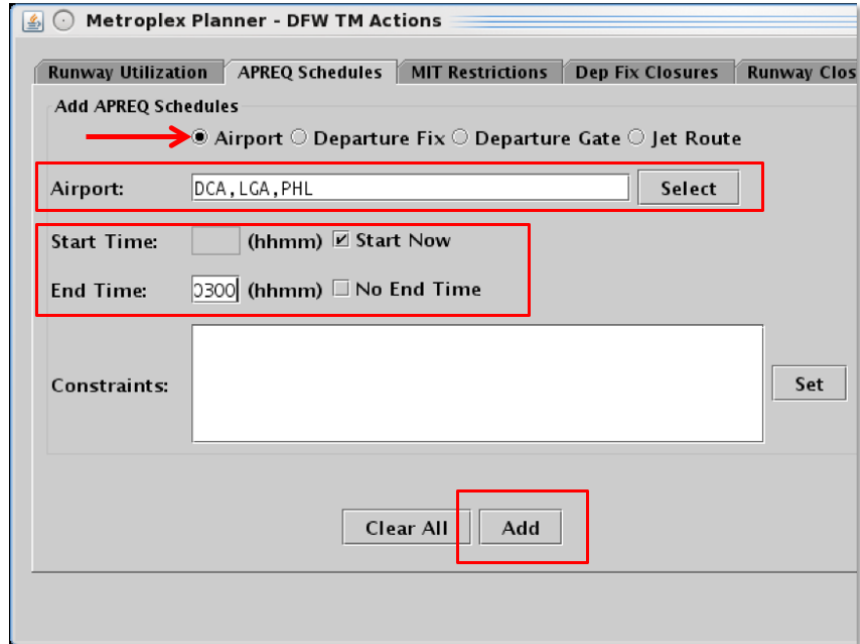


Figure 3.6. APREQ Schedules tab: Enter criteria for the APREQ restrictions.

Resource	Start	End	Source
DCA	2/0129	2/0300	USER
LGA	2/0129	2/0300	USER
PHL	2/0129	2/0300	USER

Figure 3.7. APREQ Schedules table.

APREQ restrictions are indicated in the Notification Banner (e.g., “APREQ to DCA” in Figure 3.8). A new notification is displayed for each scheduled APREQ restriction.

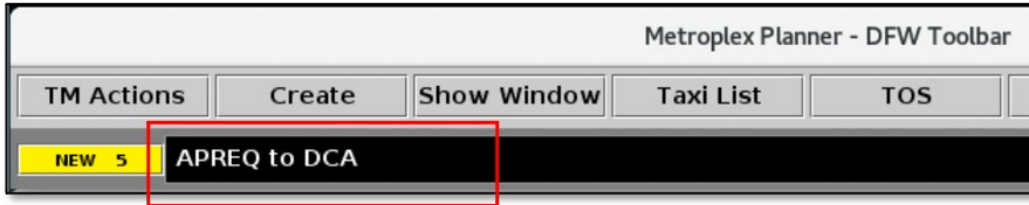


Figure 3.8. APREQ restriction in the Notification Banner. In this example, the APREQ restriction applies to DCA-bound flights.

APREQ restrictions are also indicated in:

- Flight datablocks with color-coding to indicate predicted compliance:
  - On the **map** (see “APREQ” example in Table 4.1).
  - On the **timeline** (see “APREQ” example in Table 6.4; Section 6.7.2).
- The **Flights Table** (APREQ-related columns are described in Table 5.2).
- The **TOS Departure Table** in the “TMI Info” column (described in Table 5.7).

**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 “APREQ Schedules” from the TM Actions dropdown menu (Figure 3.4) to open the APREQ Schedules tab (Figure 3.5).

**Step 2:** Select an APREQ restriction in the APREQ Schedules table (e.g., “LGA” in Figure 3.9).

**Step 3:** Select “Modify” (Figure 3.9) 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 4:** When changes are complete, select “Update” (Figure 3.10).

**Alternatively:** Select “Clear All” to cancel the update and retain the original settings for that restriction (Figure 3.10).

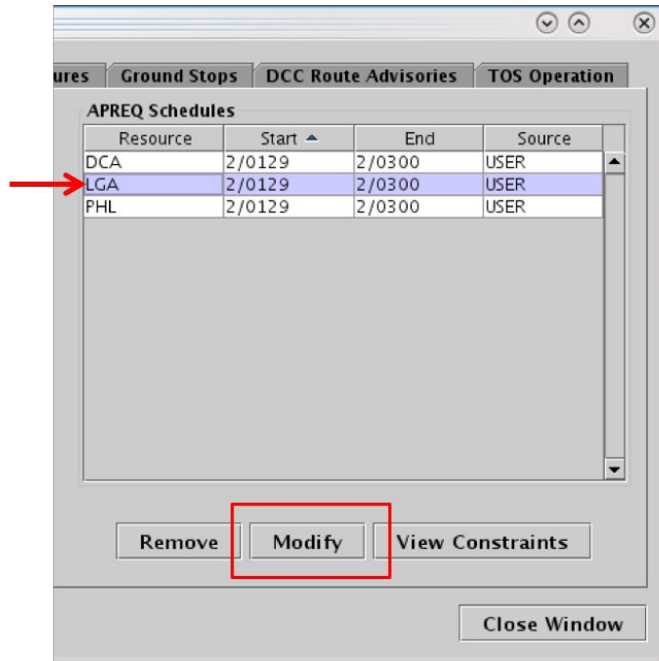


Figure 3.9. Modify an APREQ restriction.

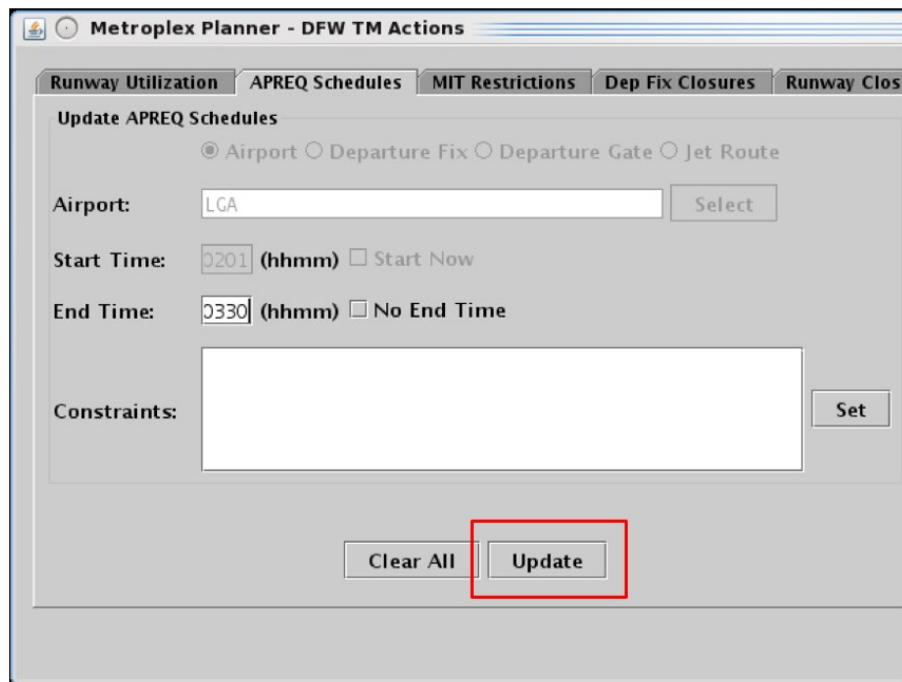


Figure 3.10. Select "Update" to apply changes.

### To remove an APREQ Restriction:

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

**Step 1:** Select “APREQ Schedules” from the TM Actions dropdown menu (Figure 3.4) to open the APREQ Schedules tab (Figure 3.5).

**Step 2:** Select an APREQ restriction in the APREQ Schedules table (e.g., “PHL” in Figure 3.11).

**Step 3:** Select “Remove” (Figure 3.11).

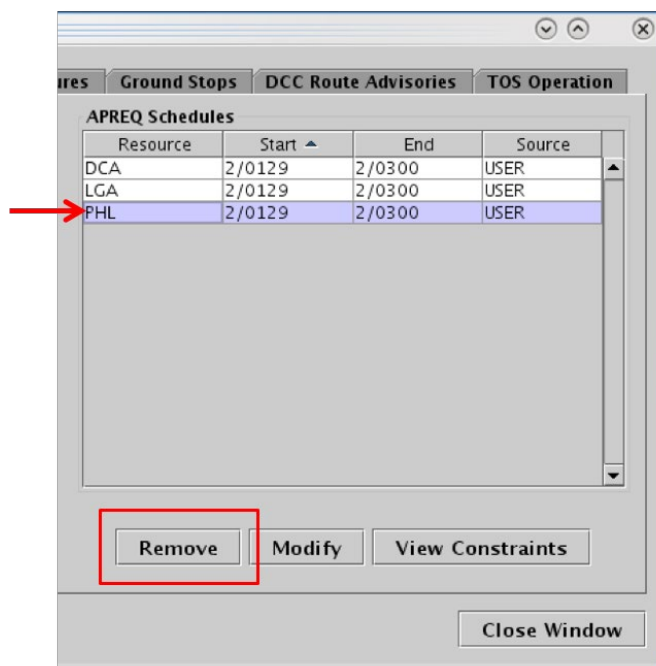


Figure 3.11. Remove an APREQ restriction.

APREQ cancellations (Figure 3.12) and expirations (Figure 3.13) are indicated in the “Details” column in the Notification Panel. See Section 3.8.3 for a description of the Notification Panel.

The screenshot shows a "Notifications" panel with the following data:

Reported	Event Type	Description	Event Start	Event End	Details
5/11/21 2245	TMI	APREQ to DCA	5/11/21 2144	5/11/21 2245	Cancelled by MP DFW

The "Description" and "Details" columns are highlighted with red boxes. The entire row is highlighted in yellow.

Figure 3.12. Notification Panel: APREQ restriction is *cancelled* prior to its scheduled end time. Restrictions cancelled by an ATD-2 user are highlighted in *yellow*; cancellations received from an outside source (e.g., TFM) are highlighted in *blue* (not pictured).

Notifications						
Reported	Event Type	Description	Event Start	Event End	Details	
5/11/21 2300	TMI	APREQ to PHL	5/11/21 2144	5/11/21 2300	Expired	

Figure 3.13. Notification Panel: APREQ restriction *expires* at its scheduled end time.

### 3.1.4 TM Actions: MIT Restrictions Tab

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

Use the TM Actions panel to add a Miles-in-Trail (MIT) restriction.

## To manually add an MIT restriction:

**Step 1:** Select “MIT Restrictions” from the TM Actions dropdown menu (Figure 3.14) to open the MIT Restrictions tab (Figure 3.15).

**Step 2:** Select the resource to which the MIT restriction will be applied (e.g., “Departure Fix” in Figure 3.16):

- Airport, Departure Fix, Departure Gate, or 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-letter 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 3.16).

**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 3.16).

**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 3.16).

**Step 7:** If necessary, constraints can be added to the MIT restriction. See Section 3.1.7 for more information about constraints.

**Step 8:** Select the “Add” button (Figure 3.16).

**Note:** *User-added MIT restrictions are displayed in the MIT Restrictions table with “User” indicated in 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 the TRACON.*



Figure 3.14. TM Actions menu: MIT Restrictions.

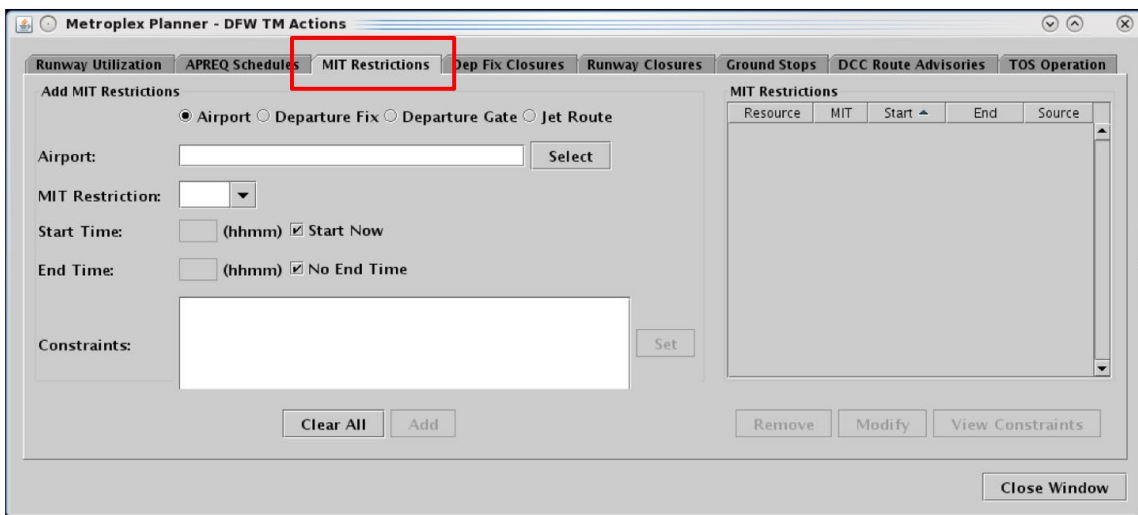


Figure 3.15. TM Actions panel: MIT Restrictions tab (ATC versions of the Metroplex Planner).

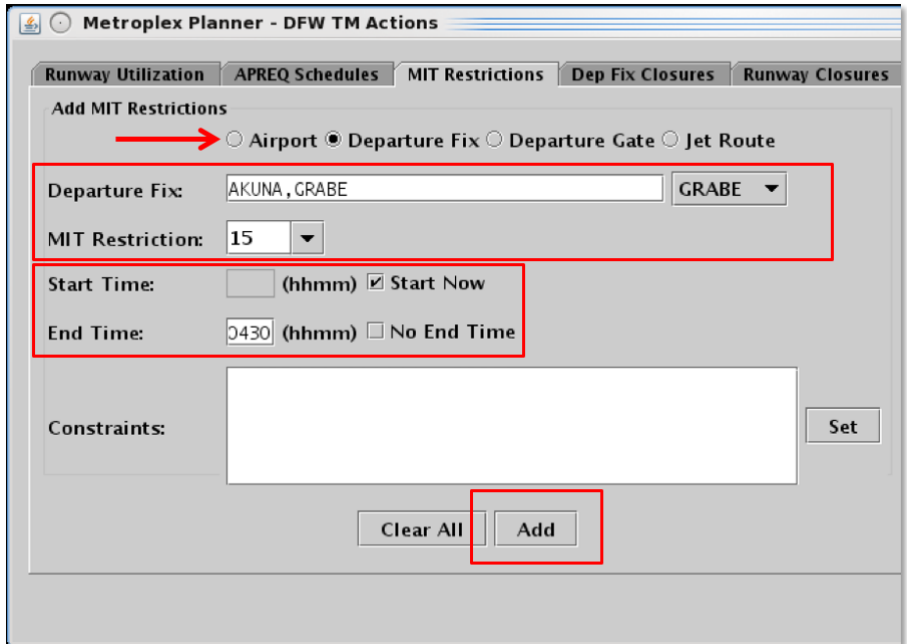


Figure 3.16. MIT Restrictions tab: Enter criteria for the MIT restrictions.

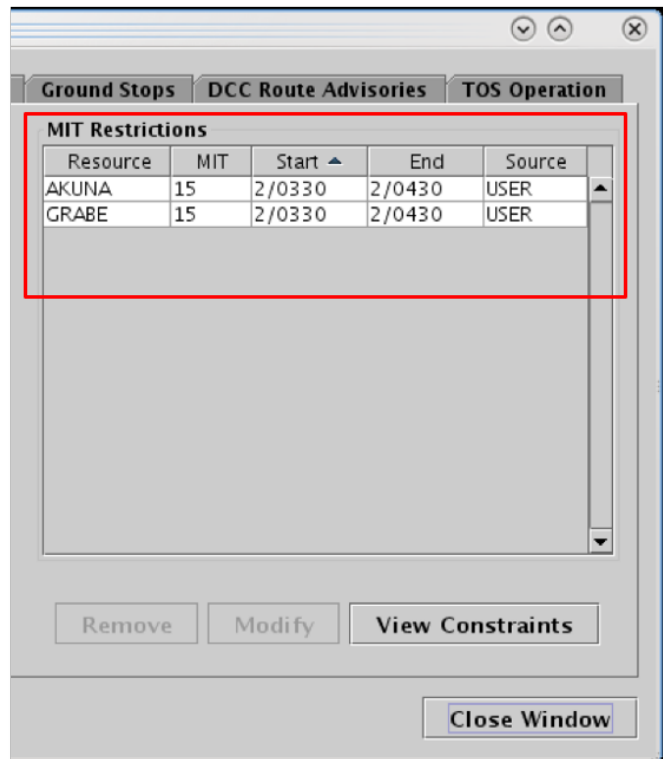


Figure 3.17. MIT Restrictions table.

MIT restrictions are indicated in the Notification Banner (e.g., “AKUNA 15 MIT” in Figure 3.18). A new notification is displayed for each scheduled MIT restriction.





Figure 3.18. MIT restriction in the Notification Banner. In this example, there is a 15 MIT restriction on the AKUNA departure fix.

MIT restrictions are also indicated in:

- Flight datablocks:
  - On the **map** (see “MIT” example in Table 4.1)
  - On the **timeline** (see “MIT” example in Table 6.4).
- Labels on the **map** (see Section 4.6.7.2.1).
- The **Flights Table** in the “MIT” column (described in Table 5.2).
- The **TOS Departure Table** in the “TMI Info” column (described in Table 5.7).

**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 “MIT Restrictions” from the TM Actions dropdown menu (Figure 3.14) to open the MIT Restrictions tab (Figure 3.15).

**Step 2:** Select an MIT restriction in the MIT Restrictions table (e.g., “AKUNA” in Figure 3.19).

**Step 3:** Select “Modify” (Figure 3.19) 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 4:** When changes are complete, select “Update” (Figure 3.20).

**Alternatively:** Select “Clear All” to cancel the update and retain the original settings for that restriction (Figure 3.20).

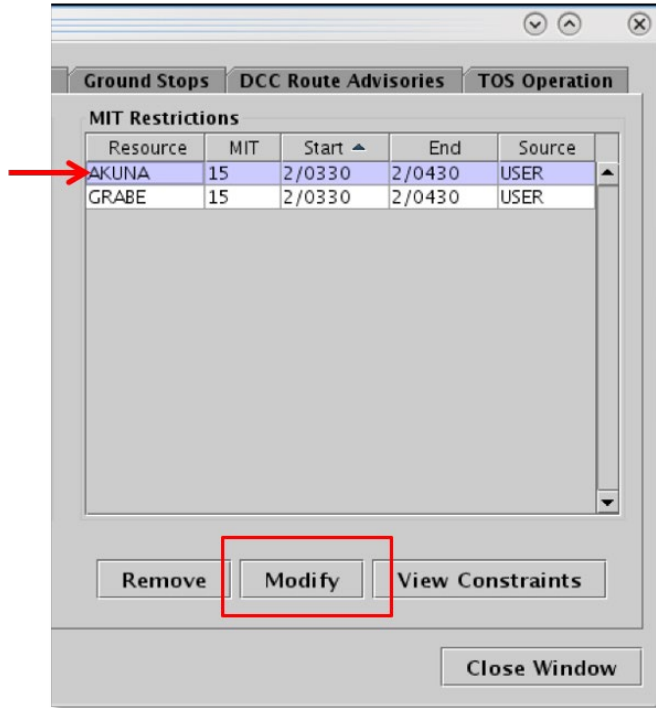


Figure 3.19. Modify an MIT restriction.

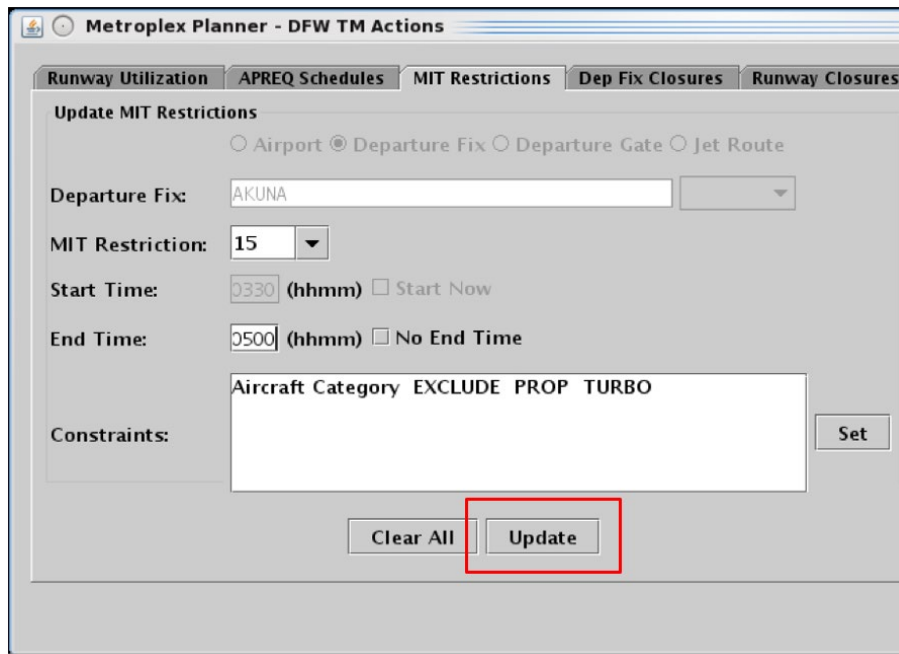


Figure 3.20. Select “Update” to apply changes.

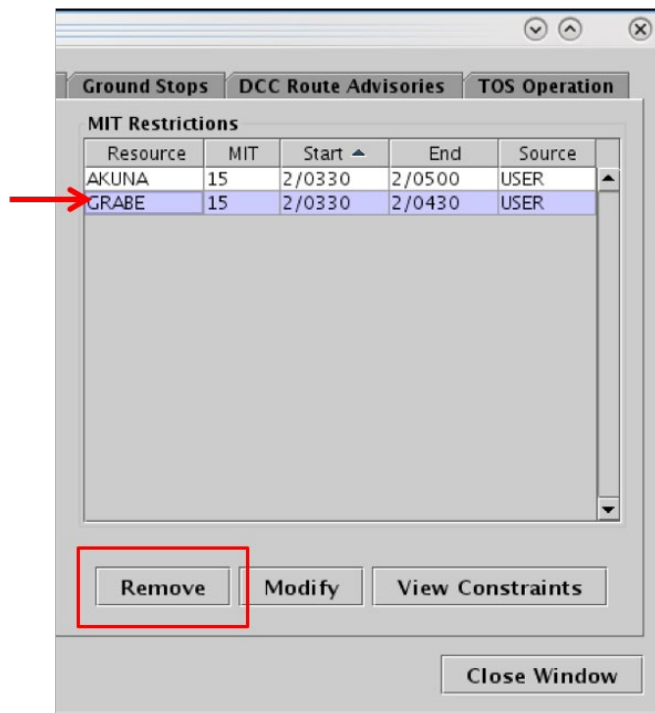
**To remove an MIT restriction:**

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

**Step 1:** Select “MIT Restrictions” from the TM Actions dropdown menu (Figure 3.14) to open the MIT Restrictions tab (Figure 3.15).

**Step 2:** Select an MIT restriction in the MIT Restrictions table (e.g., “GRABE” in Figure 3.21).

**Step 3:** Select “Remove” (Figure 3.21).



**Figure 3.21. Remove an MIT restriction.**

MIT cancellations (Figure 3.22) and expirations (Figure 3.23) are indicated in the “Details” column in the Notification Panel. See Section 3.8.3 for a description of the Notification Panel.

Notifications					
Reported	Event Type	Description	Event Start	Event End	Details
5/11/21 1855	Fix	DARTZ 10MIT	5/11/21 1737	5/11/21 1855	Cancelled by MP DFW

Notifications					
Reported	Event Type	Description	Event Start	Event End	Details
5/11/21 1952	Fix	LOWGN 10MIT	5/11/21 1930	5/11/21 1952	Cancelled

**Figure 3.22. Notification Panel: MIT restriction is *cancelled* prior to its scheduled end time. Restrictions cancelled by an ATD-2 user are highlighted in *yellow* (top); cancellations received from an outside source (e.g., TFM) are highlighted in *blue* (bottom).**

Notifications					
Reported	Event Type	Description	Event Start	Event End	Details
5/11/21 2130	Fix	HANUH 15MIT	5/11/21 2006	5/11/21 2130	Expired

**Figure 3.23. Notification Panel: MIT restriction *expires* at its scheduled end time.**

### 3.1.5 TM Actions: Departure Fix Closures Tab

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

Use the TM Actions panel to add a Departure Fix closure.

#### To manually add a Departure Fix Closure:

**Step 1:** Select “Departure Fix Closures” from the TM Actions dropdown menu (Figure 3.24) to open the Dep Fix Closures tab (Figure 3.25).

**Step 2:** Select where to apply the closure (e.g., “Departure Fix” in Figure 3.26):

- 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 3.26).

**Optional:** Select an alternate fix to reassign flights to in the “CDR Flights To” field (e.g., “RBBIT” in Figure 3.26).

**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 3.26).

**Step 6:** If necessary, constraints can be added to the Departure Fix Closure. See Section 3.1.7 for more information about constraints.

**Step 7:** Select the “Add” button (Figure 3.26).

**Note:** *User-added Departure Fix closures are displayed in the Dep Fix Closures table with “User” indicated as “Source” (Figure 3.27).*

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

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



Figure 3.24. TM Actions menu: Departure Fix Closures.

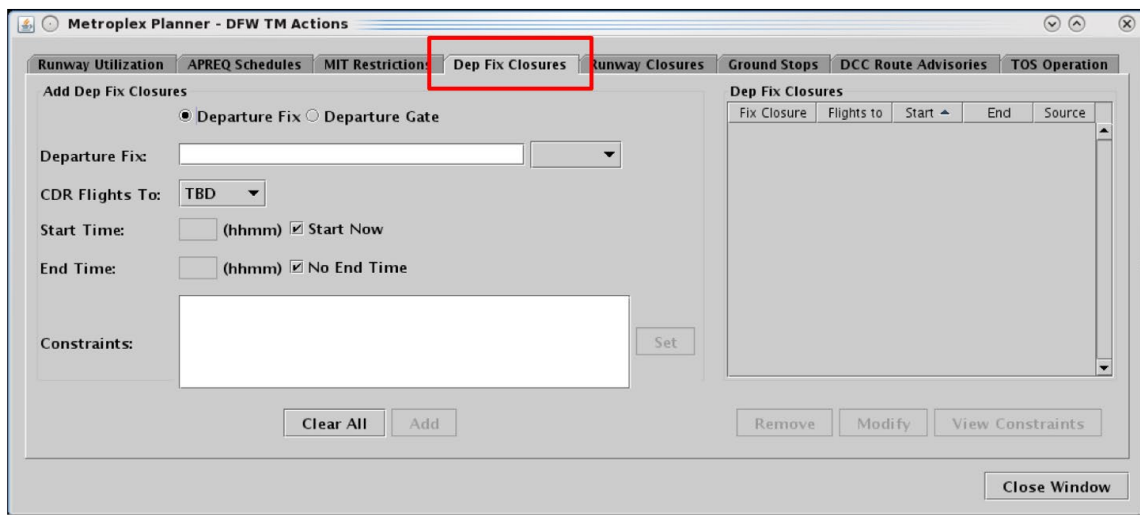


Figure 3.25. TM Actions panel: Dep Fix Closures tab (ATC versions of the Metroplex Planner).

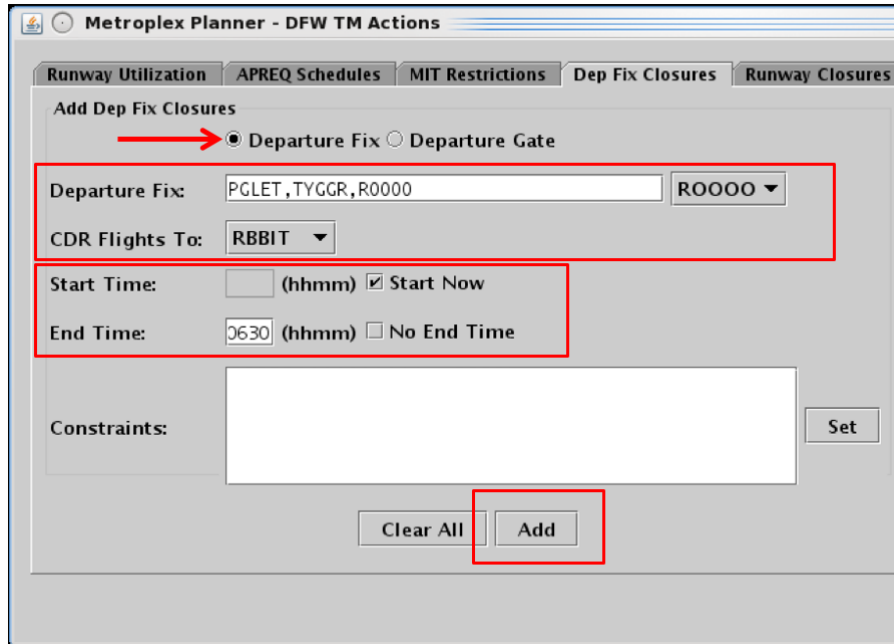


Figure 3.26. Dep Fix Closures tab: Enter criteria for the Departure Fix Closures.

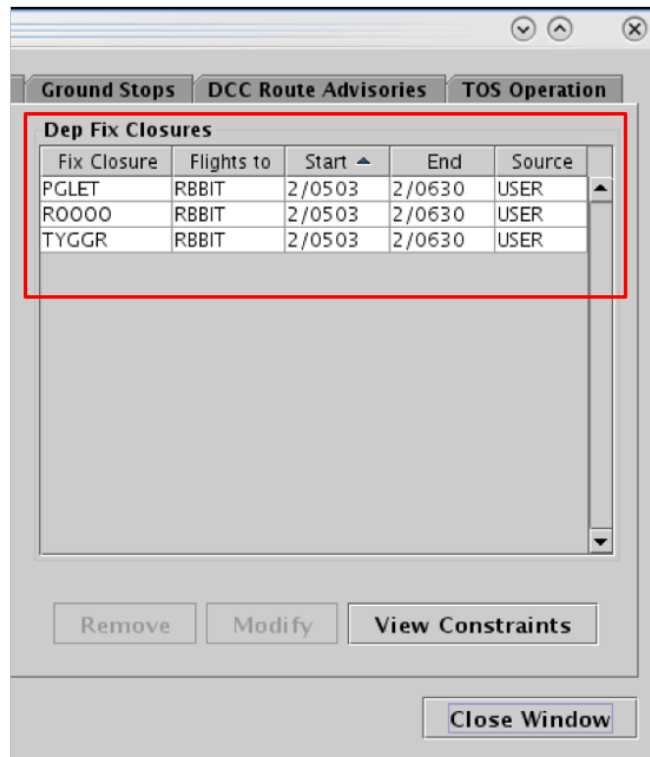
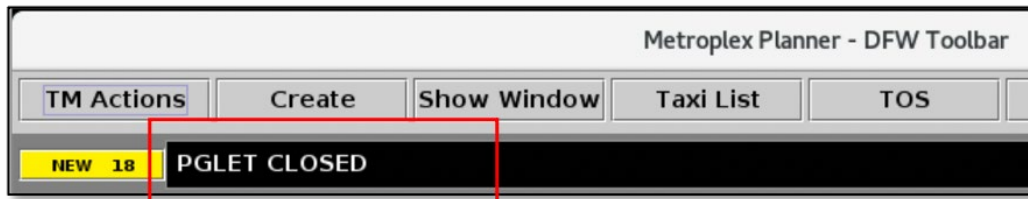


Figure 3.27. Dep Fix Closures table.

Departure Fix closures are indicated in the Notification Banner (e.g., “PGLET CLOSED” in Figure 3.28). A new notification is displayed for each fix closure.



**Figure 3.28. Departure Fix closure notification.** In this example, the “PGLET” fix is closed.

Departure Fix closures are also indicated in:

- Flight datablocks:
  - On the **map** (see “Departure Fix” example in Table 4.1)
  - On the **timeline** (see “Departure Fix” example in Table 6.4).
- Labels on the **map** (see Section 4.6.7.2.1).
- The **Flights Table** with color-coding in the “Dep Fix” column (Table 5.2).
- The **TOS Departure Table** in the “TMI Info” column (described in Table 5.7).

See “Departure Fix Display” settings in Section 3.6.1 for a description of how to configure fix information in flight datablocks (e.g., “Closed Fix” or “Closed Fix → Alt Fix”).

#### 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 “Departure Fix Closures” from the TM Actions dropdown menu (Figure 3.24) to open the Dep Fix Closures tab (Figure 3.25).

**Step 2:** Select a Departure Fix closure from the Dep Fix Closures table (e.g., “PGLET” in Figure 3.29).

**Step 3:** Select “Modify” (Figure 3.29) 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 4:** When changes are complete, select “Update” (Figure 3.30).

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



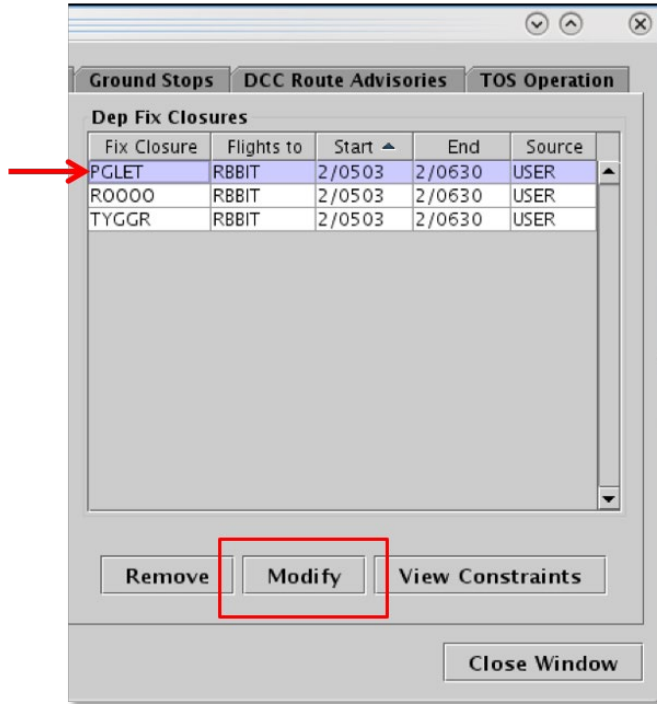


Figure 3.29. Modify a Departure Fix closure.

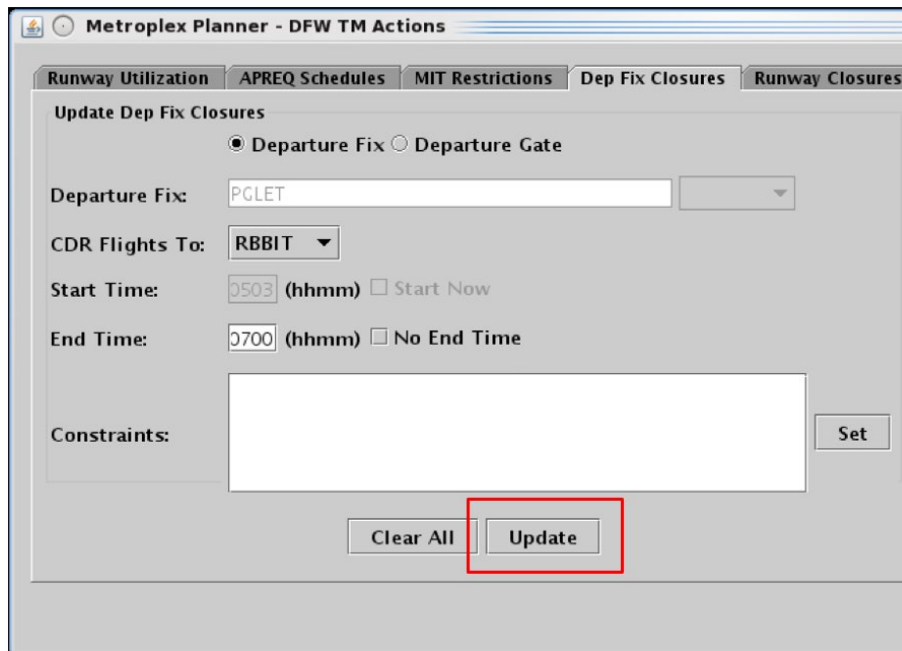


Figure 3.30. Select “Update” to apply changes.

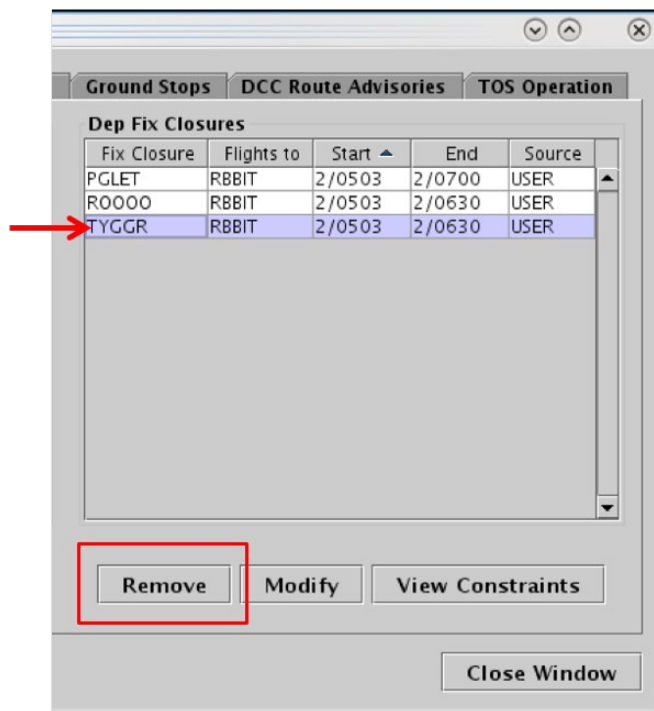
**To remove a Departure Fix Closure:**

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

**Step 1:** Select “Departure Fix Closures” from the TM Actions dropdown menu (Figure 3.24) to open the Dep Fix Closures tab (Figure 3.25).

**Step 2:** Select a Departure Fix Closure in the “Dep Fix Closures” table (e.g., “TYGGR” in Figure 3.31).

**Step 3:** Select “Remove” (Figure 3.31).



**Figure 3.31. Remove a Departure Fix closure.**

Fix closure cancellations (Figure 3.32) and expirations (Figure 3.33) are indicated in the “Details” column in the Notification Panel. See Section 3.8.3 for a description of the Notification Panel.

Reported	Event Type	Description	Event Start	Event End	Details
5/11/21 2350	Fix	TYGGR CLOSED	5/11/21 2322	5/11/21 2350	Cancelled by MP DFW
5/11/21 2240	Fix	NELYN CLOSED	5/11/21 1925	5/11/21 2240	Cancelled

Figure 3.32. Notification Panel: Fix closure is *cancelled* prior to its scheduled end time. Restrictions cancelled by an ATD-2 user are highlighted in *yellow* (top); cancellations received from an outside source (e.g., TFM) are highlighted in *blue* (bottom).

Reported	Event Type	Description	Event Start	Event End	Details
5/12/21 0130	Fix	DARTZ CLOSED	5/12/21 0031	5/12/21 0130	Expired

Figure 3.33. Notification Panel: Fix closure *expires* at its scheduled end time.

A notification is also displayed in the Notification Banner (e.g., “TYGGR OPENED” in Figure 3.34).

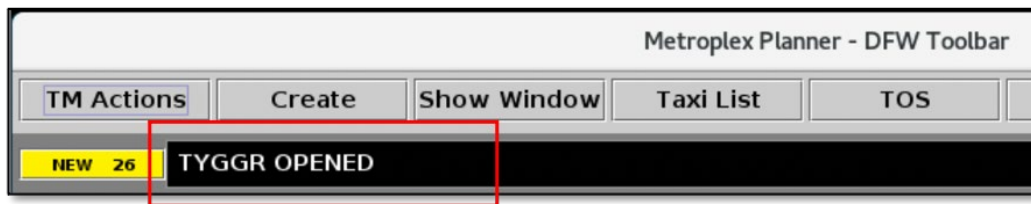


Figure 3.34. Departure Fix open notification. In this example, the “TYGGR” fix is reopened.

### 3.1.6 TM Actions: Ground Stops Tab

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

Use the TM Actions panel to add a Ground Stop restriction.

**To manually add a Ground Stop restriction:**

**Step 1:** Select “Ground Stops” from the TM Actions dropdown menu (Figure 3.35) to open the Ground Stops tab (Figure 3.36).

**Step 2:** Click on the “Select” button to select one or more Airports (e.g., “LGA,JFK” in Figure 3.37).

**Alternatively:** In the text field, type the:

- 3-letter 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 3.1.7 for more information about constraints.

**Step 6:** Select the “Add” button (Figure 3.37).

**Note:** *User-added Ground Stop restrictions are displayed in the Ground Stops table with “User” indicated in the “Source” column (Figure 3.38).*

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

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



**Figure 3.35. TM Actions menu: Ground Stops.**

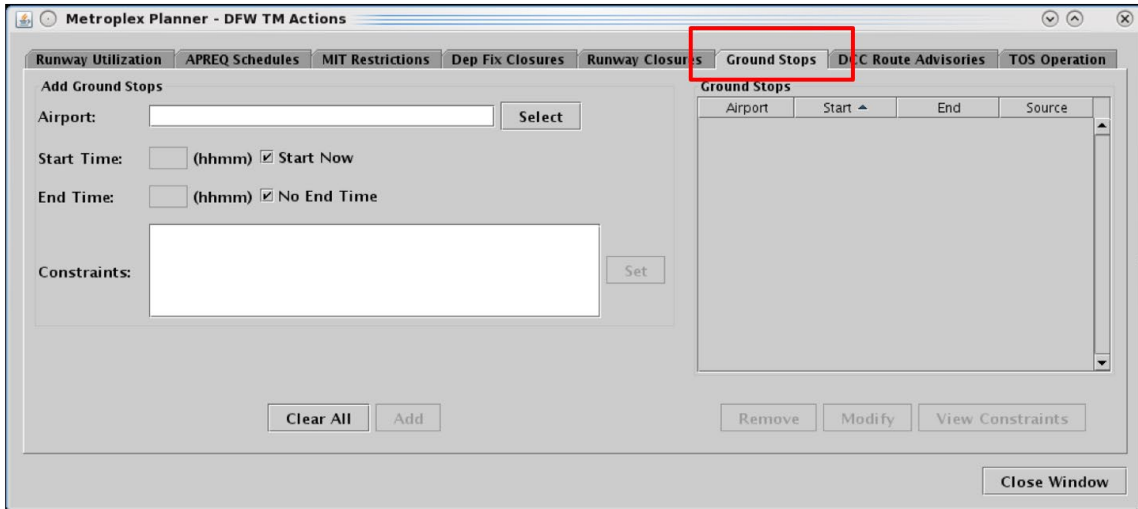


Figure 3.36. TM Actions panel: Ground Stops tab (ATC versions of the Metroplex Planner).

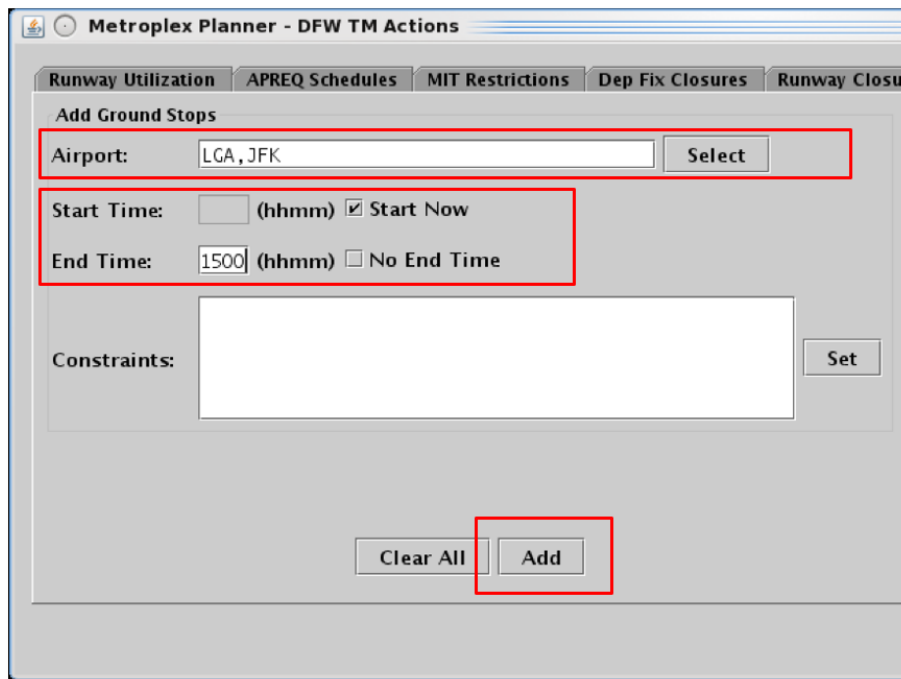


Figure 3.37. Ground Stops tab: Enter criteria for the Ground Stop restrictions.

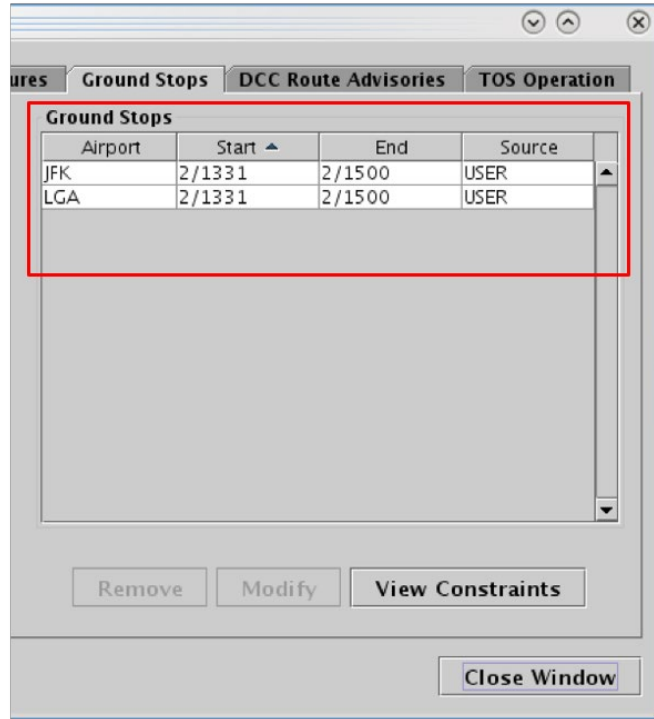


Figure 3.38. Ground Stops tab: Ground Stops table.

Ground Stop restrictions are indicated in the Notification Banner (e.g., “JFK STOP” in Figure 3.39). A new notification is displayed for each Ground Stop restriction.

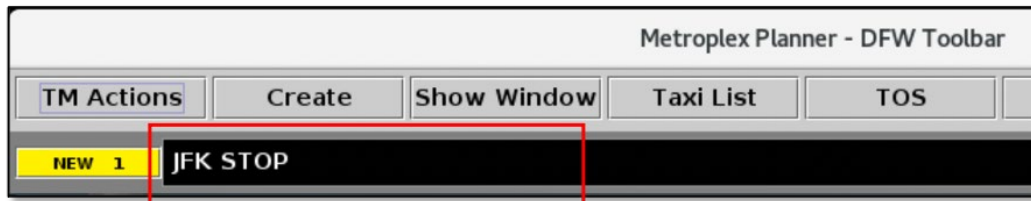


Figure 3.39. Ground Stop restriction in the Notification Banner. In this example, there is a Ground Stop at JFK.

Ground Stop restrictions are also indicated in:

- Flight datablocks:
  - On the **map** (see “Ground Stop” example in Table 4.1)
  - On the **timeline** (see “Ground Stop” example datablock in Table 6.4).
- The **Flights Table** in the “Ground Stop” column and with color-coding in the “Dest” column (described in Table 5.2).
- The **TOS Departure Table** in the “TMI Info” column (described in Table 5.7).

**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 “Ground Stops” from the TM Actions dropdown menu (Figure 3.35) to open the Ground Stops tab (Figure 3.36).

**Step 2:** Select a Ground Stop restriction in the Ground Stops table (e.g., “JFK” in Figure 3.40).

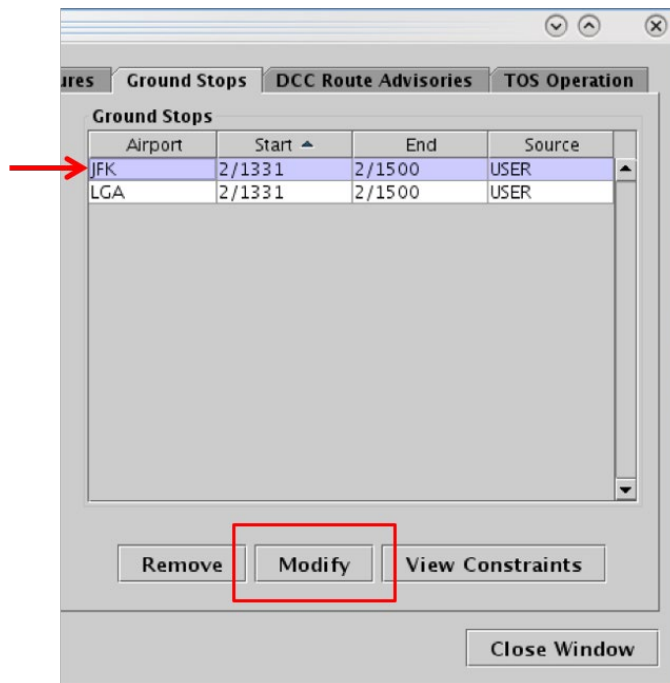
**Step 3:** Select “Modify” (Figure 3.40) to change:

- 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 4:** When changes are complete, select “Update” (Figure 3.41).

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



**Figure 3.40. Modify a Ground Stop restriction.**

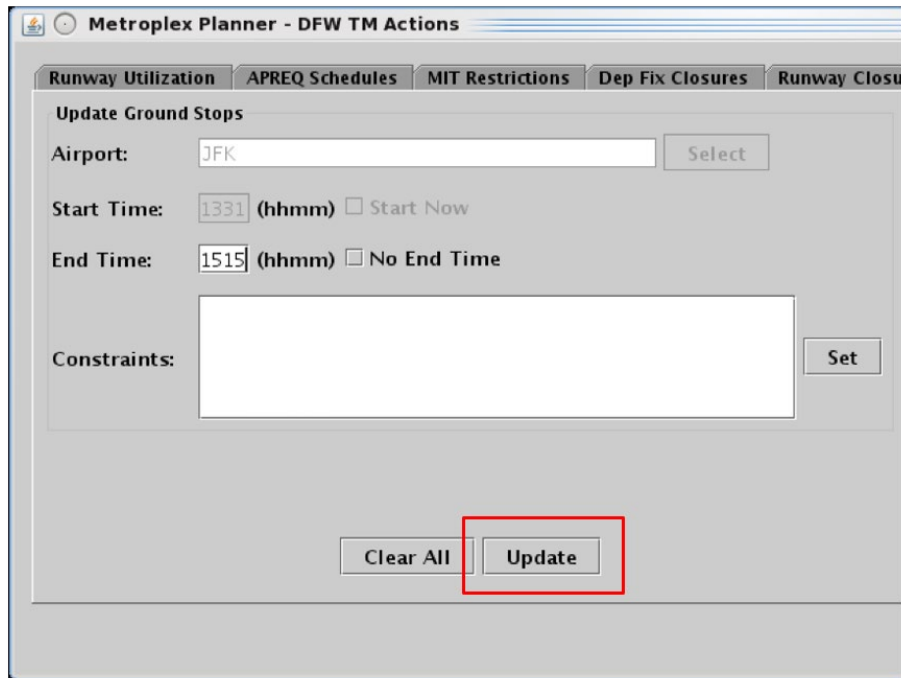


Figure 3.41. Ground Stops tab: Modify a Ground Stop restriction.

**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 “Ground Stops” from the TM Actions dropdown menu (Figure 3.35) to open the Ground Stops tab (Figure 3.36).

**Step 2:** Select a Ground Stop restriction in the Ground Stop table (e.g., “LGA” in Figure 3.42).

**Step 3:** Select “Remove” (Figure 3.42).



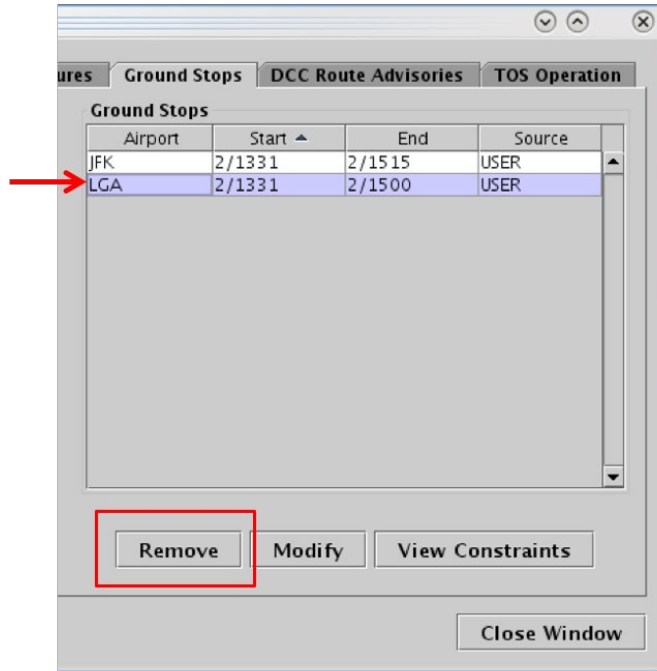


Figure 3.42. Remove a Ground Stop restriction.

Ground Stop cancellations (Figure 3.43) and expirations (Figure 3.44) are indicated in the “Details” column in the Notification Panel. See Section 3.8.3 for a description of the Notification Panel.

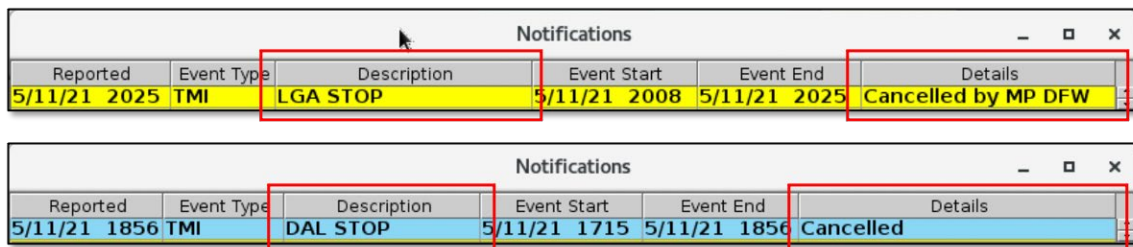


Figure 3.43. Notification Panel: A Ground Stop restriction *cancelled* prior to its scheduled end time. Restrictions cancelled by an ATD-2 user are highlighted in *yellow* (top); cancellations received from an outside source (e.g., TFM) are highlighted in *blue* (bottom).

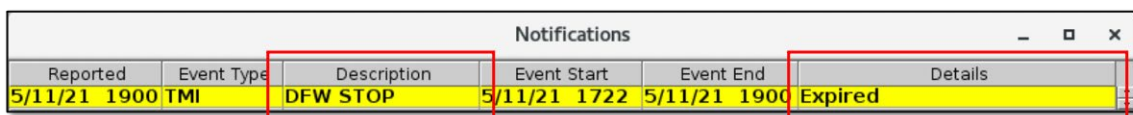


Figure 3.44. Notification Panel: A Ground Stop restriction *expires* at its scheduled end time.

### 3.1.7 Apply Constraints to 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, it 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>	<b>Traffic Management Initiative (TMI) Restrictions</b>			
	<b>APREQ Schedules</b>	<b>MIT Restrictions</b>	<b>Departure Fix Closures</b>	<b>Ground Stops</b>
<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	

### 3.1.7.1 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:** Select the “TM Actions” button to open a tab on the TM Actions Panel (Figure 3.2).

**Step 2:** 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 3.45, for example, the “AKUNA” departure fix is selected with a 15-mile restriction).

**Step 3:** Select the “Set” button (Figure 3.45) next to the Constraints field.

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

**Step 4:** 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 3.46, the “APREQ” tab is selected).

**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 3.46, “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 6:** Select a different tab to add more constraints or select the “Apply” button when finished adding constraints (Figure 3.46).

**Note:** Upon returning to the TMI-restriction window, the selected constraints are displayed in the Constraints field (in Figure 3.47, “APREQ EXCLUDE” is displayed).

**Step 7:** Select the “Add” button to complete adding the TMI restriction (Figure 3.47).

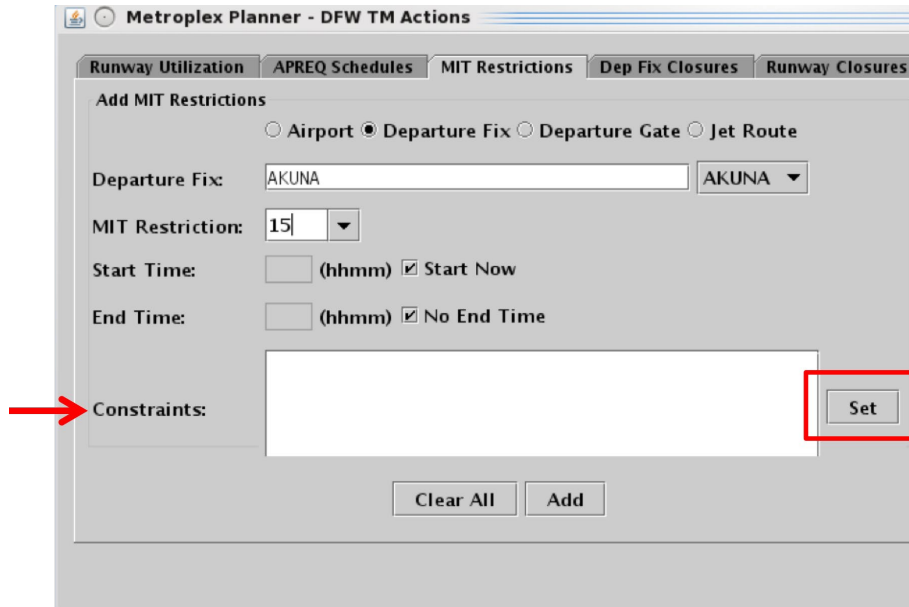


Figure 3.45. On a TMI-restriction tab, select the “Set” button to open the Constraint Settings window.

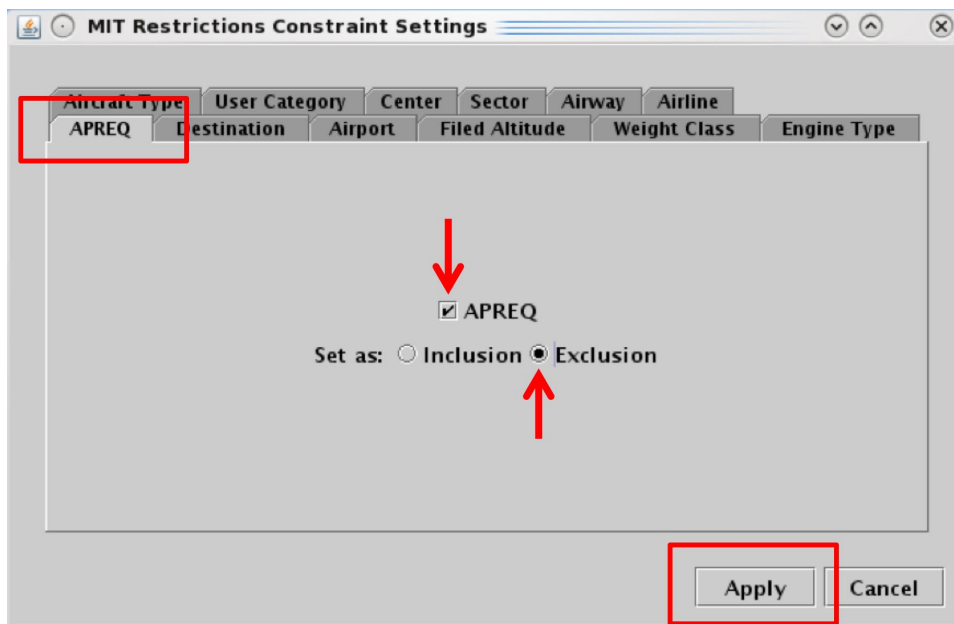


Figure 3.46. In the Constraint Setting window, select a constraint tab and enter criteria (in this example, “APREQ” is checked and “Exclusion” is selected to *exclude* APREQ flights from the restriction).

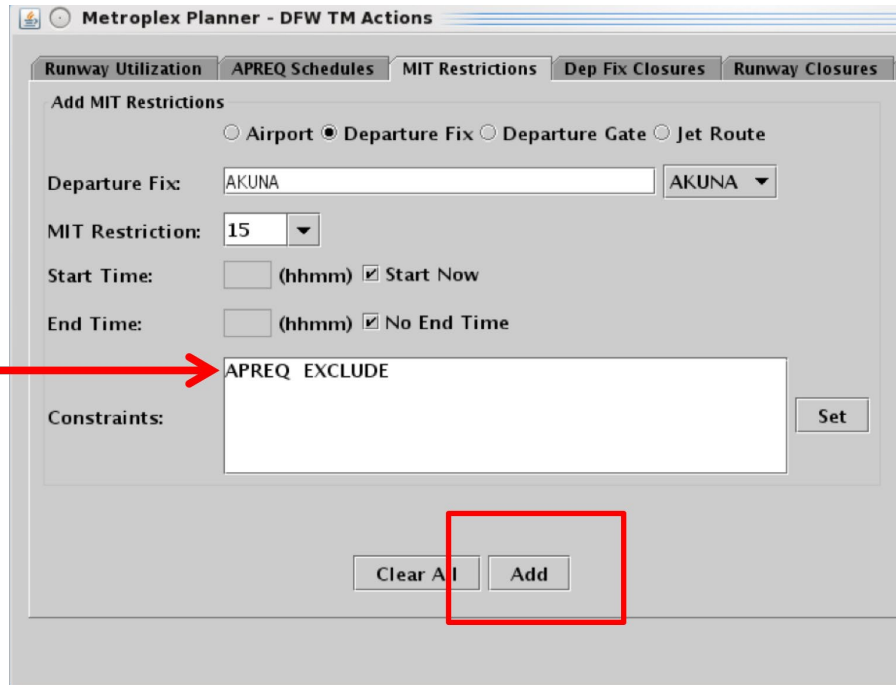


Figure 3.47. Criteria entered in the Constraint Settings window are displayed in the Constraints field (in this example, “APREQ EXCLUDE”).

### 3.1.7.2 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:** Select the “TM Actions” button to open a tab on the TM Actions Panel (Figure 3.2).

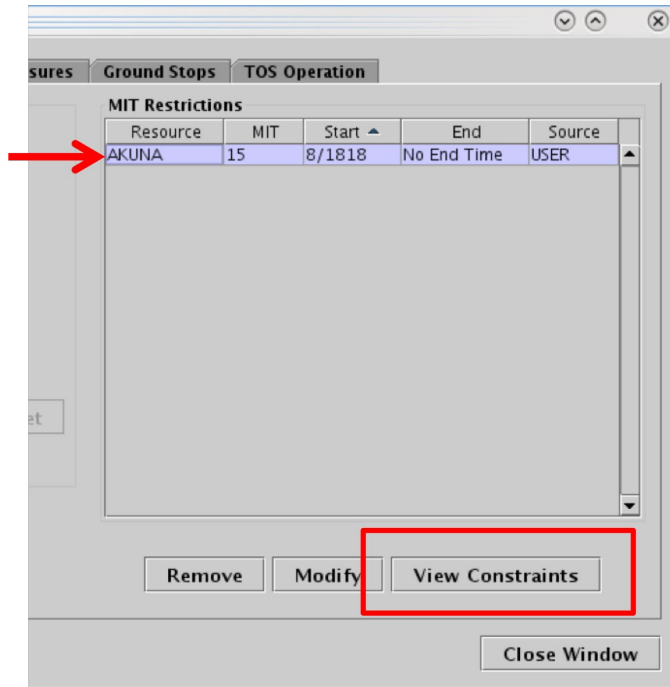
**Step 2:** On a TMI-restriction tab (i.e., the APREQ Schedules, MIT Restrictions, Departure Fix Closures, or Ground Stops tab), select the “View Constraints” button below the restriction table (Figure 3.48).

**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.*

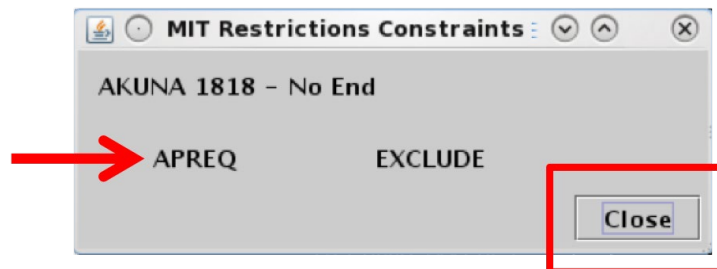
**Alternatively:** Select a specific restriction in the table before selecting the “View Constraints” button to view constraints associated with only that restriction (in Figure 3.48, for example, the “AKUNA 15 MIT” restriction (row) has been selected).

**Note:** *Constraints are displayed in a new window along with Start and End times (in Figure 3.49, “APREQ EXCLUDE” is displayed in the Constraints window).*

**Step 3:** Select the “Close” button to close the Constraints window.



**Figure 3.48. 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 3.49. 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 Notification Panel (see Section 3.8 for a description of Notifications).



### 3.1.7.3 Modify a Constraint

Constraints associated with TMI restrictions can be modified.

#### To modify a constraint:

**Step 1:** Select the “TM Actions” button to open a tab on the TM Actions Panel (Figure 3.2).

**Step 2:** 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 3.50, for example, the “AKUNA 15 MIT” restriction has been selected).

**Step 3:** Select the “Modify” button below the table (Figure 3.50).

**Step 4:** Select the “Set” button in the Constraints field (Figure 3.51).

**Step 5:** 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 3.52, on the “Destination” tab, “LGA” is added as an additional constraint to the MIT restriction).

**Step 6:** 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 3.52, “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 7:** 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 3.53, “APREQ Exclude” and “Destination EXCLUDE LGA” are displayed).

**Step 8:** Select the “Update” button to complete modifying the TMI restriction (Figure 3.53).

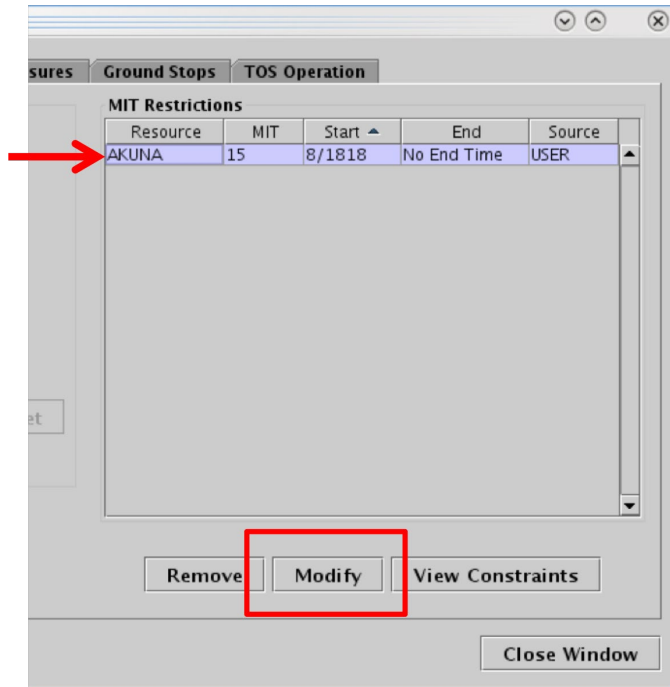


Figure 3.50. Select a TMI Restriction in the table (in this example, the 15 MIT restriction is selected) and select the “Modify” button to modify constraints.

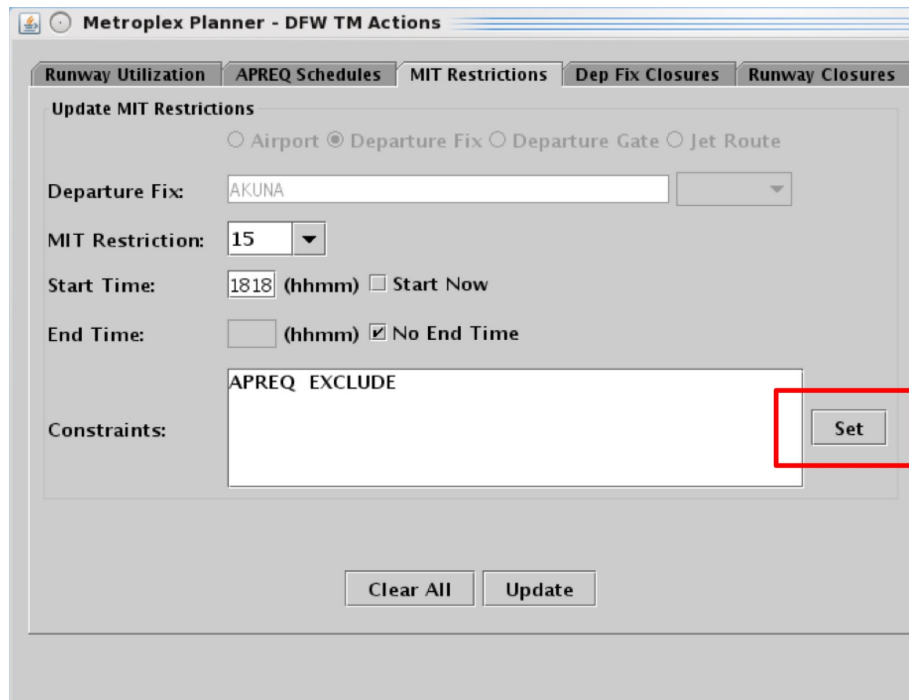


Figure 3.51. Select the “Set” button to open the Constraint Settings window.

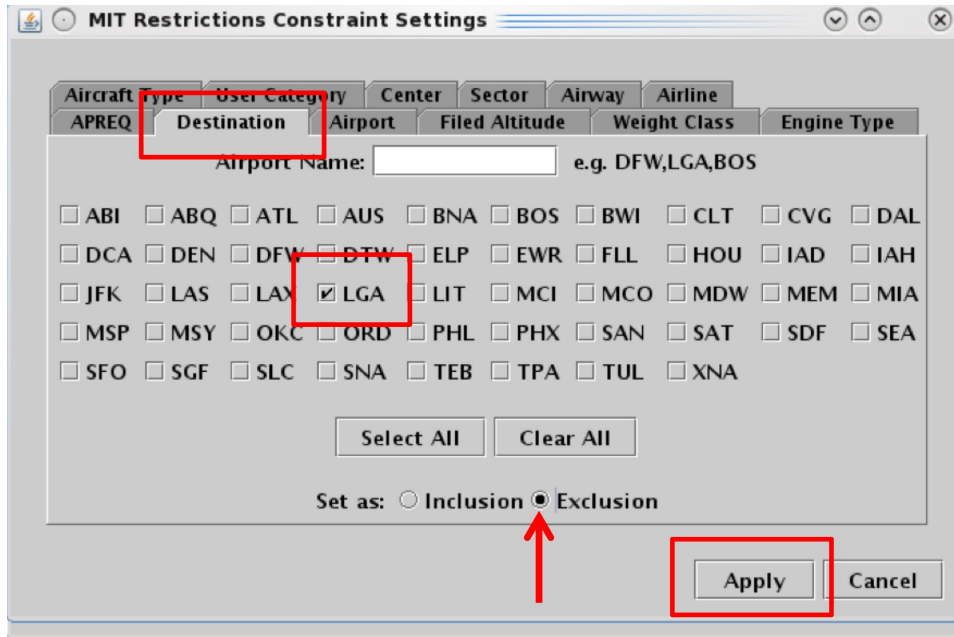


Figure 3.52. In the Constraint Settings window, modify/add constraints. In this example, an additional constraint is added on the “Destination” tab, flights going to LGA will be excluded from the MIT restriction.

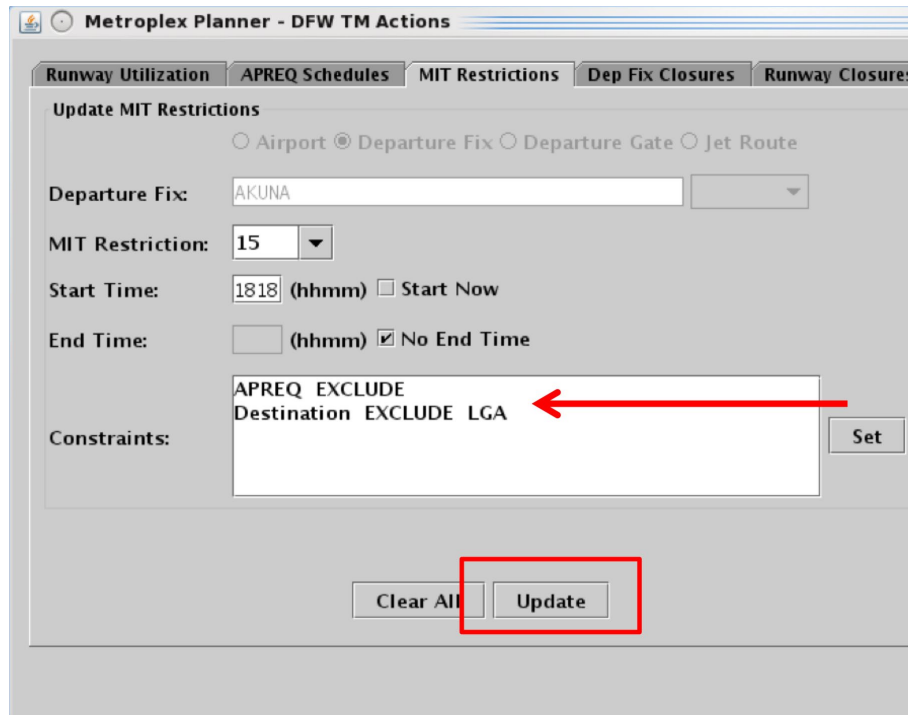


Figure 3.53. Criteria entered in the Constraint Settings window are displayed in the Constraints field (in this example, “APREQ EXCLUDE” and “Destination EXCLUDE LGA”).

### 3.1.7.4 Remove a Constraint

Constraints associated with TMI restrictions can be removed.

#### To remove a constraint:

**Step 1:** Select the “TM Actions” button to open a tab on the TM Actions Panel (Figure 3.2).

**Step 2:** 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 3.54, for example, the “AKUNA 15 MIT” restriction has been selected).

**Step 3:** Select the “Modify” button below the table (Figure 3.54).

**Step 4:** Select the “Set” button in the Constraints field (Figure 3.55).

**Step 5:** 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 3.56, a constraint is removed from the “Destination” tab by unchecking “LGA.”)

**Step 6:** 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 3.57, “Destination EXCLUDE LGA” is no longer displayed in the Constraints field).

**Step 7:** Select the “Update” button to complete modifying the TMI restriction (Figure 3.57).

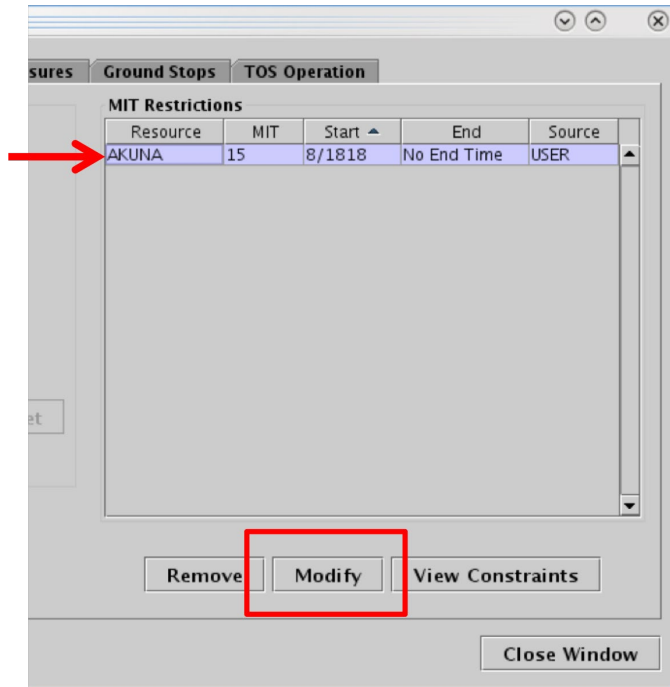


Figure 3.54. Modify a TMI Restriction (in this example, the 15 MIT restriction is selected) and select the “Modify” button to modify constraints.

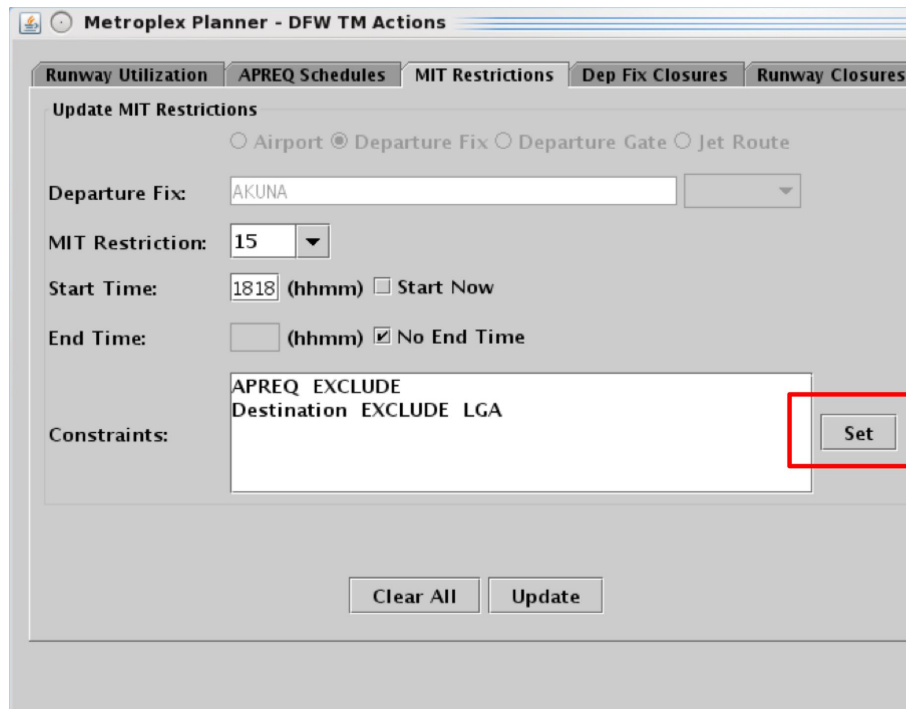


Figure 3.55. Select the “Set” button to open the Constraint Settings window.

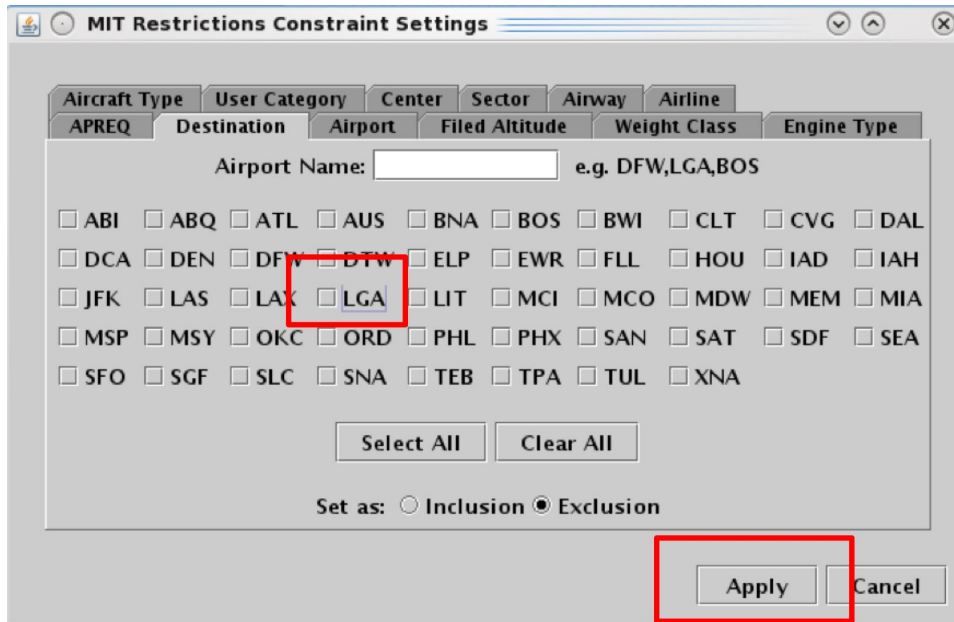


Figure 3.56. In the Constraint Settings window, uncheck or clear constraints. (In this example, a constraint is removed from the “Destination” tab by unchecking “LGA”).

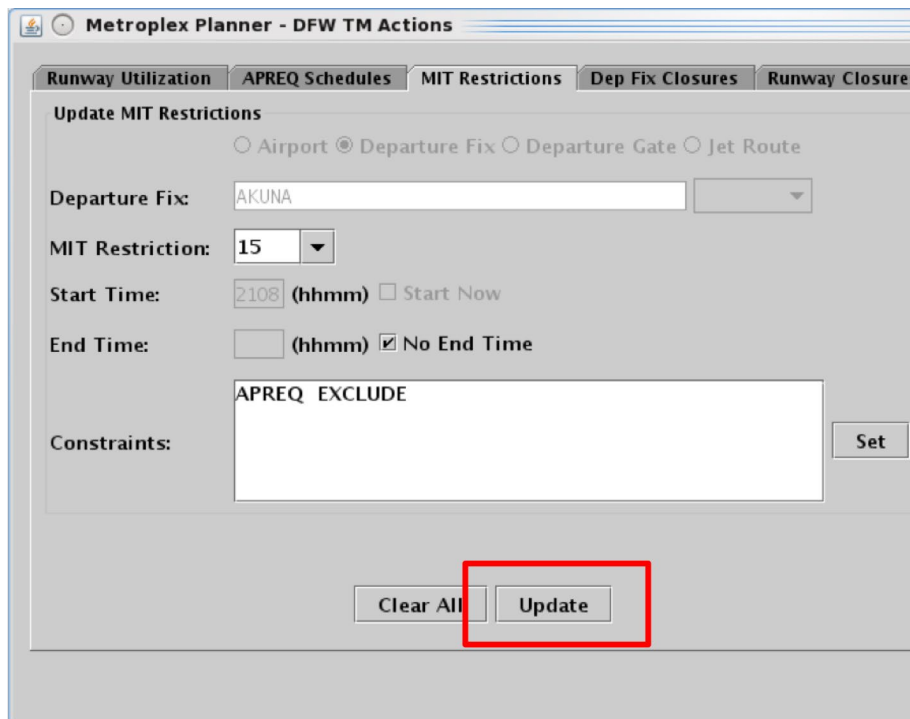


Figure 3.57. After removing a constraint in the Constraint Settings window, it is no longer displayed in the Constraints field on the TMI-restriction tab. (In this example, “Destination EXCLUDE LGA” is no longer displayed.)

### **3.1.7.5 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.

#### **3.1.7.5.1 Constraint: Engine Type**

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

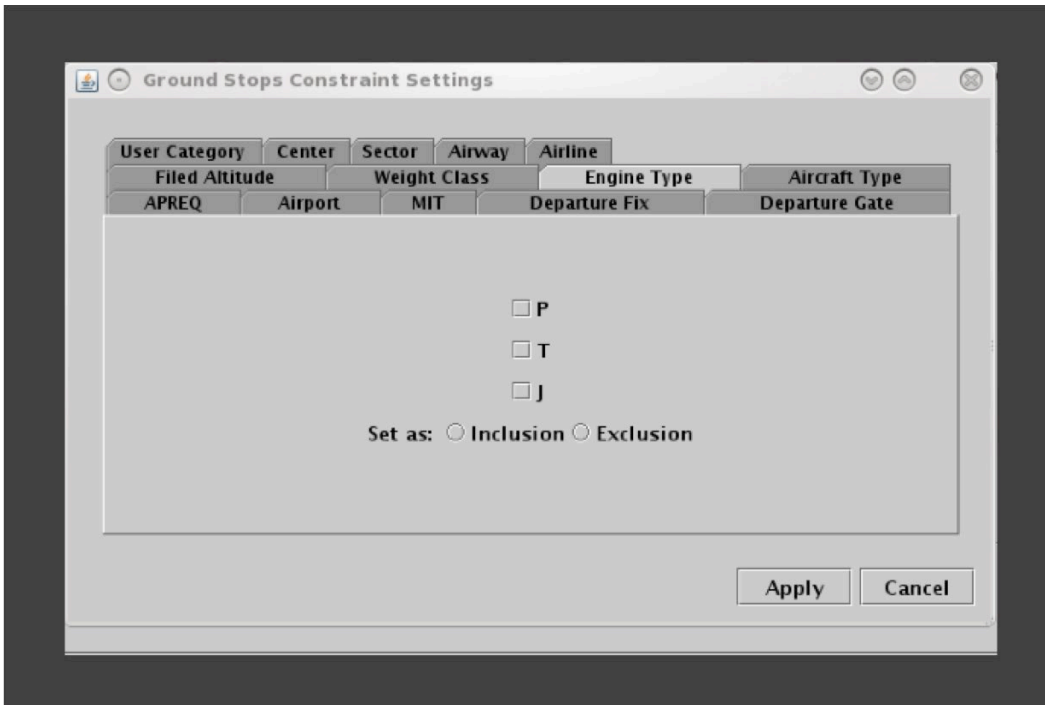
- APREQ Schedule
- MIT Restriction
- Departure Fix Closure
- Ground Stop

To apply an engine type constraint, select from three aircraft engine types (Figure 3.58):

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

More than one type can be selected at a time. See Section 3.1.7.1 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 3.58. Constraint: Engine Type.**

See Section 3.1.7.3 for a description of how to *modify* constraints and Section 3.1.7.4 for a description of how to *remove* constraints.

### 3.1.7.5.2 Constraint: Aircraft Type

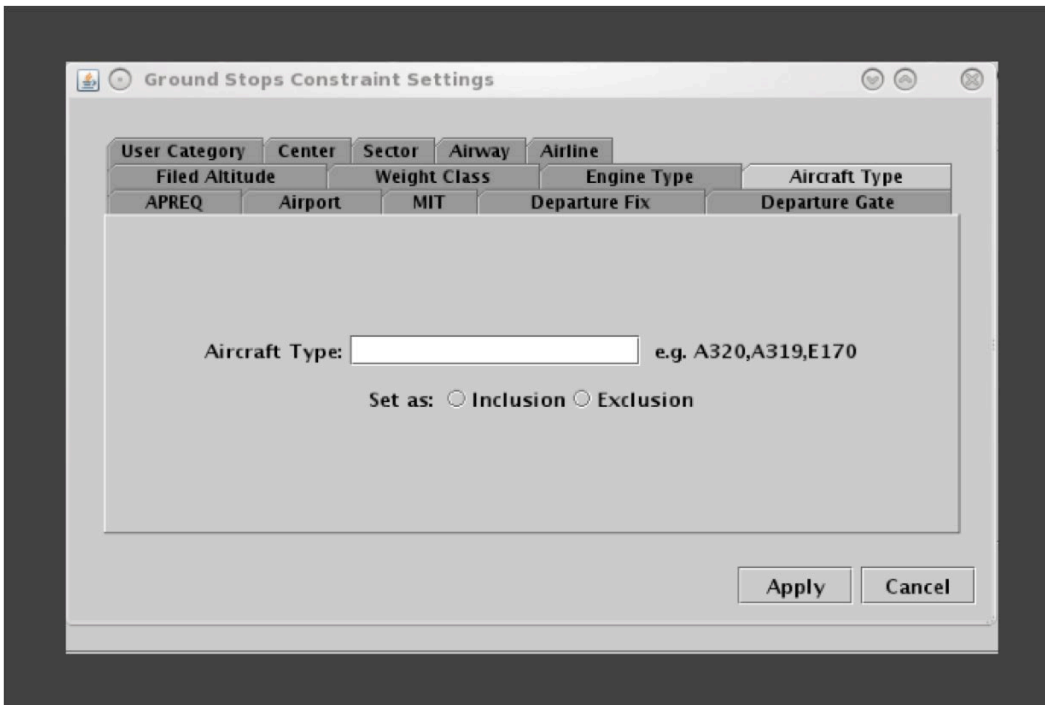
The following TMI restrictions can be constrained by Aircraft Type.

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

To apply an Aircraft Type constraint, enter the 4-character alphanumeric code for an aircraft type (e.g., A320) (Figure 3.59). To enter more than one aircraft type, separate aircraft codes with a comma, but no space (e.g., “A320,A319,E170”). See Section 3.1.7.1 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 3.59. Constraint: Aircraft Type.**

See Section 3.1.7.3 for a description of how to *modify* constraints and Section 3.1.7.4 for a description of how to *remove* constraints.

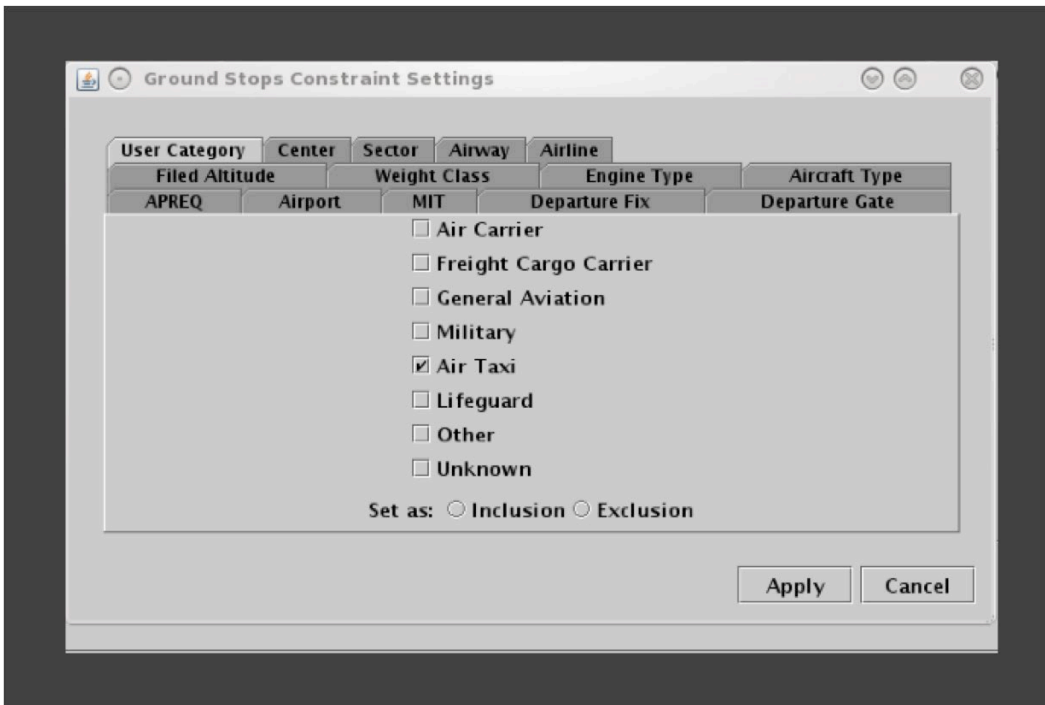
### **3.1.7.5.3 Constraint: User Category**

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 3.60). More than one type can be selected at a time. See Section 3.1.7.1 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 3.60. Constraint: User Category.**

See Section 3.1.7.3 for a description of how to *modify* constraints and Section 3.1.7.4 for a description of how to *remove* constraints.

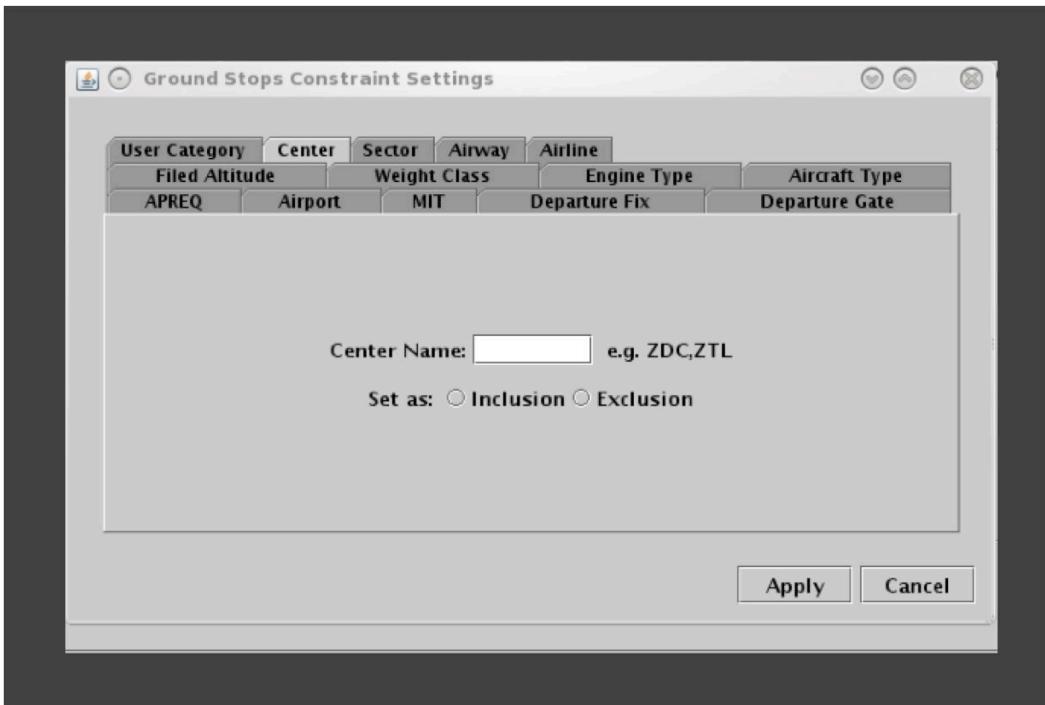
### 3.1.7.5.4 Constraint: Center

The following TMI restrictions can be constrained by the 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 3.61). To enter more than one Center, separate codes with a comma, but no space (e.g., “ZDC,ZTL”). See Section 3.1.7.1 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 3.61. Constraint: Center.**

See Section 3.1.7.3 for a description of how to *modify* constraints and Section 3.1.7.4 for a description of how to *remove* constraints.

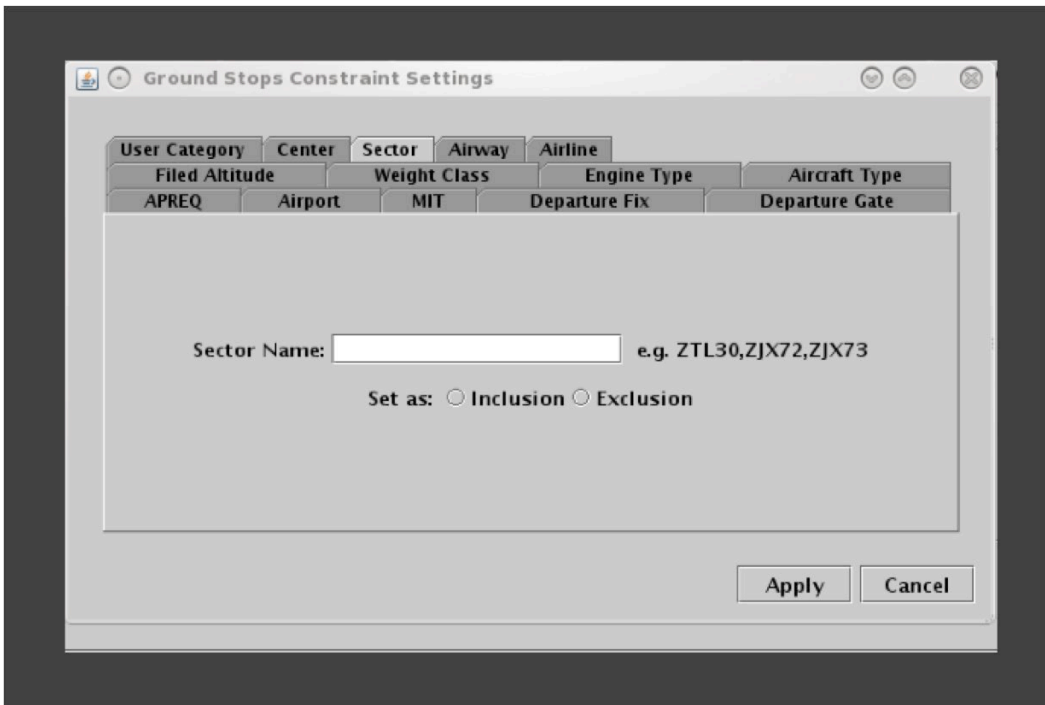
### 3.1.7.5.5 Constraint: Sector

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 3.62). To enter more than one Sector, separate codes with a comma, but no space (e.g., “ZTL30,ZJX72”). See Section 3.1.7.1 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 3.62. Constraint: Sector.**

See Section 3.1.7.3 for a description of how to *modify* constraints and Section 3.1.7.4 for a description of how to *remove* constraints.

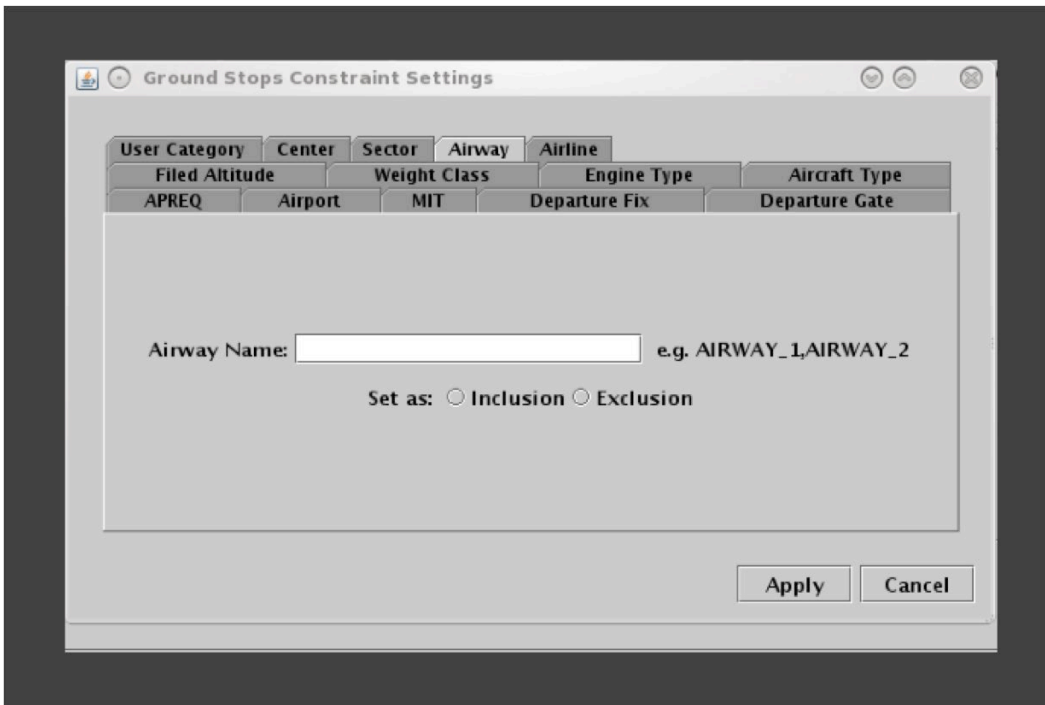
### 3.1.7.5.6 Constraint: Airway

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 alphanumeric code of the airway (e.g., “J75”) (Figure 3.63). To enter more than one airway, separate codes with a comma, but no space (e.g., “J75,J48”). See Section 3.1.7.1 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 3.63. Constraint: Airway.**

See Section 3.1.7.3 for a description of how to *modify* constraints and Section 3.1.7.4 for a description of how to *remove* constraints.

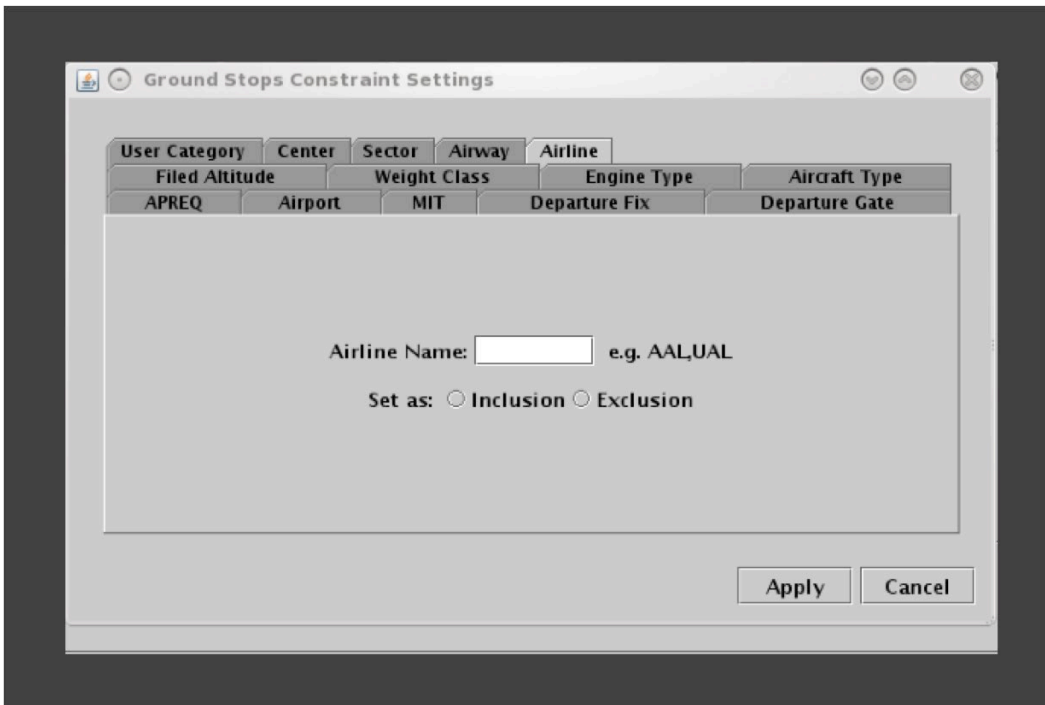
### 3.1.7.5.7 Constraint: Airline

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 3.64). To enter more than one airline, separate codes with a comma, but no space (e.g., “AAL,UAL”). See Section 3.1.7.1 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 3.64. Constraint: Airline.**

See Section 3.1.7.3 for a description of how to *modify* constraints and Section 3.1.7.4 for a description of how to *remove* constraints.

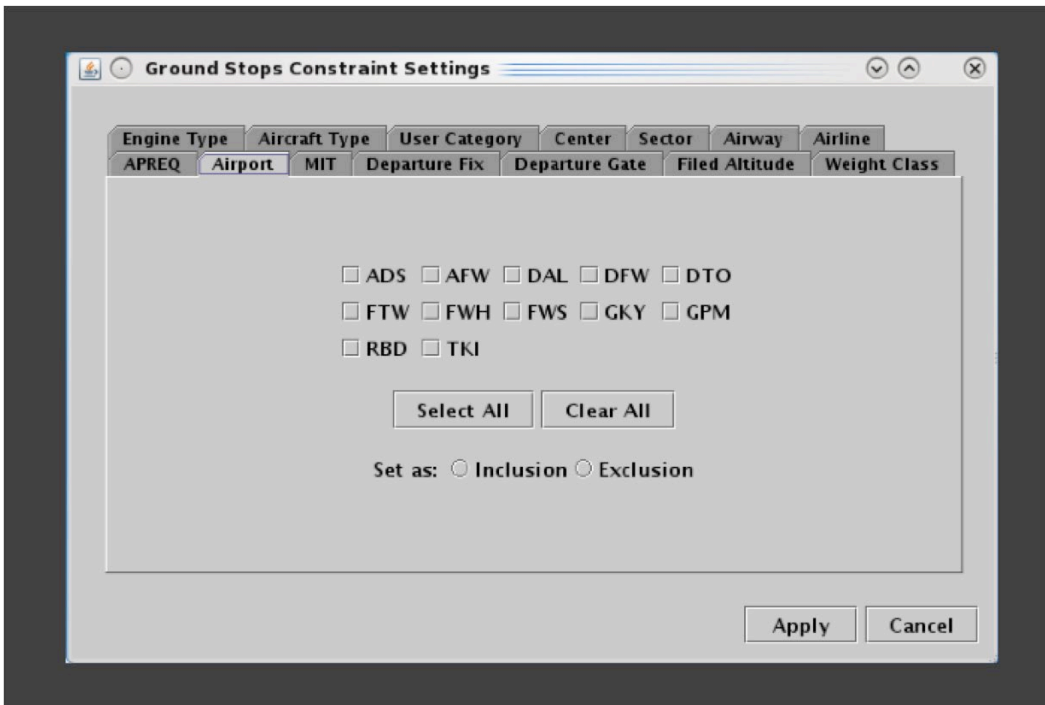
### 3.1.7.5.8 Constraint: Airport

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 3.65). 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 3.1.7.1 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 3.65. Constraint: Departure Airport.**

See Section 3.1.7.3 for a description of how to *modify* constraints and Section 3.1.7.4 for a description of how to *remove* constraints.

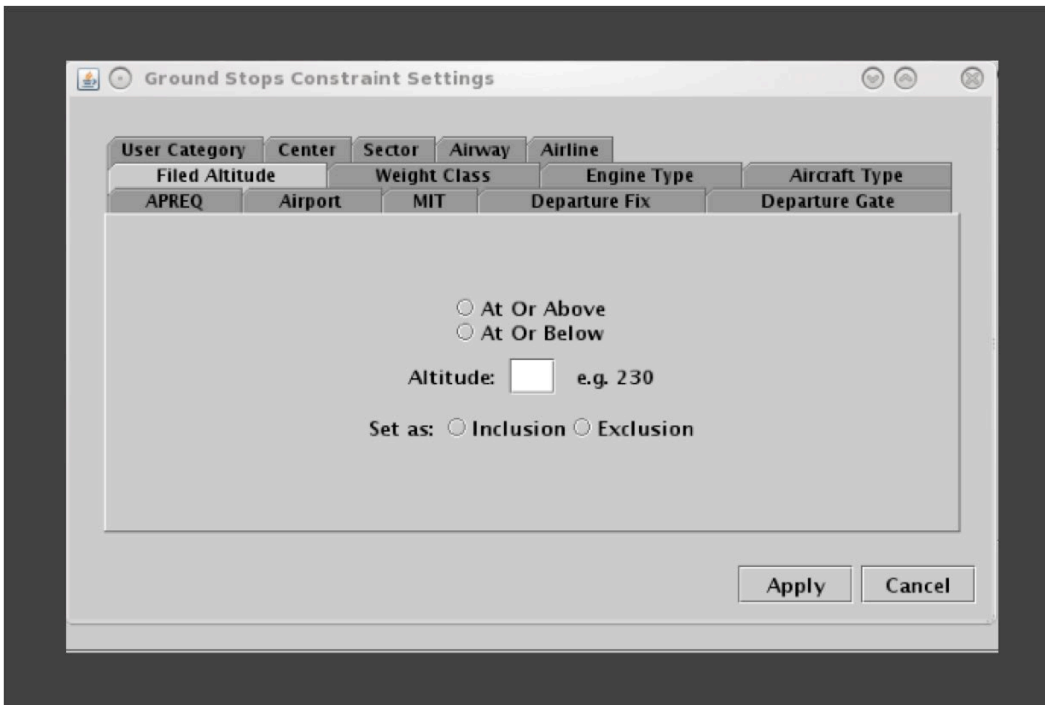
### 3.1.7.5.9 Constraint: Filed Altitude

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 3.66). 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 3.1.7.1 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 3.66. Constraint: Filed Altitude.**

See Section 3.1.7.3 for a description of how to *modify* constraints and Section 3.1.7.4 for a description of how to *remove* constraints.

### 3.1.7.5.10 Constraint: Weight Class

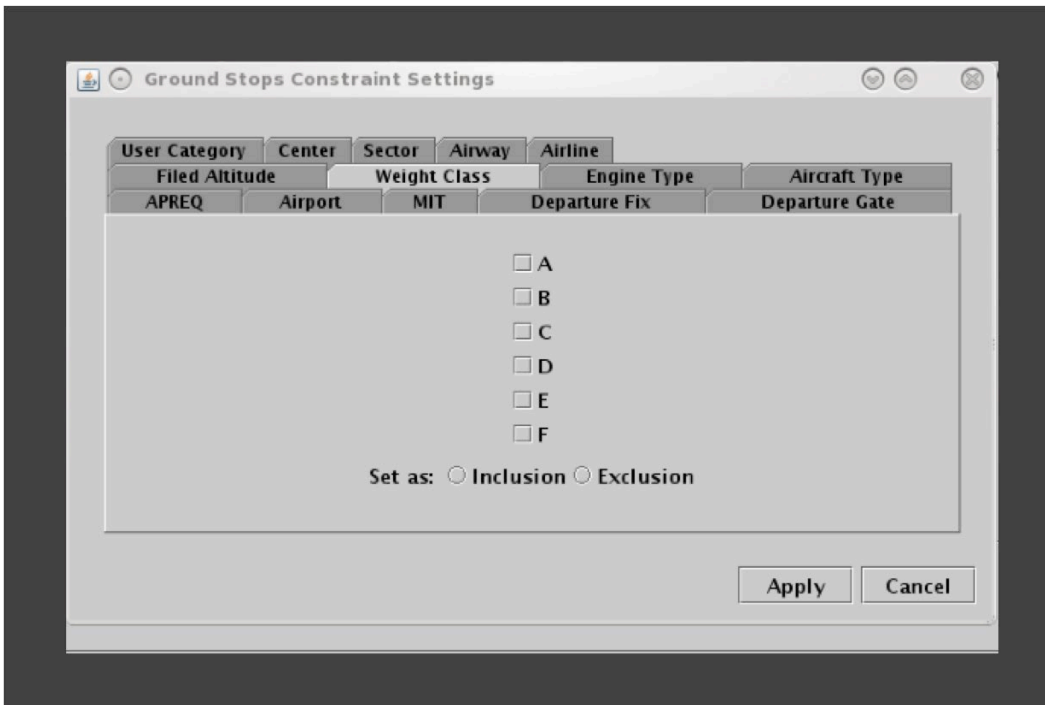
The following TMI restrictions can be constrained by aircraft Weight Class.

- 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 3.67). More than one class can be selected at a time. See Section 3.1.7.1 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 3.67. Constraint: Weight Class.**

See Section 3.1.7.3 for a description of how to *modify* constraints and Section 3.1.7.4 for a description of how to *remove* constraints.

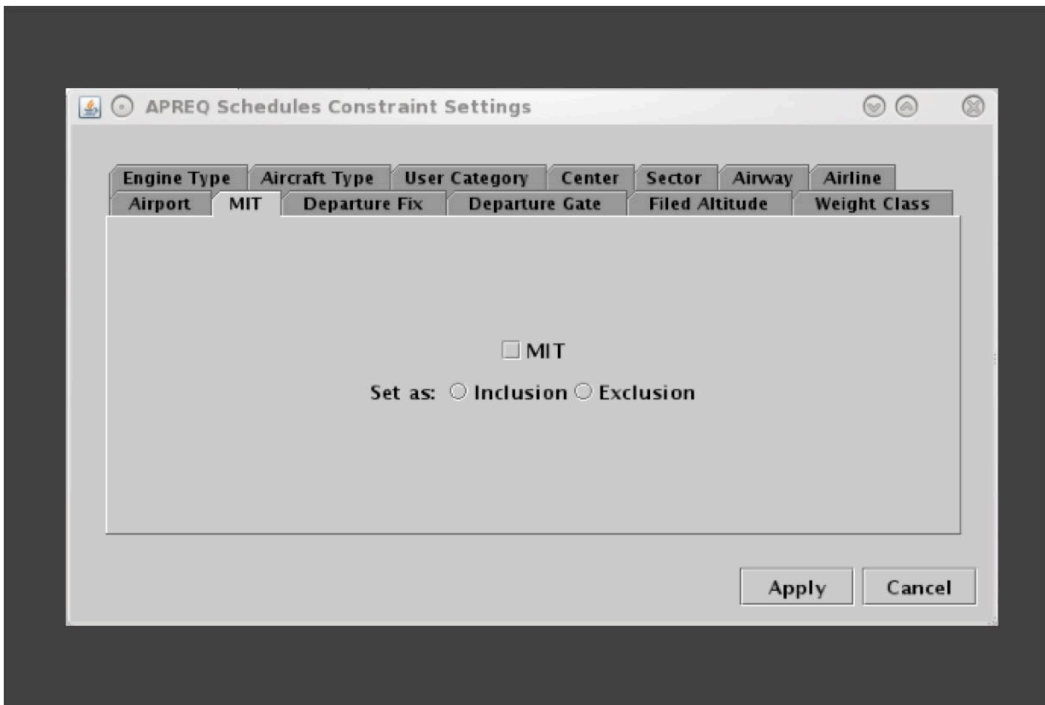
### **3.1.7.5.11 Constraint: Miles-in-Trail (MIT)**

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 3.68). See Section 3.1.7.1 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 3.68. Constraint: Miles-in-Trail (MIT).**

See Section 3.1.7.3 for a description of how to *modify* constraints and Section 3.1.7.4 for a description of how to *remove* constraints.

### **3.1.7.5.12 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 3.69). 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 3.1.7.1 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.

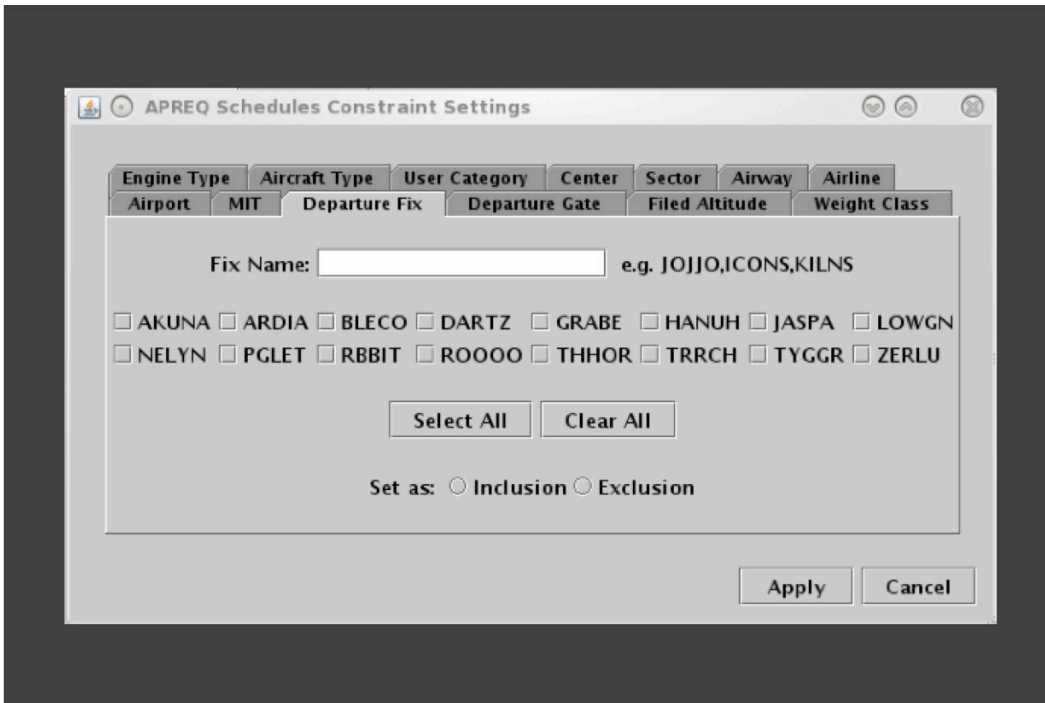


Figure 3.69. Constraint: Departure Fix.

See Section 3.1.7.3 for a description of how to *modify* constraints and Section 3.1.7.4 for a description of how to *remove* constraints.

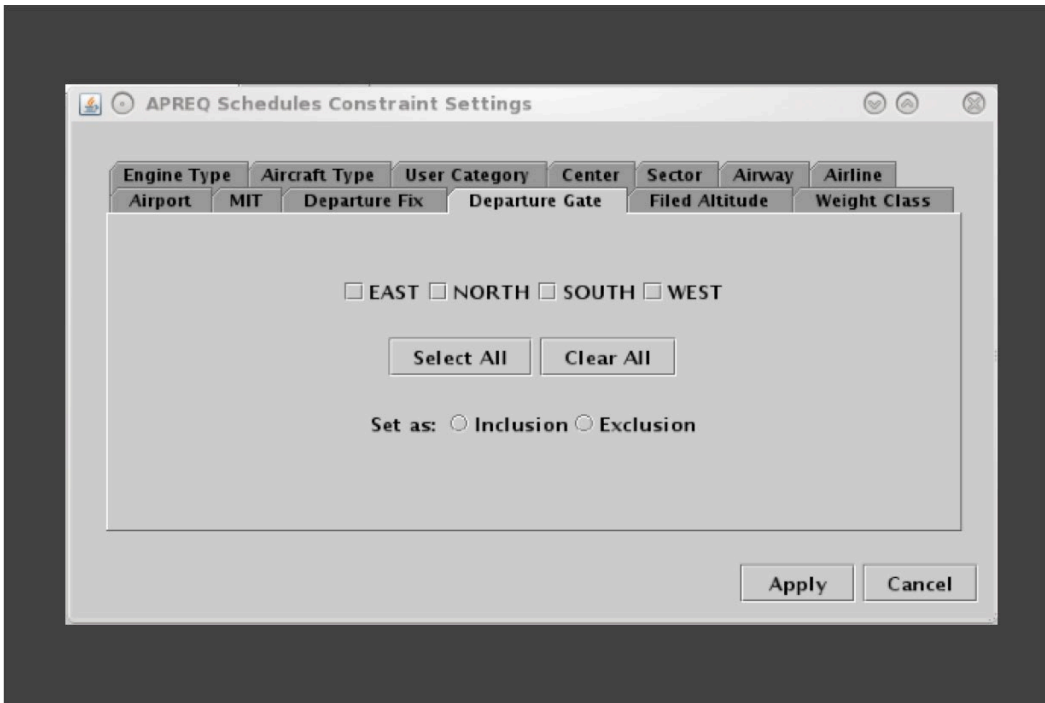
### 3.1.7.5.13 Constraint: Departure Gate

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 3.70). 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 3.1.7.1 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 3.70. Constraint: Departure Gate.**

See Section 3.1.7.3 for a description of how to *modify* constraints and Section 3.1.7.4 for a description of how to *remove* constraints.

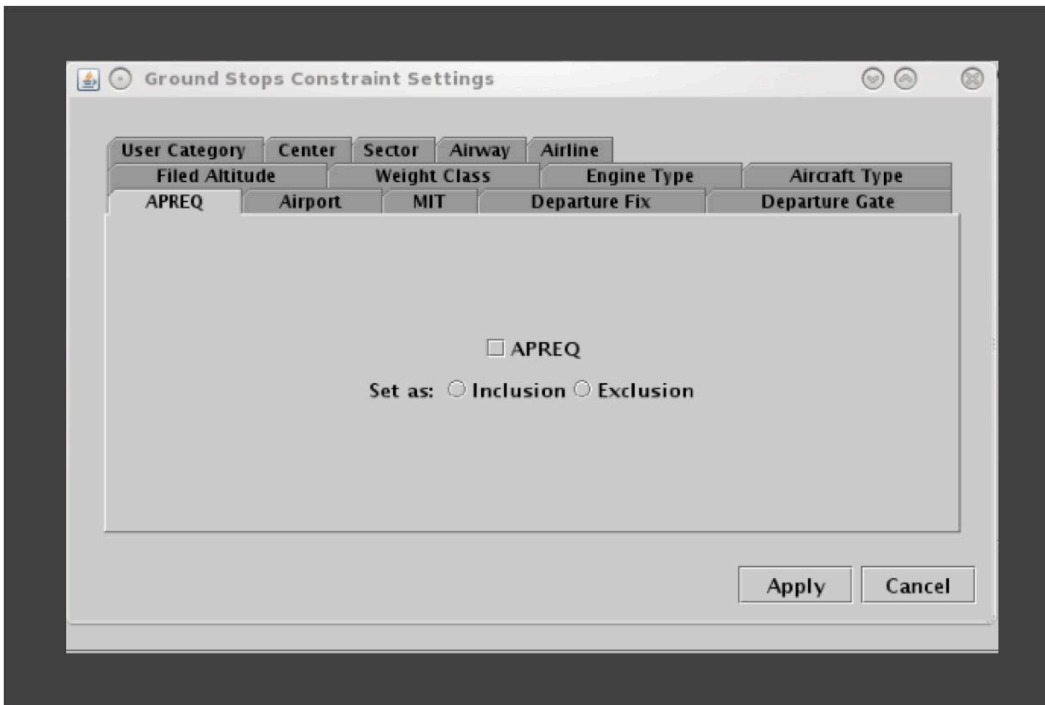
### 3.1.7.5.14 Constraint: APREQ

The following TMI restrictions can be constrained by APREQ.

- MIT Restriction
- Departure Fix Closure
- Ground Stop

To apply an APREQ constraint, select “APREQ” (Figure 3.71). See Section 3.1.7.1 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 3.71. Constraint: APREQ.**

See Section 3.1.7.3 for a description of how to *modify* constraints and Section 3.1.7.4 for a description of how to *remove* constraints.

### **3.1.7.5.15 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 3.72). To enter more than one airport, separate airport codes with a comma, but no space (e.g., “DFW,LGA,BOS” in Figure 3.72). 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 3.1.7.1 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.

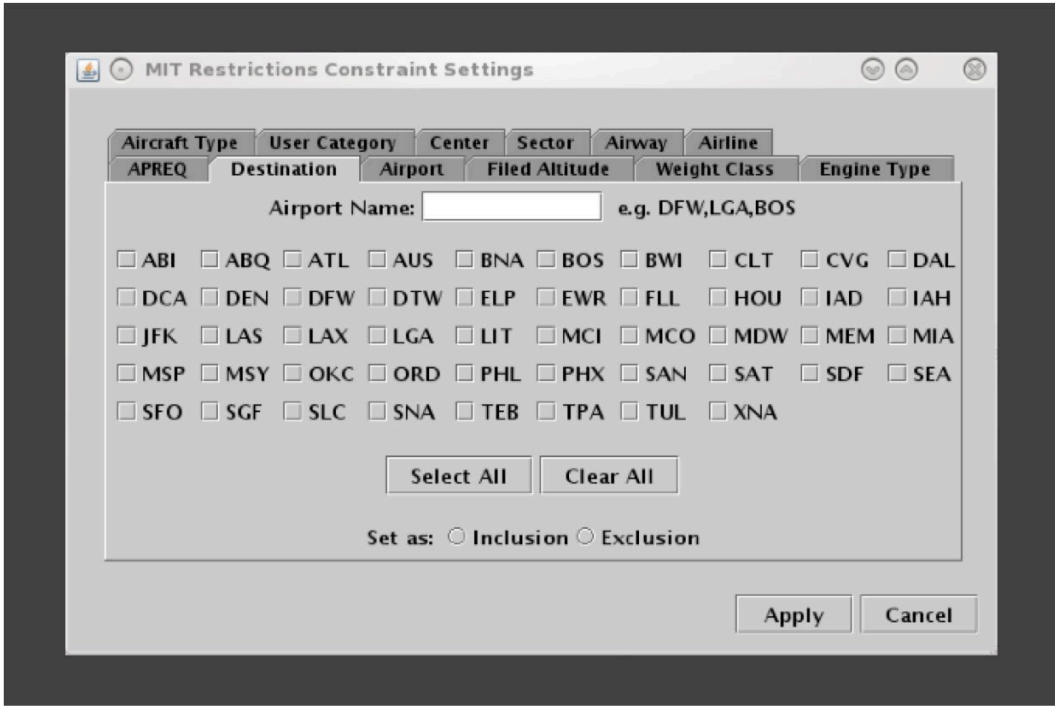


Figure 3.72. Constraint: Destination.

See Section 3.1.7.3 for a description of how to *modify* constraints and Section 3.1.7.4 for a description of how to *remove* constraints.

### 3.1.8 TM Actions: Runway Utilization Tab

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

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

**To view the current Configuration and Runway Utilization settings:**

**Step 1:** Select “Runway Utilization” from the TM Actions dropdown menu (Figure 3.73) to open the Runway Utilization tab (Figure 3.74).

**Note:** *The current airport configuration and runway utilization (taxi plan) are displayed in the Runway Utilization table. In Figure 3.75, for example, the current configuration and the runway utilization (taxi plan) are D\_18L\_18R\_17R\_17C\_13L\_A\_18R\_17C\_17L\_13R and S\_Normal. In this example, the current settings started at 1747 UTC.*



Figure 3.73. TM Actions menu: Runway Utilization.

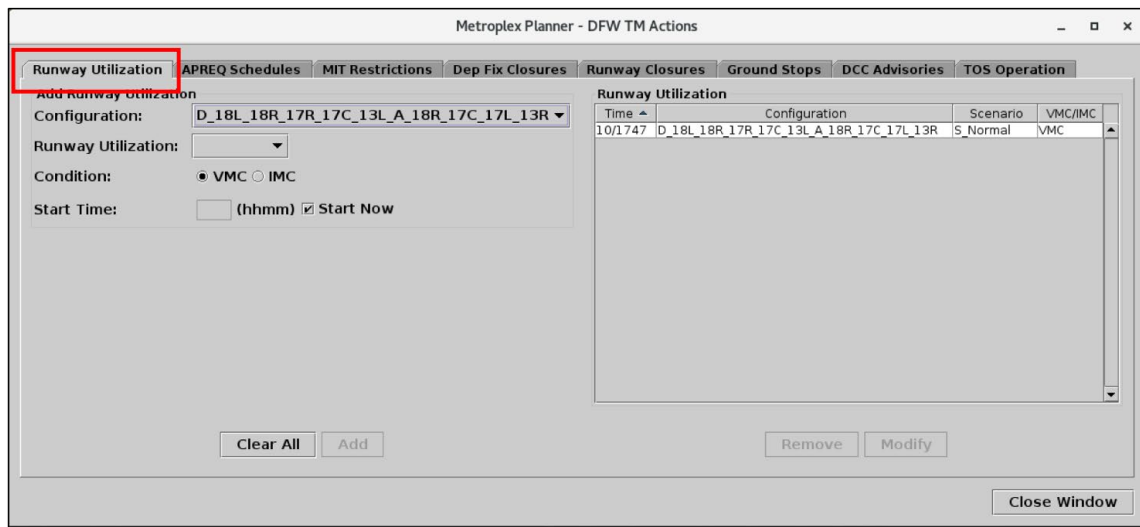


Figure 3.74. TM Actions panel: Runway Utilization tab (ATC versions of the Metroplex Planner).

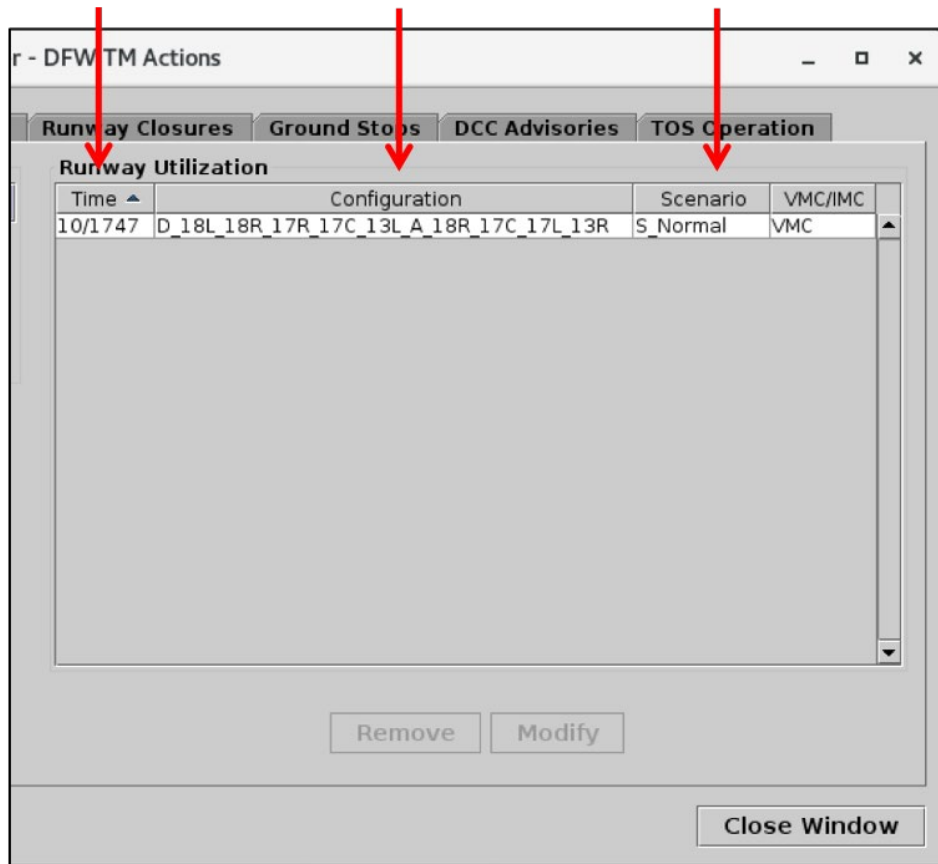


Figure 3.75. Runway Utilization table: Current configuration and runway utilization (taxi plan).



### 3.1.8.1 Make an Immediate Change

Use the Runway Utilization tab to make an *immediate* change to the current airport configuration and/or runway utilization.

#### To make an *immediate* change to the Configuration and Runway Utilization:

**Step 1:** Select “Runway Utilization” from the TM Actions dropdown menu (Figure 3.73) to open the Runway Utilization tab (Figure 3.74).

**Step 2 (if applicable):** Select an airport from the “Airport” dropdown menu (not shown in Figure 3.76). *\*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\_A\_35R\_35C\_36L\_31R” in Figure 3.76). *\*Options vary by airport.*

**Step 4:** Select a taxi plan from the “Runway Utilization” dropdown menu (e.g., “N\_Normal” in Figure 3.76). *\*Options vary by airport.*

**Step 5:** Select a meteorological condition: VMC or IMC (e.g., “VMC” in Figure 3.76).

**Step 6:** For the change to take effect immediately, check “Start Now” (Figure 3.76).

**Step 7:** Select the “Add” button (Figure 3.76).

**Note:** *When “Start Now” is selected, the change takes effect immediately. The new configuration and runway utilization replace the previous settings in the Runway Utilization table (Figure 3.77).*

**Note:** *A configuration and/or runway utilization change is indicated on the Timeline with “CC” in red (Figure 3.78) and in the Notification Banner on the Toolbar (Figure 3.79). The current runway utilization (taxi plan) is displayed in a text field on the Toolbar (Figure 3.80).*

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

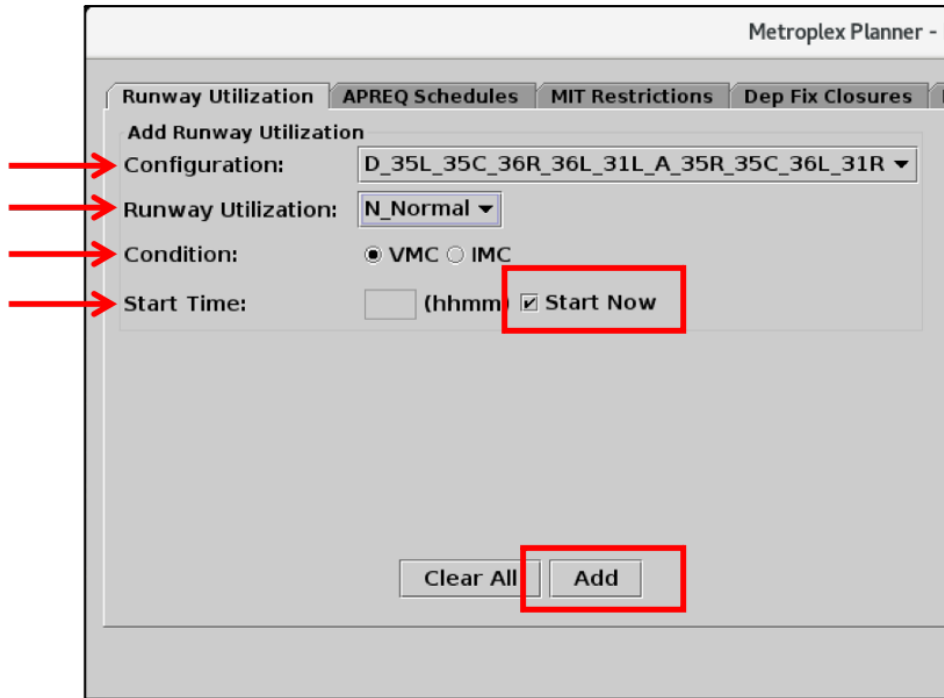


Figure 3.76. Runway Utilization tab: For a change to take effect immediately, select “Start Now.”

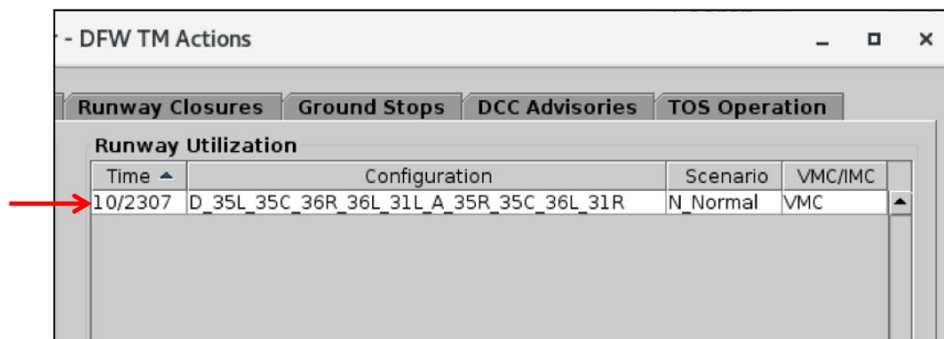


Figure 3.77. Runway Utilization table: New configuration and runway utilization.

As shown in Figure 3.78, when the configuration and runway utilization are changed, “CC”, for “Configuration Change”, is displayed in red, on the timeline (see Section 6 for a detailed description of the timeline). When the change is scheduled to start immediately (“Start Now”), “CC” appears at “now” time.

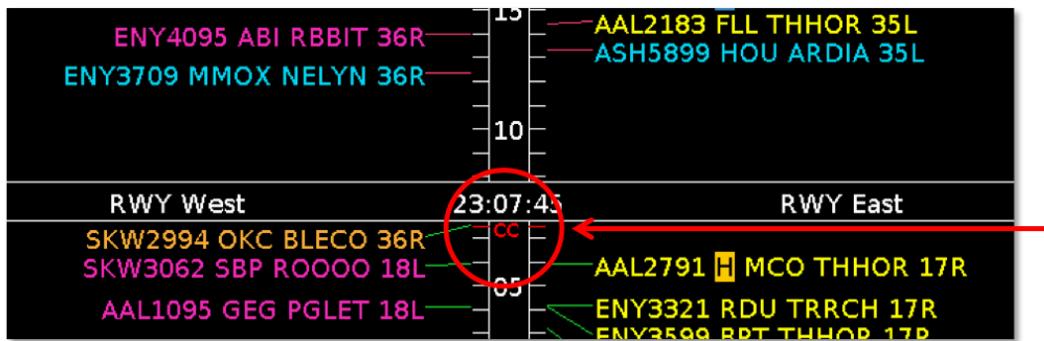


Figure 3.78. Configuration and runway utilization changes are indicated on the timeline with “CC”, for “Configuration Change”, in red.

As shown in Figure 3.79, configuration and runway utilization changes are also indicated in the Notification Banner (see Section 3.8 for a description of Notifications).



Figure 3.79. Configuration and runway utilization changes are indicated on the Notification Banner.

As shown in Figure 3.80, the current runway utilization (taxi plan) is indicated on the Toolbar.

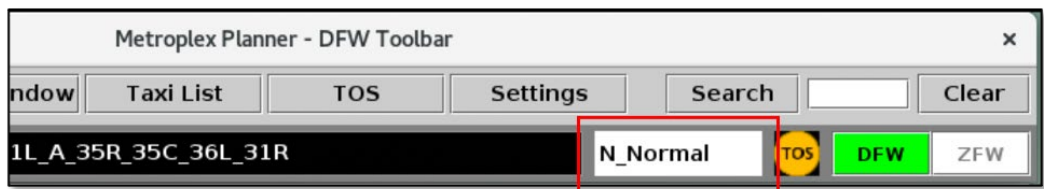


Figure 3.80. The current runway utilization (taxi plan) is displayed on the Toolbar.

### 3.1.8.2 Schedule a Future Change

Use the Runway Utilization tab to schedule a *future* airport configuration and/or runway utilization change.

#### To schedule a *future* Configuration and Runway Utilization change:

**Step 1:** Select “Runway Utilization” from the TM Actions dropdown menu (Figure 3.73) to open the Runway Utilization tab (Figure 3.74).

**Step 2 (if applicable):** Select an airport from the “Airport” dropdown menu (not shown in Figure 3.81). *\*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\_18L\_18R\_17R\_17C\_13L\_A\_18R\_17C\_17L\_13R” in Figure 3.81). *\*Options vary by airport.*

**Step 4:** Select a taxi plan from the “Runway Utilization” dropdown menu (e.g., “S\_E+2N” in Figure 3.81). *\*Options vary by airport.*

**Step 5:** Select a meteorological condition: VMC or IMC (e.g., “VMC” in Figure 3.81).

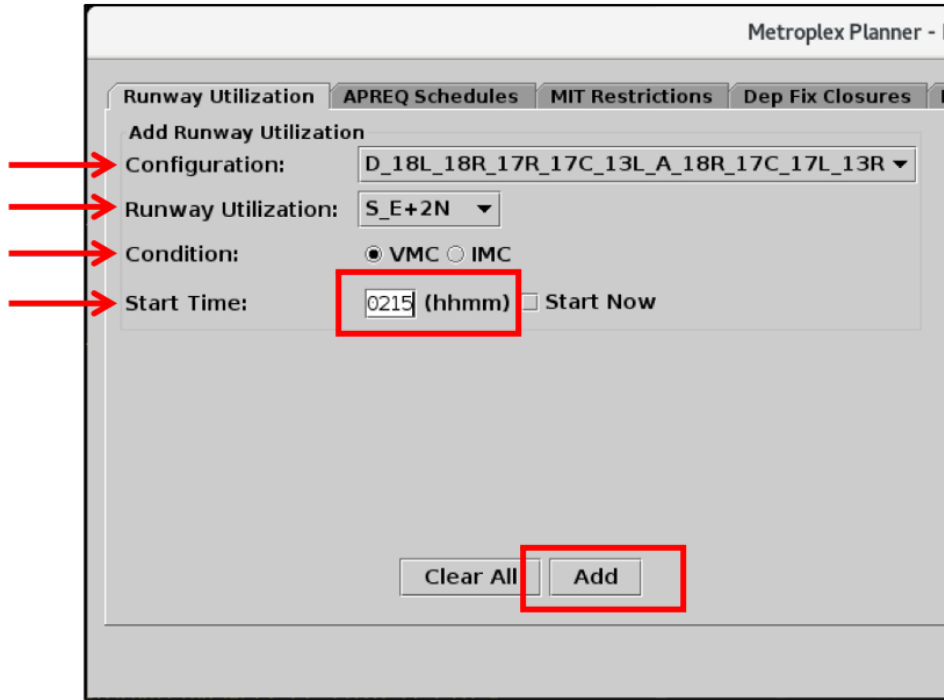
**Step 6:** To schedule a future change, uncheck “Start Now” and enter the planned start time (*hhmm* UTC) (e.g., 0215 in Figure 3.81).

**Step 7:** Select the “Add” button (Figure 3.81).

**Note:** *The future configuration and runway utilization change is displayed in the Runway Utilization table (Figure 3.82).*

**Note:** *A planned change is indicated on the Timeline at the scheduled time with “CC” in red (Figure 3.83) and in the Notification Banner on the Toolbar with the planned start time (Figure 3.84).*

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



**Figure 3.81. Runway Utilization tab: For a planned change, enter the scheduled start time (in this example, 0215 UTC).**

Time	Configuration	Scenario	VMC/IMC
11/0007	D_18L_18R_17R_17C_13L_A_18R_17C_17L_13R	S_ABE	VMC
11/0215	D_18L_18R_17R_17C_13L_A_18R_17C_17L_13R	S_E+2N	VMC

**Figure 3.82. The planned change is shown in the Runway Utilization table. In this example, the planned runway utilization change (i.e., S\_E+2N) is scheduled to start at 0215 UTC.**

As shown in Figure 3.83, when the configuration and runway utilization is changed, “CC” for “Configuration Change”, is displayed, in red, on the timeline (see Section 6 for a detailed description of the timeline). When the change is scheduled to start in the future, “CC” is displayed at the planned start time (e.g., 0215 UTC in Figure 3.83).

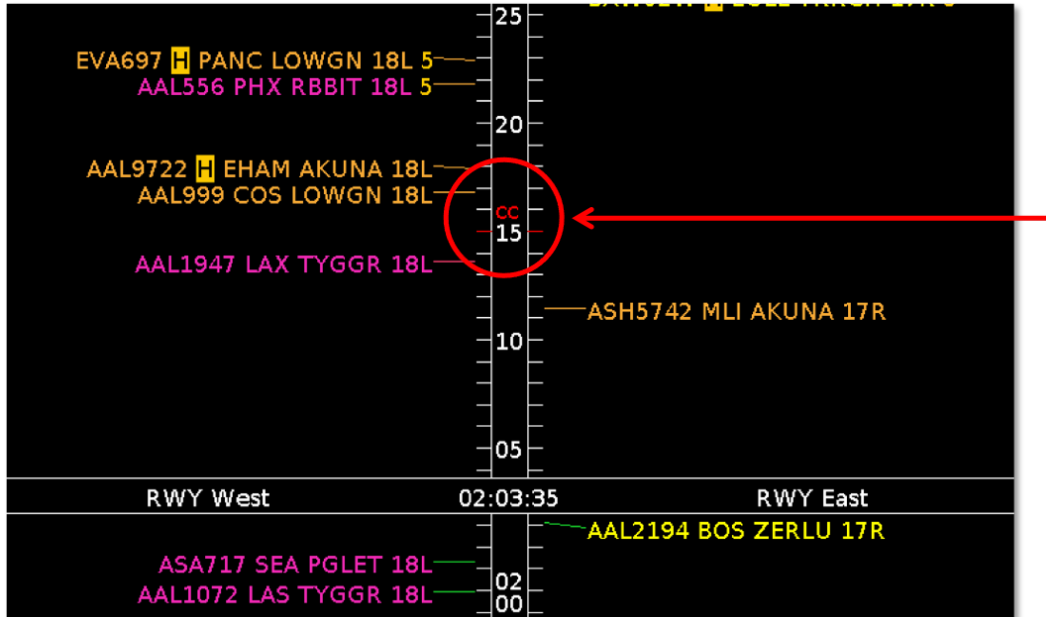


Figure 3.83. Configuration and runway utilization changes are indicated on the Timeline with “CC”, for “Configuration Change”, in red. Planned changes are displayed at their scheduled start time (in this example, 0215 UTC).

As shown in Figure 3.84, *planned* configuration and runway utilization changes are also indicated in the Notification Banner on the Toolbar followed by their scheduled start time (e.g., 0215 UTC in Figure 3.84).

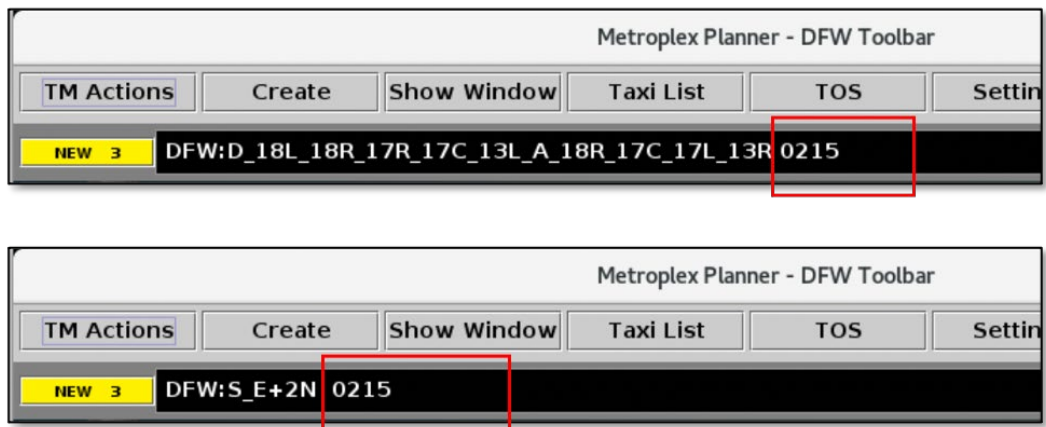


Figure 3.84. Planned configuration and runway utilization changes are indicated on the Notification Banner with their scheduled start time (in this example, 0215 UTC).

### 3.1.8.3 Schedule Multiple Changes

Use the Runway Utilization tab to schedule *multiple* airport configuration and runway utilization changes. More than one future change can be scheduled in advance. For example in Figure 3.85, D\_35L\_35C\_36R\_36L\_31L\_A\_35R\_35C\_36L\_31R and N\_Normal are the current settings and they started at 2046 UTC.

A planned runway utilization change to “N\_E+N” is scheduled to start at 2255 UTC. A, second, future change, to N\_E+2N, is scheduled to start at 2330 UTC.

Time	Configuration	Scenario	VMC/IMC
11/2046	D_35L_35C_36R_36L_31L_A_35R_35C_36L_31R	N_Normal	VMC
11/2255	D_35L_35C_36R_36L_31L_A_35R_35C_36L_31R	N_E+N	VMC
11/2330	D_35L_35C_36R_36L_31L_A_35R_35C_36L_31R	N_E+2N	VMC

Figure 3.85. Multiple future configuration and runway utilization changes can be scheduled in advance. In this example, two future runway utilization changes are scheduled at 2255 UTC and 2330 UTC.

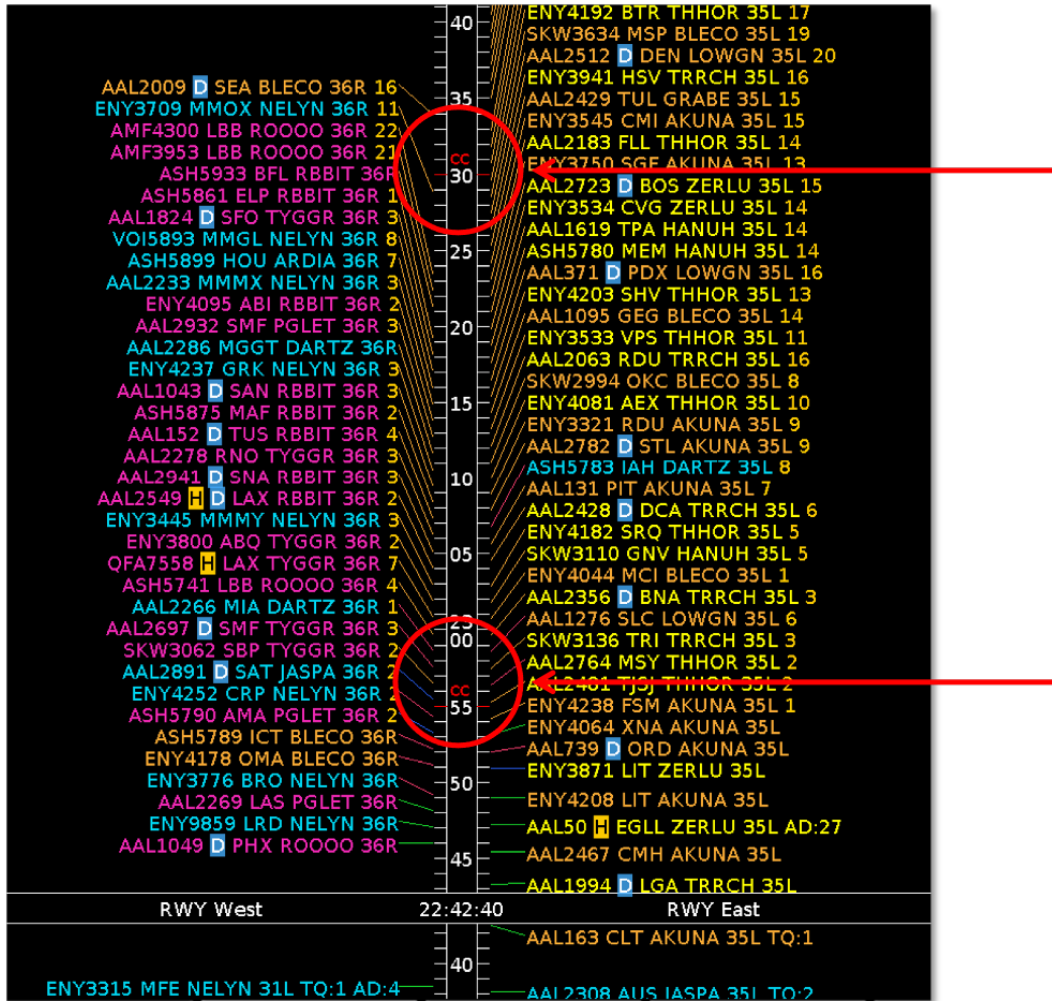


Figure 3.86. Planned configuration and runway utilization changes are indicated on the Timeline with “CC” in red. In this example, two future changes are scheduled at 2255 UTC and 2330 UTC.

As shown in Figure 3.84, above, configuration and runway utilization changes are also indicated in the Notification Banner on the Toolbar with their scheduled start time.



### 3.1.8.4 Modify a Future Change

Use the Runway Utilization tab to modify a *planned* airport configuration and runway utilization change.

**To modify a *planned* Configuration and Runway Utilization change:**

**Note:** *The current configuration and runway utilization cannot be modified. However, a change scheduled to start in the future can be modified using the following steps:*

**Step 1:** Select “Runway Utilization” from the TM Actions dropdown menu (Figure 3.73) to open the Runway Utilization tab (Figure 3.74).

**Step 2:** Select a planned change from the Runway Utilization table. In Figure 3.87, the runway utilization change for N\_W+2S, scheduled to start at 0215 UTC, is selected.

**Step 3:** Select “Modify” (Figure 3.87).

**Step 4:** For the a planned change, the following criteria can be modified:

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

In Figure 3.88, the runway utilization has been changed to N\_ABW and the start time has been changed 0230 UTC.

**Note:** *The airport configuration (e.g., D\_35L\_35C\_36R\_36L\_31L\_A\_35R\_35C\_36L\_31R) cannot be modified.*

**Step 5:** When changes are complete, select “Update” (Figure 3.88).

**Note:** *Updates to the planned change are reflected in the Runway Utilization table (Figure 3.89).*

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

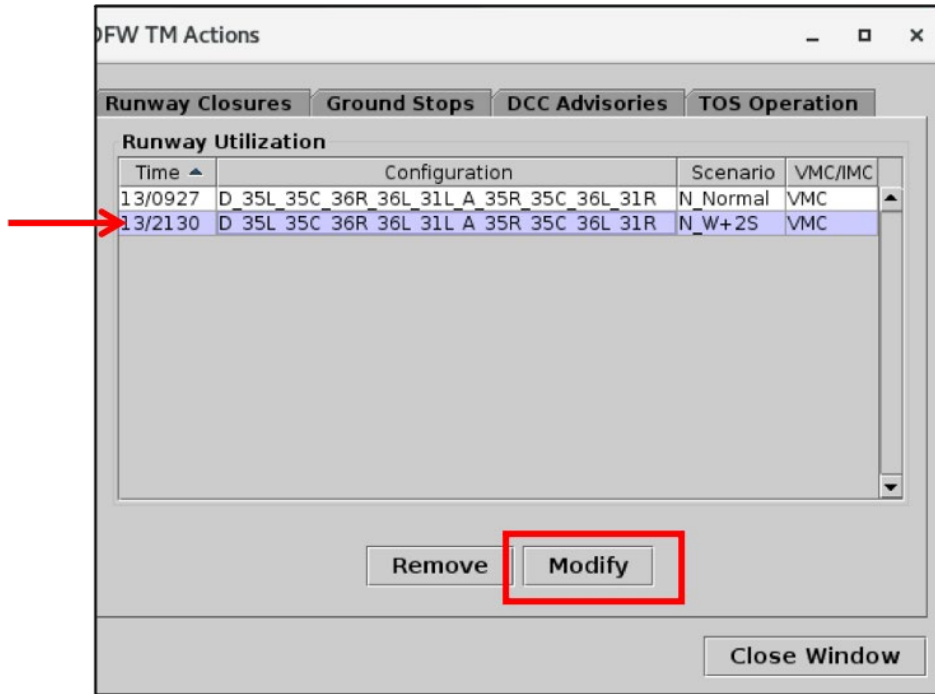


Figure 3.87. Modify a planned runway utilization.

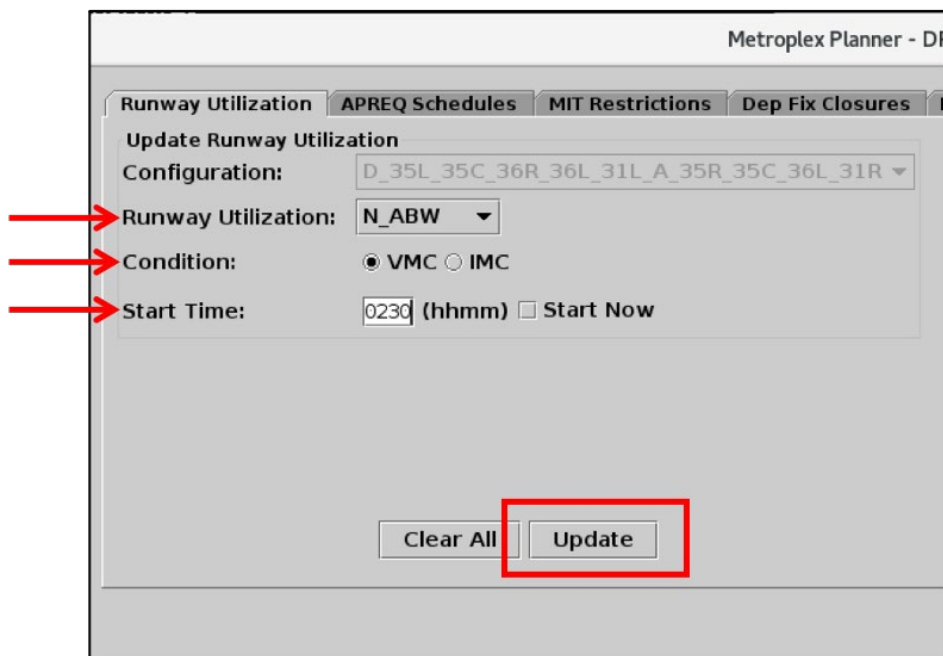


Figure 3.88. Modify the runway utilization or start time of a planned change. Select "Update" to apply the changes.

Time	Configuration	Scenario	VMC/IMC
13/0927	D_35L_35C_36R_36L_31L_A_35R_35C_36L_31R	N_Normal	VMC
15/0230	D_35L_35C_36R_36L_31L_A_35R_35C_36L_31R	N_ABW	VMC

Figure 3.89. Updates to the planned change are reflected in the Runway Utilization table. In this example, the planned change (i.e., N\_ABW) is now scheduled to start at 0230 UTC.

Changes to a planned runway utilization are reflected in the Notification Banner and on the Timeline, as described earlier in this section.

### 3.1.8.5 Remove a Future Change

Use the Runway Utilization tab to remove a *planned* airport configuration and runway utilization change.

**To remove a *planned* Configuration and Runway Utilization change:**

**Note:** The current configuration and runway utilization cannot be removed. However, a change scheduled to start in the future can be removed using the following steps:

- Step 1:** Select “Runway Utilization” from the TM Actions dropdown menu (Figure 3.73) to open the Runway Utilization tab (Figure 3.74).
- Step 2:** Select a planned change from the Runway Utilization table. In Figure 3.90, the runway utilization change for N\_E+N, scheduled to start at 1915 UTC, is selected.
- Step 3:** Select “Remove” (Figure 3.90).

**Note:** The planned change is removed from the Runway Utilization table (Figure 3.91).

**Note:** When a planned change is removed, the cancellation is indicated in the “Details” column of the Notification Panel (Figure 3.92).

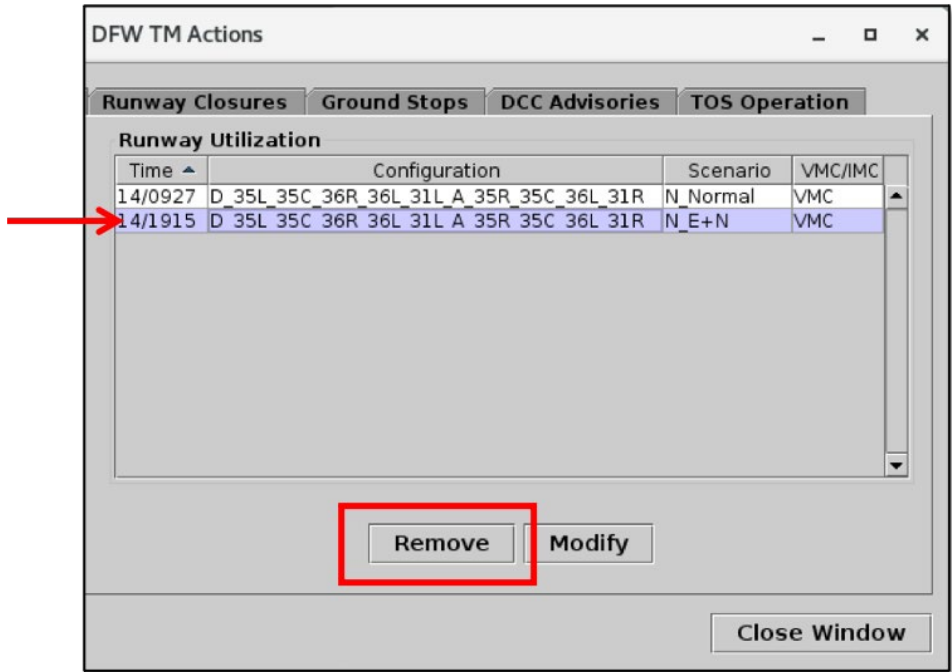


Figure 3.90. Remove a planned configuration and runway utilization change.

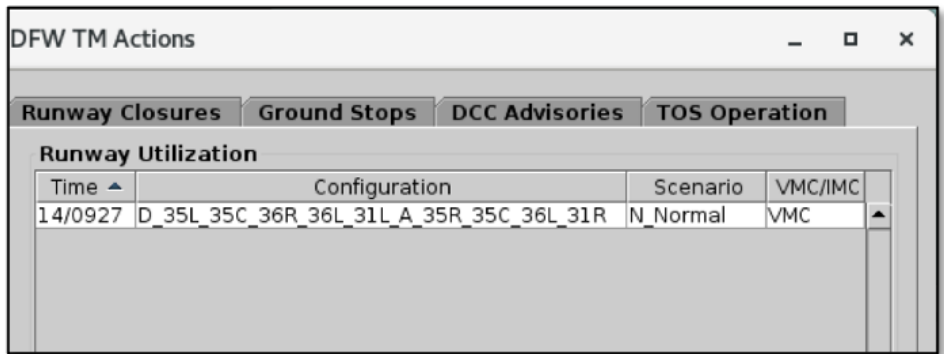


Figure 3.91. When a planned change is removed, the Runway Utilization table is updated.

As shown in Figure 3.92, when a *planned* configuration and runway utilization change is removed, the cancellation is indicated in the “Details” column of the Notification Panel (see Section 3.8.3 for a description of the Notification Panel). In this example, “MP DFW” indicates that the change was cancelled by an ATD-2 user in the DFW Tower (Figure 3.92).

Reported	Event Type	Description	Event Start	Event End	Details
12/14/20 1830	Airport	N_E+N	12/14/20 1915	12/14/20 1832	Cancelled by MP DFW
12/14/20 1830	Airport	D_35L_35C_36R_36L_3...	12/14/20 1915	12/14/20 1832	Cancelled by MP DFW

**Figure 3.92.** When a planned change is removed, the cancellation is indicated in the “Details” column of Notification Panel. In this example, an ATD-2 user (DFW Tower) removed the planned change.

### 3.1.9 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.

#### To add a Runway Closure:

**Step 1:** Select “Runway Closure” from the TM Actions dropdown menu (Figure 3.93) to open the Runway Closures tab (Figure 3.94).

**Step 2 (if applicable):** Select an airport from the “Airport” dropdown menu (not shown in Figure 3.95). *\*Airport selection is not required in all versions.*

**Step 3:** Select a Runway from the dropdown menu (e.g., “18R/36L” in Figure 3.95).

**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 3.95).

**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 3.95). The long-term runway closure will remain in place until removed by the user.

**Step 6:** Select the “Add” button (Figure 3.95).

**Note:** *User-added Runway closures are displayed in the Runway Closures table with “User” indicated as “Source” (Figure 3.96).*

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



Figure 3.93. TM Actions menu: Runway Closures.

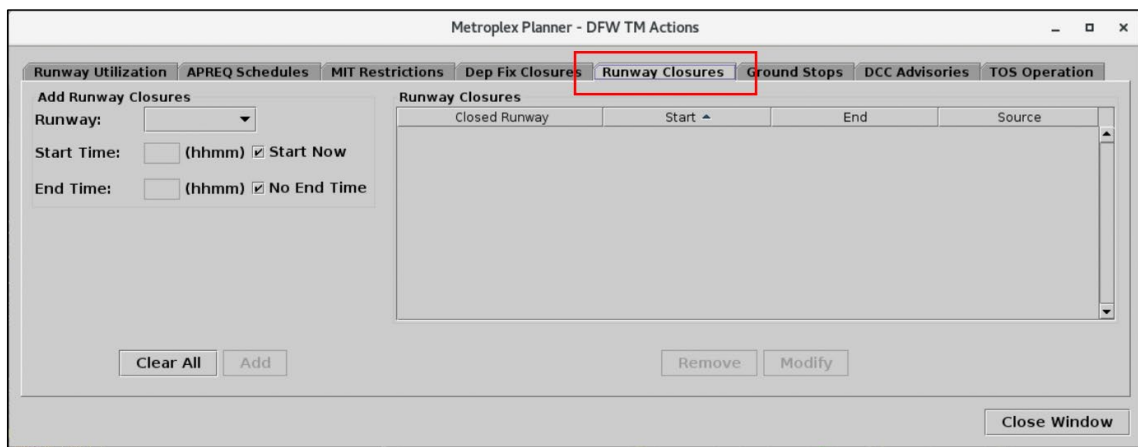


Figure 3.94. TM Actions panel: Runway Closures tab (ATC versions of the Metroplex Planner).

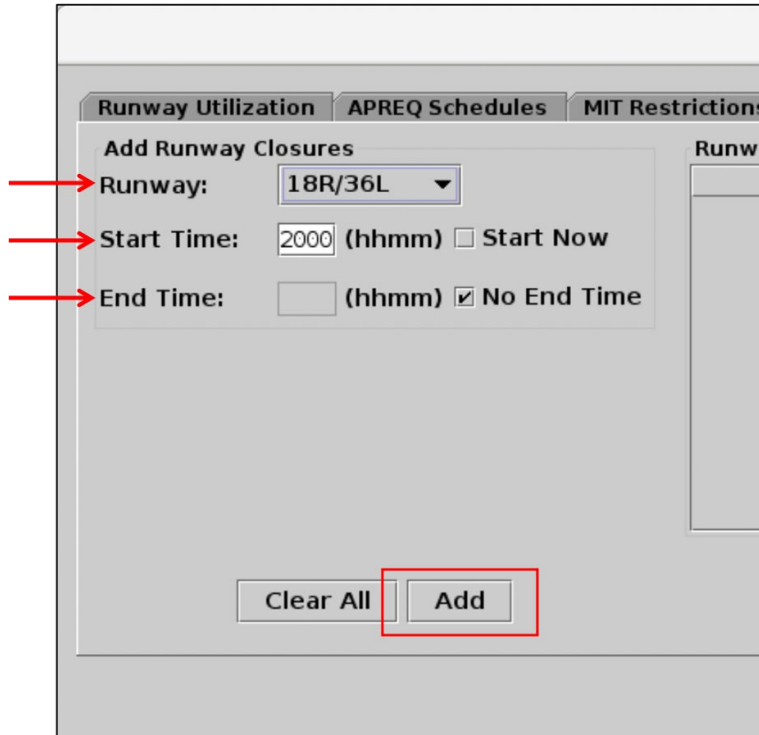


Figure 3.95. Runway Closures tab: Enter criteria.

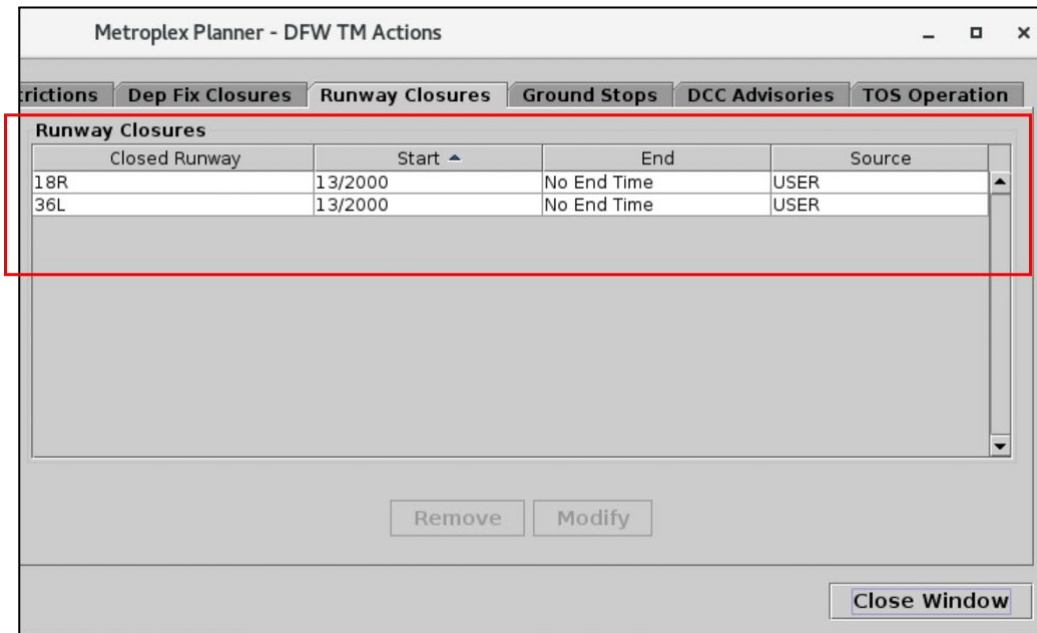


Figure 3.96. Runway Closures table.

Runway closures are indicated in the Notification Banner (e.g., “18R CLOSED” in Figure 3.96). A new notification is displayed for each runway closure.

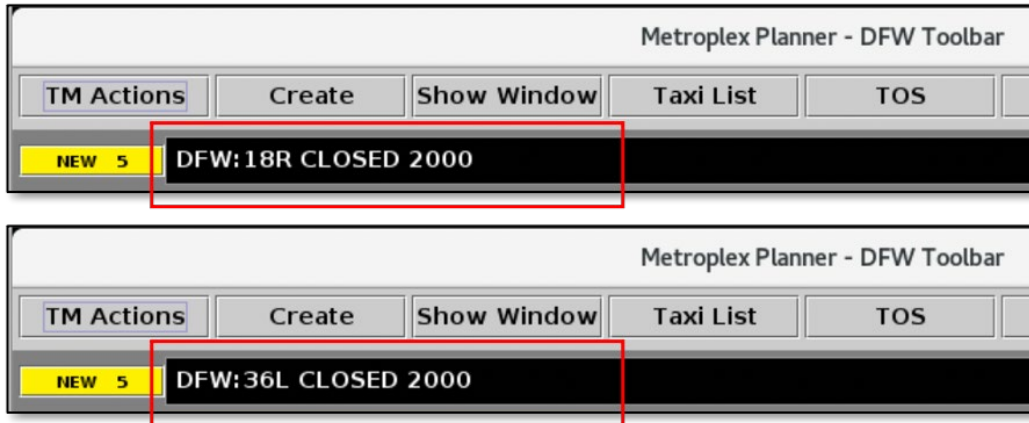


Figure 3.97. Runway Closure in the Notification Banner. In this example, Runway 18R/36L is scheduled to close at 2000 UTC.

See Section 4.7.2 for a description of how runway closures are displayed on the map.

**To modify a scheduled or current Runway Closure:**

**Step 1:** Select “Runway Closure” from the TM Actions dropdown menu (Figure 3.93) to open the Runway Closures tab (Figure 3.94).

**Step 2:** Select the runway from the Runway Closures table (e.g., “18R/36L” in Figure 3.98).

**Step 3:** Select “Modify” (Figure 3.98) to change:

- Start Time\*
- End Time

In Figure 3.99, the Start Time of the scheduled runway closure is changed from 2000 to 2100 UTC and the End Time is changed from “No End Time” to 2300 UTC.

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

**Step 4:** When changes are complete, select “Update” (Figure 3.99).



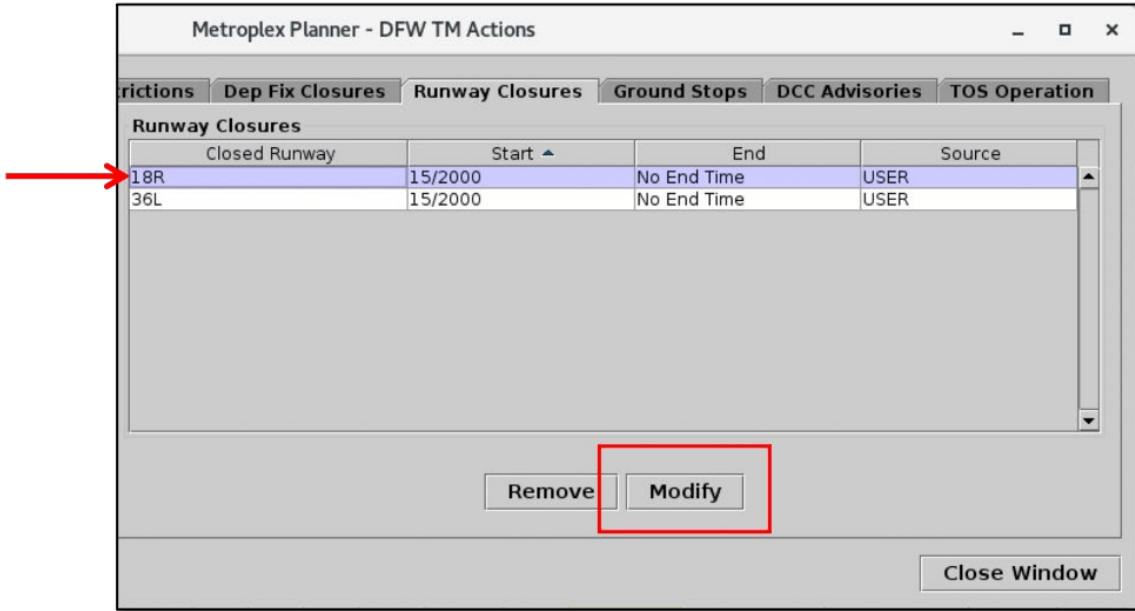


Figure 3.98. Modify a Runway Closure. In this example, the modification will apply to runway 18R/36L.

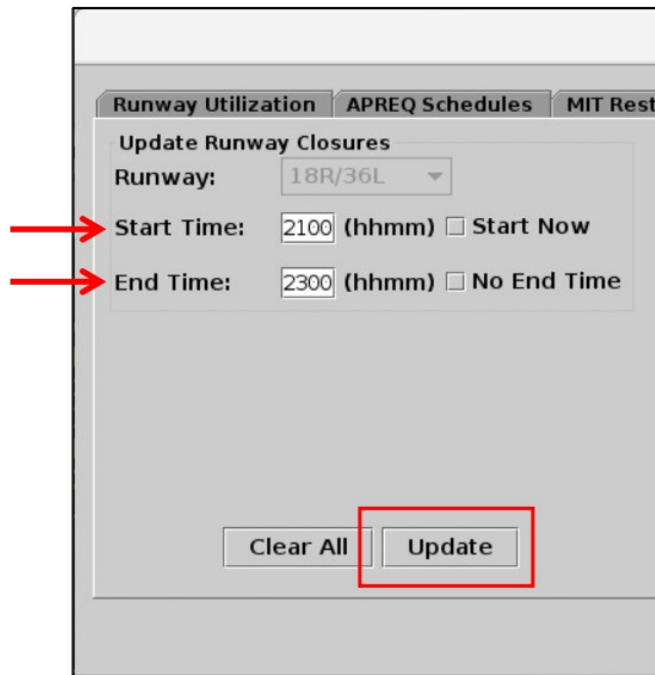


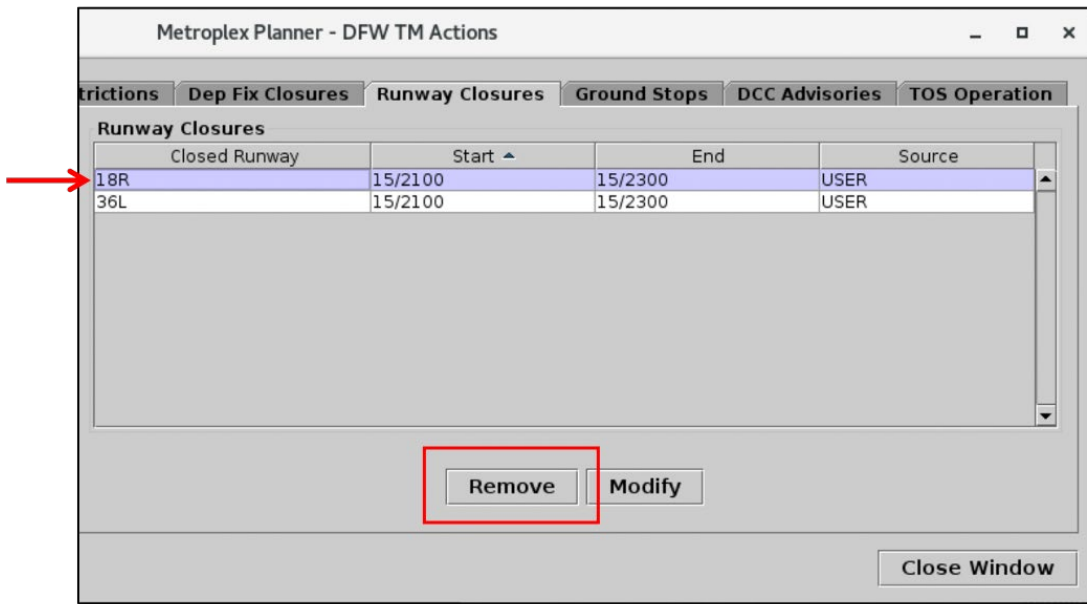
Figure 3.99. Select “Update” to apply changes. In this example, the Start Time and End Time of a scheduled closure are modified.

**To remove a scheduled or current Runway Closure:**

**Step 1:** Select “Runway Closure” from the TM Actions dropdown menu (Figure 3.93) to open the Runway Closures tab (Figure 3.94).

**Step 2:** Select the runway from the Runway Closures table (e.g., “18R/36L” in Figure 3.100).

**Step 3:** Select “Remove” (Figure 3.100).



**Figure 3.100. Remove a Runway Closure. In this example, runway 18R/36L will be reopened.**

Runway Closure expirations/cancellations are indicated in the Notification Banner (e.g., “18R OPENED” in Figure 3.101). See Section 3.8 for description of the Notification Banner.



Figure 3.101. Runway closure expiration/cancellation is indicated in the Notification Banner. In this example, runway 18R/36L is reopened.

### 3.1.10 TM Actions: DCC Advisories Tab

Use the “DCC Advisories” tab to view advisories issued by the FAA Air Traffic Control System Command Center (ATCSCC; “DCC”) (Figure 3.103). The ATD-2 Metroplex Planner automatically parses (reads) DCC advisories from the TFM SWIM data feed. A DCC advisory is displayed on this tab when:

- The advisory has a **required reroute** with an origin center matching ZFW, ZHU, ZME, ZAB, or ZKC that restricts one, or more, of the CDRs used for ATD-2 TOS reroutes.

In contrast, the following advisories are not displayed on the DCC Advisories tab:

- The advisory is associated with airspace that has a **Flow Constrained Area (FCA)** that one, or more, of the CDRs listed on this tab traverses.
- The advisory is associated with an **Airspace Flow Program (AFP) based on a Flow Constrained Area (FCA)** that one, or more, of the CDRs listed on this tab traverses.

(These two types of advisories are included on the TOS Operation tab, see Section 3.1.11.4.3.2 for a description of Parsed DCC Advisories).

**To view the DCC Advisories tab:**

**Step 1:** Select “DCC Advisories” from the TM Actions dropdown menu (Figure 3.102) to open the DCC Advisories tab (Figure 3.103).

**Note:** Both active and scheduled advisories are displayed on this tab.

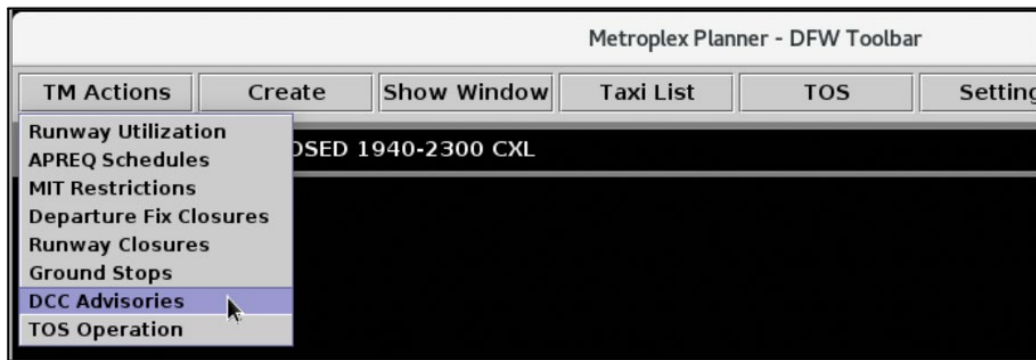


Figure 3.102. TM Actions menu: DCC Advisories.

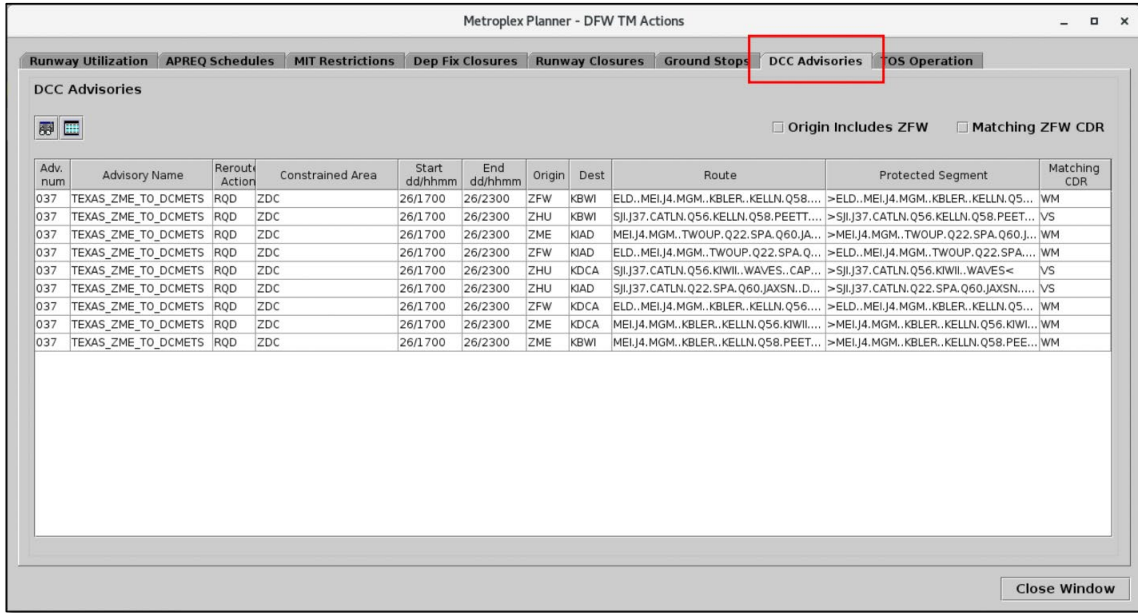


Figure 3.103. DCC Advisories tab on the TM Actions panel.

### 3.1.10.1 DCC Advisories Table: Toolbar

Use the toolbar to configure and filter the DCC Advisories table (Figure 3.104):

- Show/Hide Columns (Section 3.1.10.1.1)
- Table Color Settings (Section 3.1.10.1.2)
- Filter Options (Section 3.1.10.1.3)

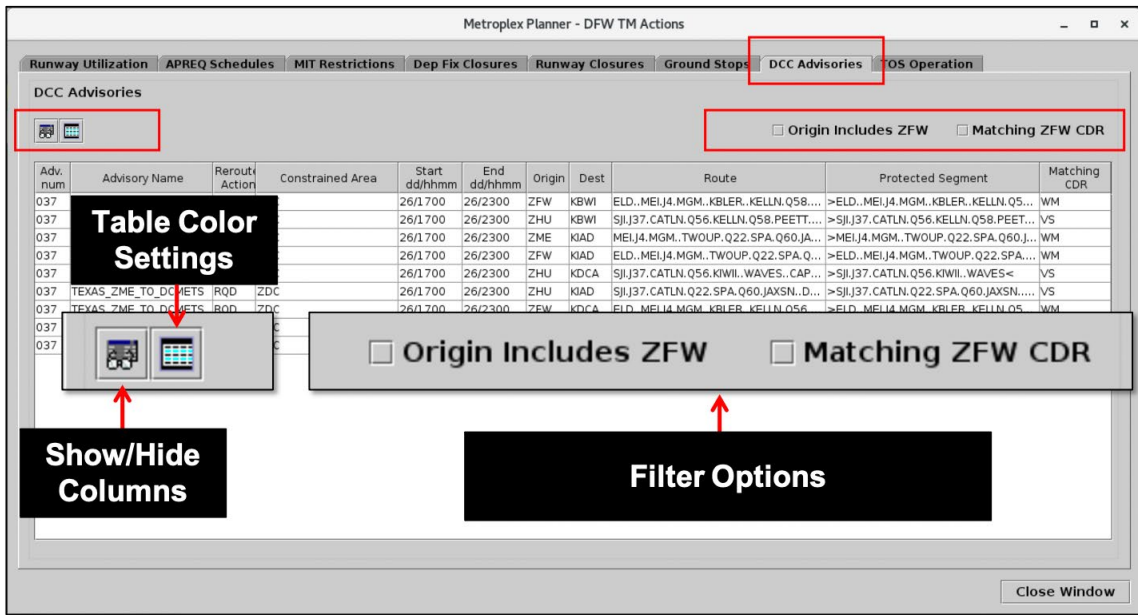


Figure 3.104. DCC Advisories tab: Toolbar.

### 3.1.10.1.1 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 DCC Advisories table.

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

**Table 3.3. DCC Advisories Table: Show/Hide Columns**

<b>Column Header</b>	<b>Description</b>
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

**To add and reorder columns in the DCC Advisories table:**

**Step 1:** Select “DCC Advisories” from the TM Actions dropdown menu (Figure 3.102) to open the DCC Advisories tab (Figure 3.103).

**Step 2:** Select the “Show/Hide Columns” icon (Figure 3.104) to open the Column Settings window.

**Note:** Two lists are shown in the Column Settings window (Figure 3.105):

- **On the left, “Available”, columns that are not currently displayed in the table.**
- **On the right, “Shown”, columns currently displayed in the table.**

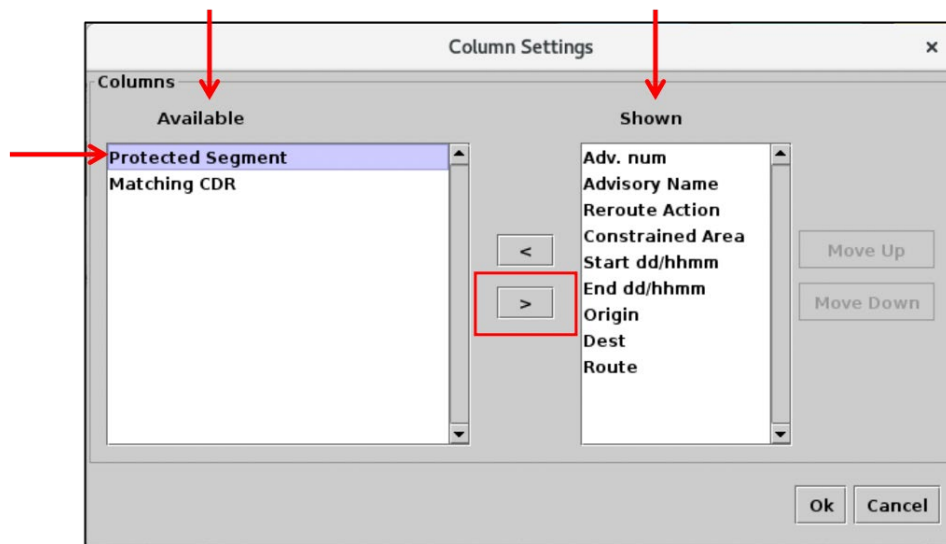
**Step 3:** Select a column in the “Available” list (e.g., “Protected Segment” in Figure 3.105).

**Step 4:** Select the right arrow to move the column to the “Shown” list (Figure 3.105).

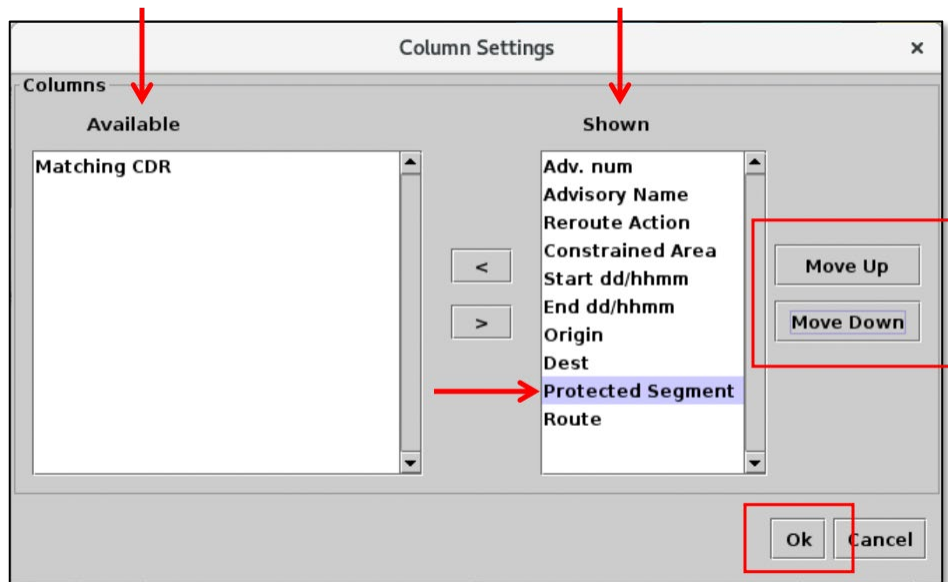
**Step 5 (Optional):** Select a column in the “Shown” list and use the “Move Up” and “Move Down” buttons to reorder the columns (Figure 3.106).

**Step 6:** When complete, select “OK” to close the Column Settings window (Figure 3.106).

**Alternatively:** Select “Cancel” to cancel the pending changes and close the Column Settings window.



**Figure 3.105. DCC Advisories table: Column Settings. Use the right arrow to add a column.**



**Figure 3.106. DCC Advisories table: Column Settings. Use the “Move Up” and “Move Down” buttons to reorder columns.**

**To remove a column from the DCC Advisories table:**

- Step 1:** Select “DCC Advisories” from the TM Actions dropdown menu (Figure 3.102) to open the DCC Advisories tab (Figure 3.103).
- Step 2:** Select the “Show/Hide Columns” icon (Figure 3.104) to open the Column Settings window.
- Step 3:** Select a column in the “Shown” list (e.g., “Route” in Figure 3.107).
- Step 4:** Select the left arrow to move the column to the “Available” list (Figure 3.107).
- Step 5:** When complete, select “OK” to close the Column Settings window (Figure 3.107).
- Alternatively:** Select “Cancel” to cancel the pending changes and close the Column Settings window.



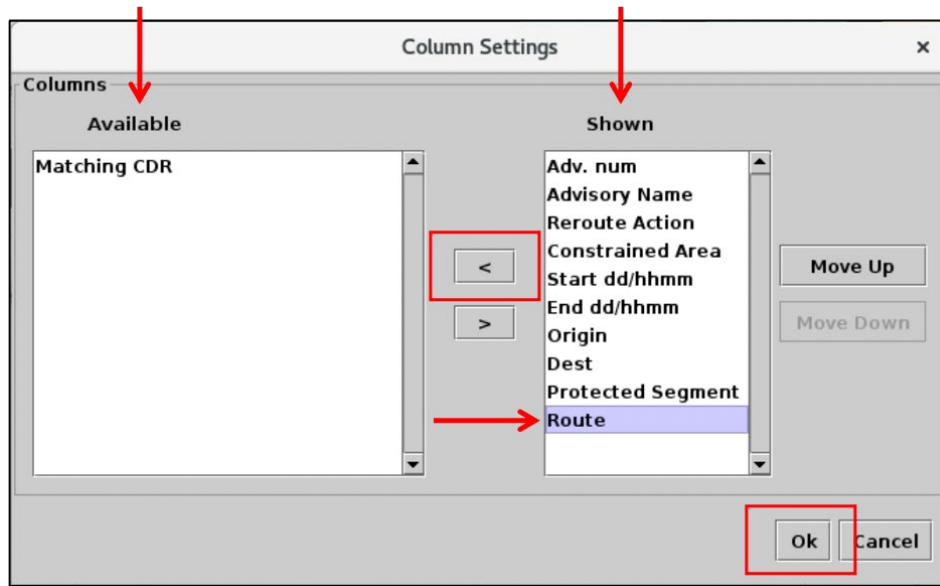


Figure 3.107. DCC Advisories table: Column Settings. Use the left arrow to remove a column.

### 3.1.10.1.2 Table Color Settings

Use “Table Color Settings” (Figure 3.104) to set an alternate row color and field color alerts for variables in the DCC Advisories table.

#### 3.1.10.1.2.1 Set Row Colors

Use the “Set Row Colors” tab to set an alternate row color in the DCC Advisories table.

**To set row colors in the DCC Advisories table:**

**Step 1:** Select “DCC Advisories” from the TM Actions dropdown menu (Figure 3.102) to open the DCC Advisories tab (Figure 3.103).

**Step 2:** Select the “Table Color Settings” icon (Figure 3.104).

**Step 3:** Select the “Set Row Colors” tab (Figure 3.108).

**Step 4:** Select either the “Odd Row” or “Even Row” color box to open the “Choose Row Color” window (e.g., “Odd Row Color” in Figure 3.108).

**Step 5:** On the “Swatches” tab, select a color (e.g., green in Figure 3.109).

**Step 6 (Optional):** If needed, use the other four color-palette tabs (HSV, HSL, RGB, CMYK) to refine the color selection (Figure 3.109).

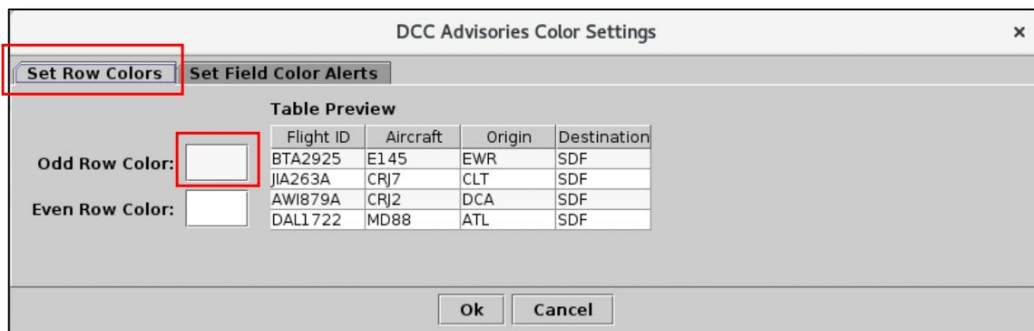
**Step 7:** When finished making the color selection, select “OK” (Figure 3.109).

**Note:** A preview of the alternating row colors is shown on the “Set Row Colors” tab (e.g., green/white in Figure 3.110).

**Step 8 (Optional):** Repeat these steps to select a color for the *other* odd/even row. Or, use the default color (white), as shown in Figure 3.110.

**Step 9:** Select “Ok” to close the Color Settings window and apply the color changes (Figure 3.110). See an example of alternating row colors in Figure 3.111.

**Alternatively:** Select “Cancel” to close the window without saving the changes.



**Figure 3.108. Color Settings: Set Row Colors 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, if necessary.

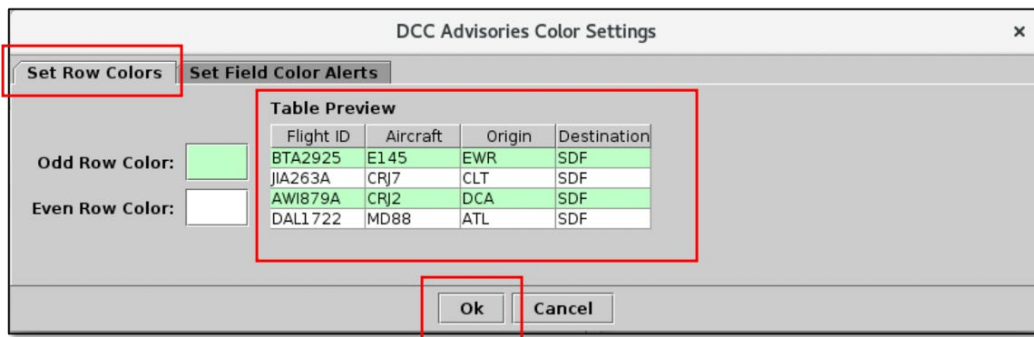


Figure 3.110. Set Row Colors: Alternating row color preview.

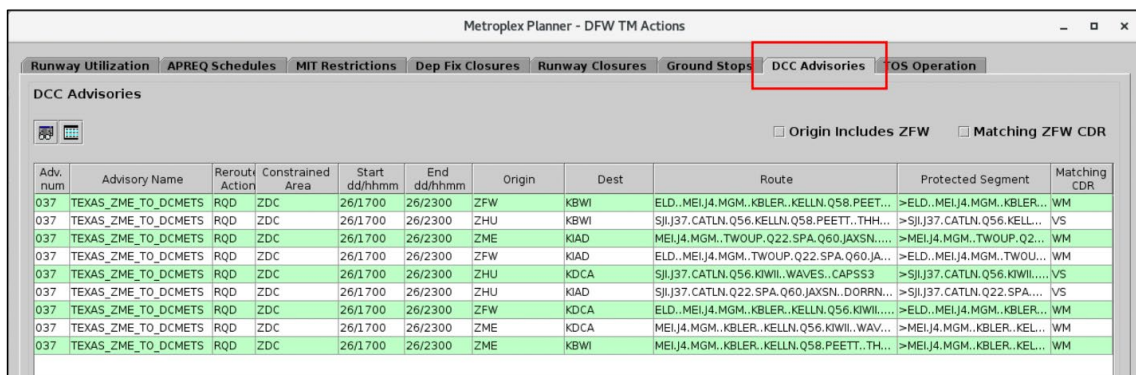


Figure 3.111. DCC Advisories table: Alternating row colors example.

### 3.1.10.1.2.2 Set Field Color Alerts

Use the “Set Field Color Alerts” tab 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 Advisories: Set Field Color Alerts

Field	Description	Options
Origin	Origin Center	3-letter Center Code (e.g., ZFW)
Dest	Destination Airport	3-letter Airport code (e.g., PHL)

#### To set Field Color Alerts in the DCC Advisories table:

**Step 1:** Select “DCC Advisories” from the TM Actions dropdown menu (Figure 3.102) to open the DCC Advisories tab (Figure 3.103).

**Step 2:** Select the “Table Color Settings” icon (Figure 3.104).

**Step 3:** Select the “Set Field Colors Alerts” tab (Figure 3.112).

**Step 4:** Select a variable from the dropdown list in the “Field” column (e.g., “Origin” in (Figure 3.112).

**Note:** *If a new row is not available, select “Add Fields” (Figure 3.112).*

**Step 5:** Select an option from the dropdown list in the “Operator” column (e.g., “=” in Figure 3.112).

**Step 6:** Enter text in the “Value” column (e.g., “ZFW” in Figure 3.112).

**Step 7:** Select the color box to open the “Choose Color” window (Figure 3.112).

**Step 8:** On the “Swatches” tab, select a color (e.g., green in Figure 3.113).

**Step 9 (Optional):** If needed, use the other four color-palette tabs (HSV, HSL, RGB, CMYK) to refine the color selection (Figure 3.113).

**Step 10:** When finished making the color selection, select “OK” (Figure 3.113).

**Note:** *The selected color is shown on the “Set Field Color Alerts” tab (e.g., green in Figure 3.114).*

**Step 11 (Optional):** Repeat these steps to add/modify more field color alerts.

**Step 12:** Select “Ok” to close the Color Settings window and apply the color changes (Figure 3.114). See an example of color alerts in Figure 3.115.

**Alternatively:** Select “Cancel” to close the window without saving the changes.

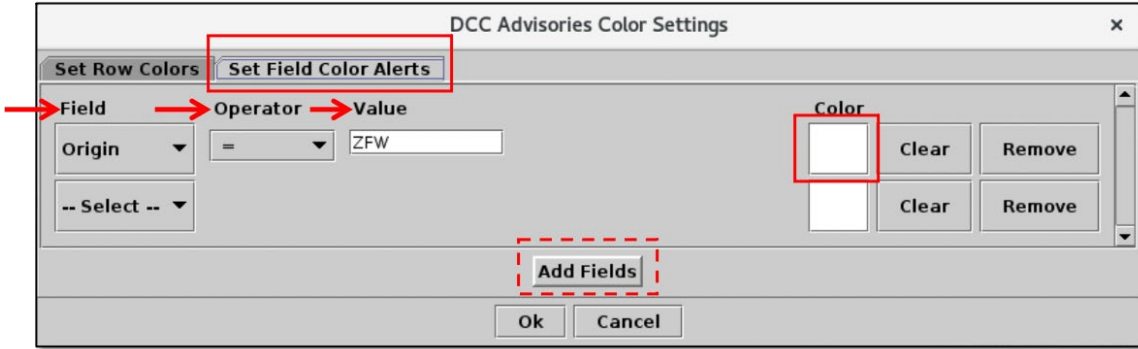


Figure 3.112. Color Settings: Set Field Color Alerts tab.

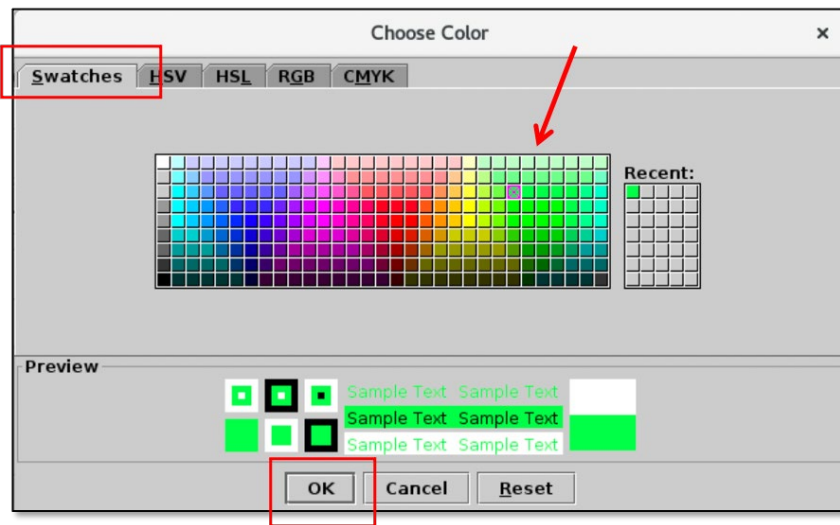


Figure 3.113. Use the “Swatches” tab to select a color. Use the HSV, HSL, RGB, or CMYK color palettes to refine the color selection, if necessary.

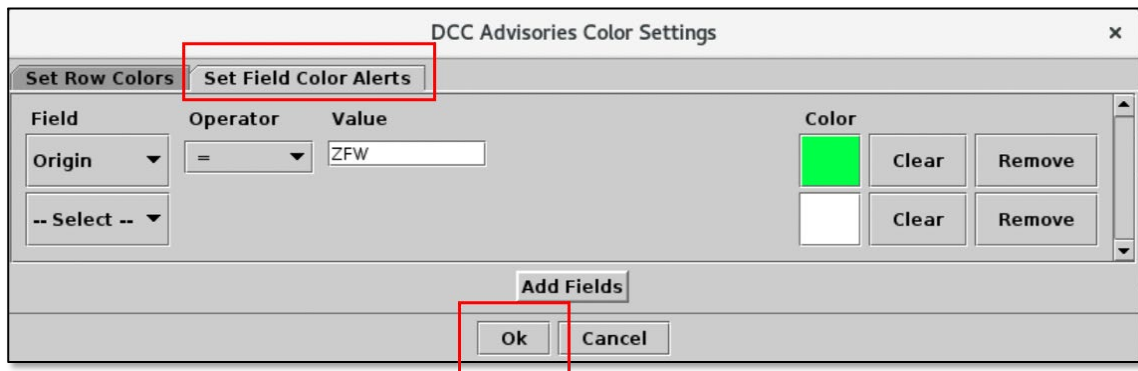
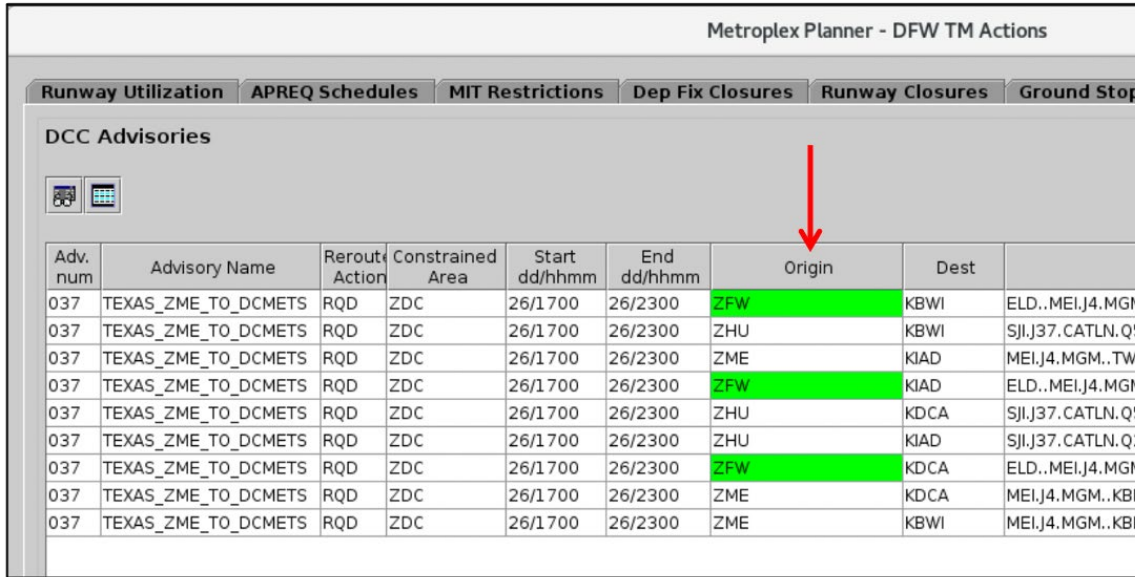


Figure 3.114. Set Field Color Alerts tab: Selected color is displayed (in this example, green).

Metroplex Planner - DFW TM Actions

Runway Utilization   APREQ Schedules   MIT Restrictions   Dep Fix Closures   Runway Closures   Ground Stop

DCC Advisories



Adv. num	Advisory Name	Rerout/ Action	Constrained Area	Start dd/hhmm	End dd/hhmm	Origin	Dest	
037	TEXAS_ZME_TO_DCMETS	RQD	ZDC	26/1700	26/2300	ZFW	KBWI	ELD..MEI,J4.MGM
037	TEXAS_ZME_TO_DCMETS	RQD	ZDC	26/1700	26/2300	ZHU	KBWI	SJI,J37.CATLN.Q5
037	TEXAS_ZME_TO_DCMETS	RQD	ZDC	26/1700	26/2300	ZME	KIAD	MEI,J4.MGM..TW
037	TEXAS_ZME_TO_DCMETS	RQD	ZDC	26/1700	26/2300	ZFW	KIAD	ELD..MEI,J4.MGM
037	TEXAS_ZME_TO_DCMETS	RQD	ZDC	26/1700	26/2300	ZHU	KDCA	SJI,J37.CATLN.Q5
037	TEXAS_ZME_TO_DCMETS	RQD	ZDC	26/1700	26/2300	ZHU	KIAD	SJI,J37.CATLN.Q2
037	TEXAS_ZME_TO_DCMETS	RQD	ZDC	26/1700	26/2300	ZFW	KDCA	ELD..MEI,J4.MGM
037	TEXAS_ZME_TO_DCMETS	RQD	ZDC	26/1700	26/2300	ZME	KDCA	MEI,J4.MGM..KBL
037	TEXAS_ZME_TO_DCMETS	RQD	ZDC	26/1700	26/2300	ZME	KBWI	MEI,J4.MGM..KBL

Figure 3.115. DCC Advisories table: Field Color Alerts. In this example, Origin Center = ZFW is highlighted green.

### 3.1.10.1.3 Table Filter Options

Use filters to select which DCC Advisories are displayed in the table. Two options are available for filtering advisories that apply to ZFW Center.

#### To filter the DCC Advisories table:

**Step 1:** Select “DCC Advisories” from the TM Actions dropdown menu (Figure 3.102) to open the DCC Advisories tab (Figure 3.103).

**Step 2:** Two options are available for filtering advisories:

- Check the box next to “**Origin Includes ZFW**” (Figure 3.116) to display only route advisories that include ZFW as an origin Center.
- Check the box next to “**Matching ZFW CDR**” (Figure 3.116) to display only route advisories that have a protected segment that matches a CDR used in ATD-2 TOS Operations.

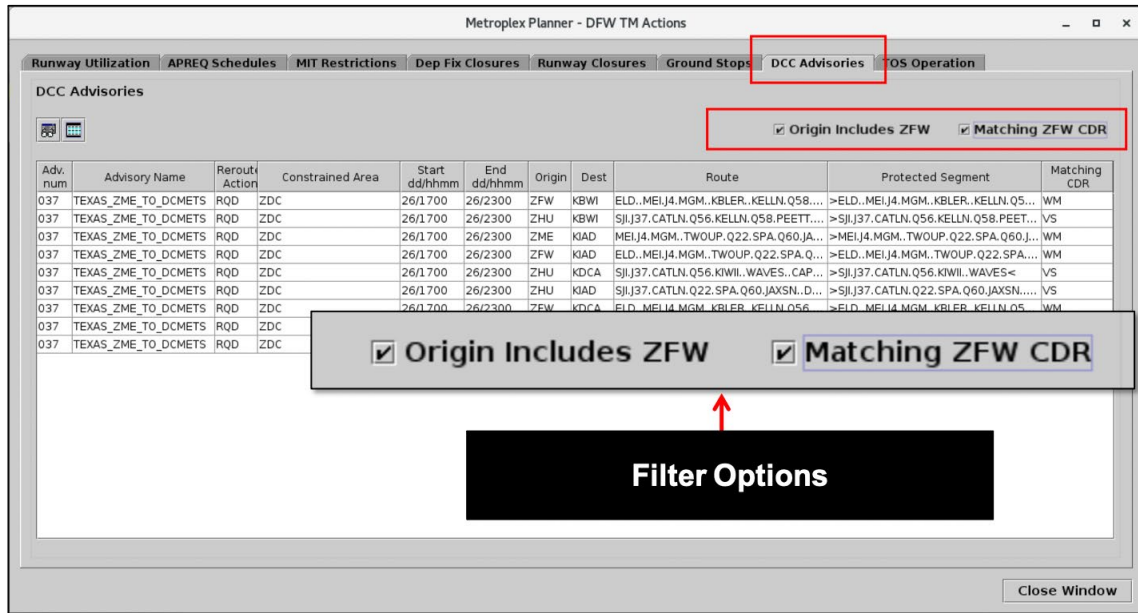


Figure 3.116. DCC Advisories tab: Filter options.

### 3.1.11 TM Actions: TOS Operation Tab

*Note: In ATC versions of the Metroplex Planner, the TOS Operation tab is interactive. In Flight Operator versions of the Metroplex Planner, the tab is used only for information display.*

Restrictions created by DCC advisories, Departure Fix closures, and user inputs impact the availability of the CDRs used in ATD-2 TOS operations. The TOS Operation tab provides an overview of the availability of these CDRs and allows users to manage CDR restrictions (Figure 3.117).

In ATC versions of the Metroplex Planner, the interactive TOS Operation tab is also used to activate/deactivate TOS submissions.



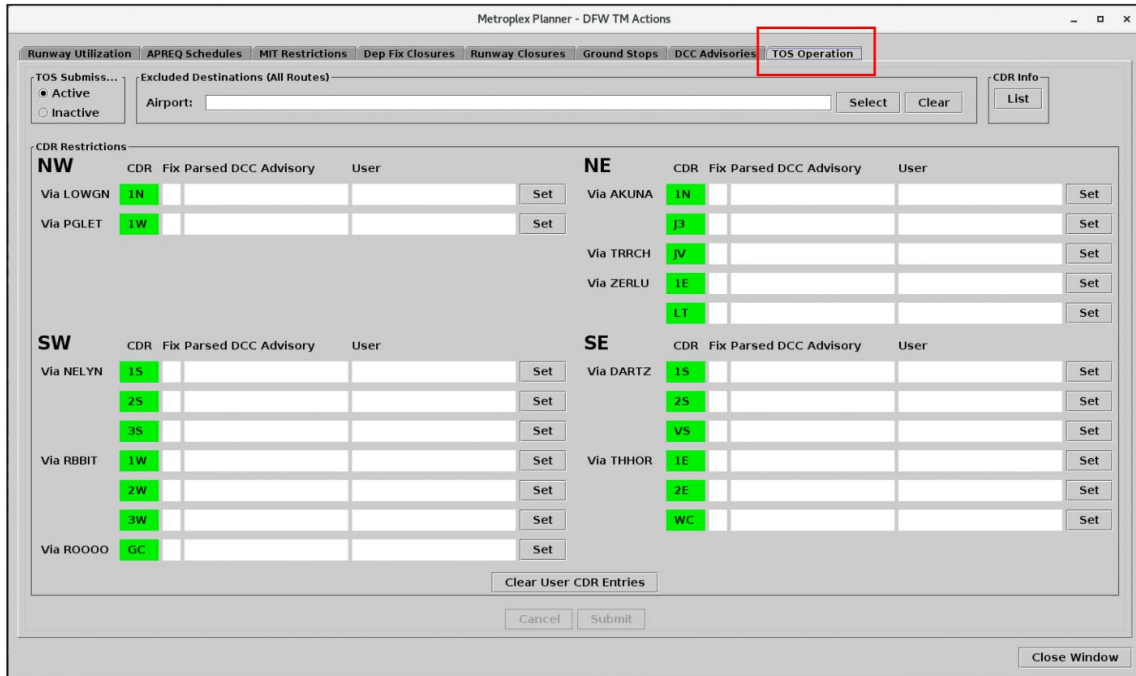


Figure 3.117. TOS Operation tab on the TM Actions Panel.

**To view the TOS Operation tab:**

**Step 1:** Select “TOS Operation” from the TM Actions dropdown menu (Figure 3.118) to open the TOS Operation tab (Figure 3.119).

**Note:** *Only advisories and fix closures that are currently active are indicated on this tab.*

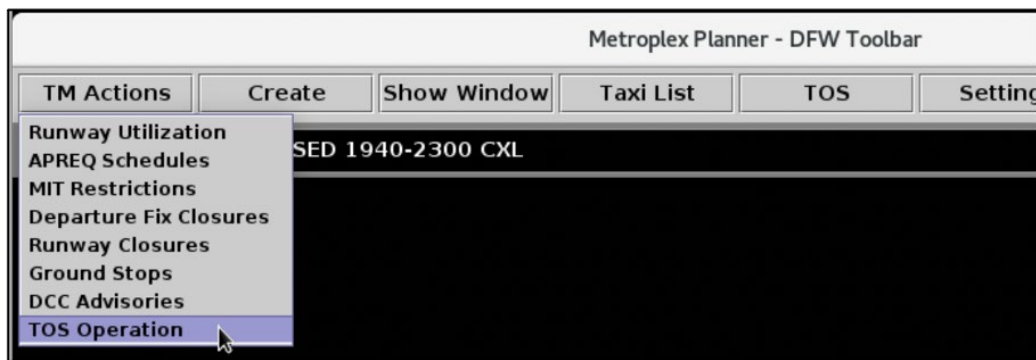


Figure 3.118. TM Actions menu: TOS Operation.



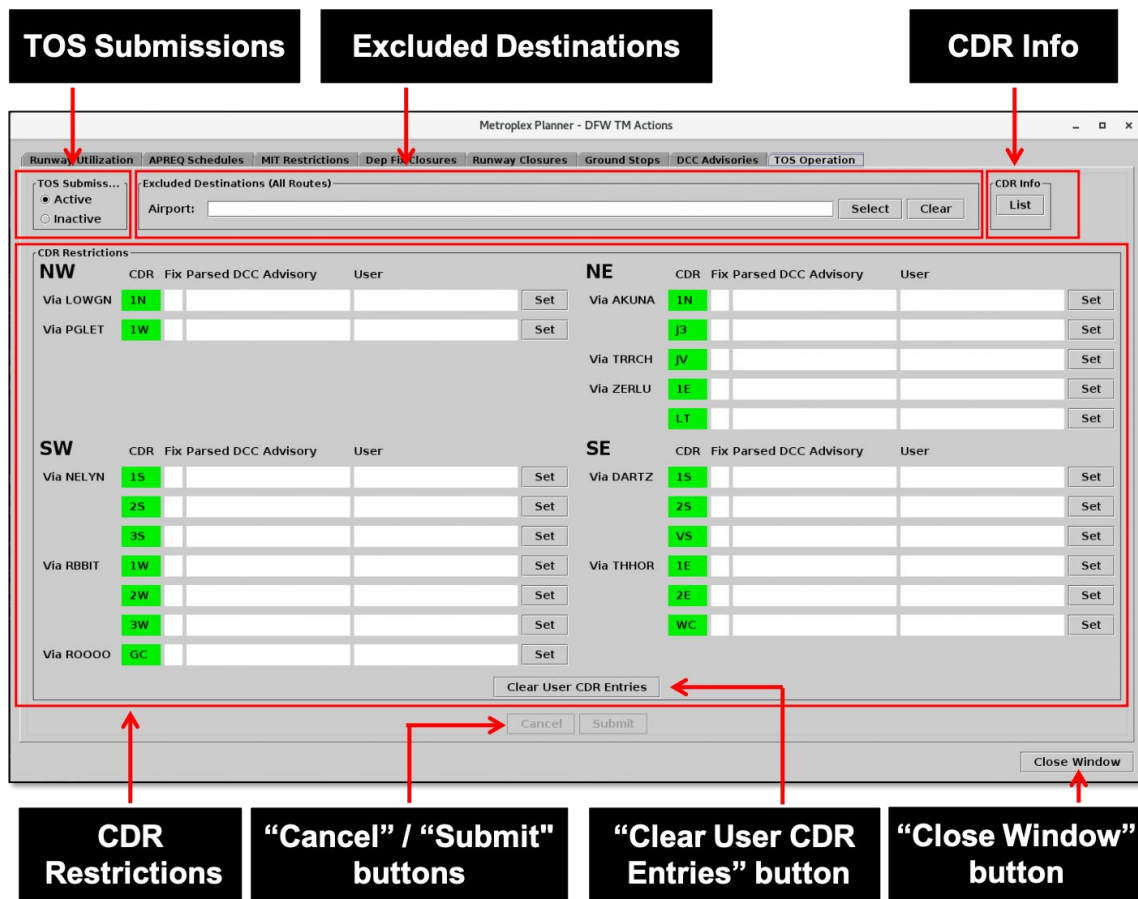


Figure 3.119. The interactive TOS Operation tab in ATC versions of the Metroplex Planner. (In Flight Operator versions, the TOS Operation tab is for information display only.)

The TOS Operation tab includes four sections (Figure 3.119):

- TOS Submissions (Section 3.1.11.1)
- Excluded Destinations (Section 3.1.11.2)
- CDR Info (Section 3.1.11.3)
- CDR Restrictions (Section 3.1.11.4)

### 3.1.11.1 TOS Submissions

Use the TOS Operation tab to activate/inactivate TOS submissions (*ATC* versions of the Metroplex Planner only).

#### 3.1.11.1.1 Activate TOS Submissions

When TOS submissions are *active*, Flight Operators can **submit** TOS routes (see Section 5.4.8.2), ATC can **approve** TOS routes (see Section 5.4.8.4), and a **TOS Flight Menu** (see Section 5.5) is available for each flight in the TOS Departure Table (see Section 5.4).

#### To activate (enable) 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 3.118) to open the TOS Operation tab (Figure 3.119).

**Step 2:** In the “TOS Submissions” section of the TOS Operation tab, select “Active” (Figure 3.120).

**Step 3:** Select the “Submit” button at the bottom of the tab to apply the change (Figure 3.120).

**Note: Modifications to the TOS Operation tab are not applied until the “Submit” button is selected.**

**Note: When TOS Submissions are active, the TOS icon on the Toolbar is displayed in orange. A notification, “TOS ACTIVE hmmm”, is generated when TOS Submissions are activated (Figure 3.121).**

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

**Step 4:** Select the “Close Window” button at the bottom right of the TOS Operation tab (pictured in Figure 3.119) to close the TM Actions panel.

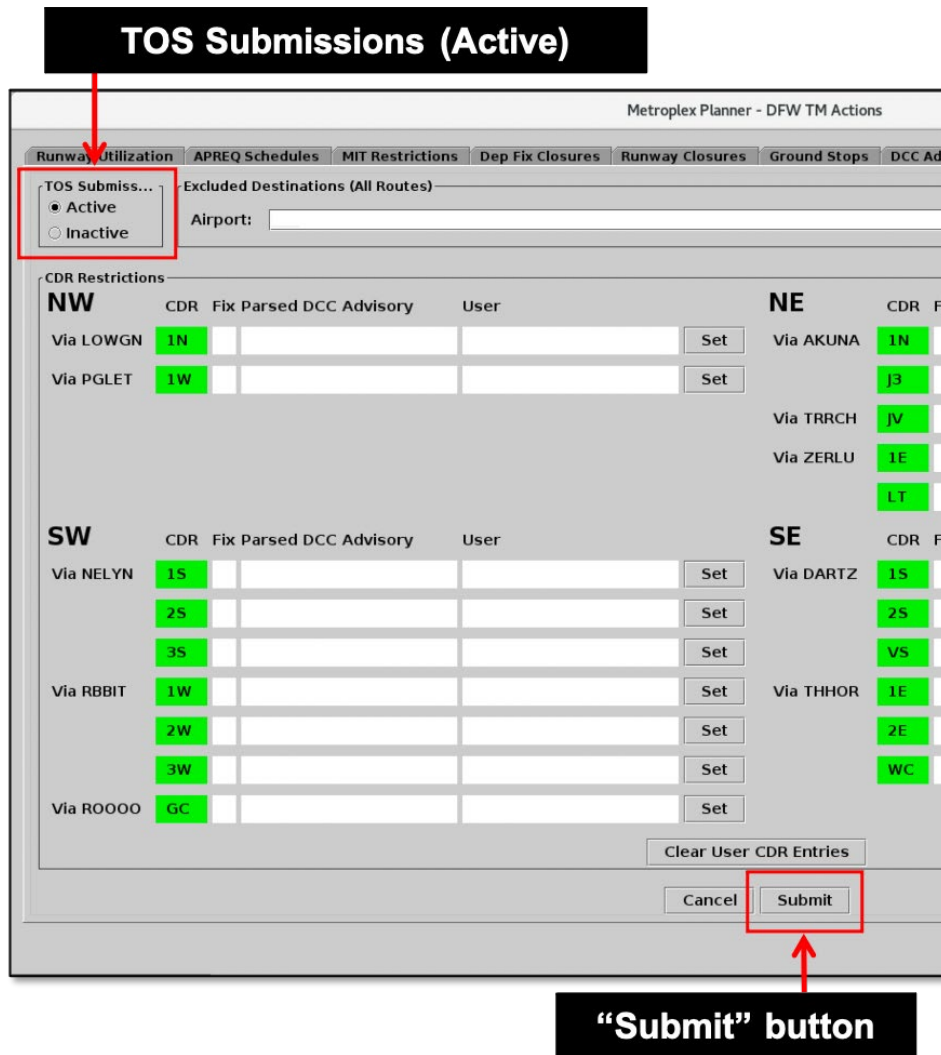


Figure 3.120. TOS Operation tab: Activate (enable) TOS Submissions.

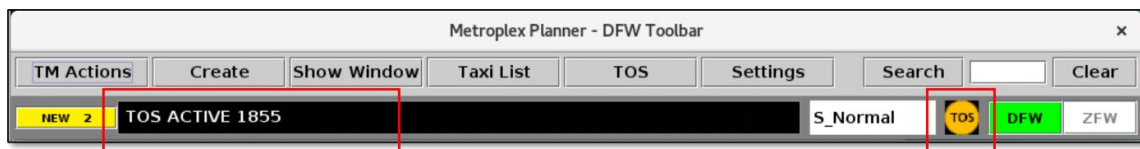


Figure 3.121. When TOS Submissions are active, the TOS icon on the Toolbar is displayed in orange. A notification, “TOS ACTIVE *hhmm*”, is generated when TOS Submissions are activated.

### 3.1.11.1.2 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 (disable) 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 3.118) to open the TOS Operation tab (Figure 3.119).

**Step 2:** In the “TOS Submissions” section of the TOS Operation tab, select “Inactive” (Figure 3.122).

**Step 3:** Select the “Submit” button at the bottom of the tab to apply the change (Figure 3.122).

*Note: Modifications to the TOS Operation tab are not applied until the “Submit” button is selected.*

*Note: When TOS Submissions are inactive, the TOS icon on the Toolbar is displayed in gray. A notification, “TOS INACTIVE hhmm”, is generated when TOS Submissions are inactivated (Figure 3.123).*

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

**Step 4:** Select the “Close Window” button at the bottom right of the TOS Operation tab (pictured in Figure 3.119) to close the TM Actions panel.

## TOS Submissions (Inactive)

Metroplex Planner - DFW TM Actions

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

TOS Submiss...  
 Active  
 Inactive

Excluded Destinations (All Routes)  
Airport: \_\_\_\_\_

CDR Restrictions

	CDR	Fix	Parsed	DCC	Advisory	User		CDR	F
<b>NW</b>								<b>NE</b>	
Via LOWGN	1N						Set	Via AKUNA	1N
Via PGLT	1W						Set	Via TRRCH	J3
								Via ZERLU	1E
								Via LT	
<b>SW</b>								<b>SE</b>	
Via NELYN	1S						Set	Via DARTZ	1S
	2S						Set	Via VS	2S
	3S						Set	Via THHOR	1E
Via RBBIT	1W						Set	Via 2E	
	2W						Set	Via WC	
	3W						Set		
Via ROOOO	GC						Set		

Clear User CDR Entries

Cancel Submit

**“Submit” button**

Figure 3.122. TOS Operation tab: Inactivate (disable) TOS Submissions.

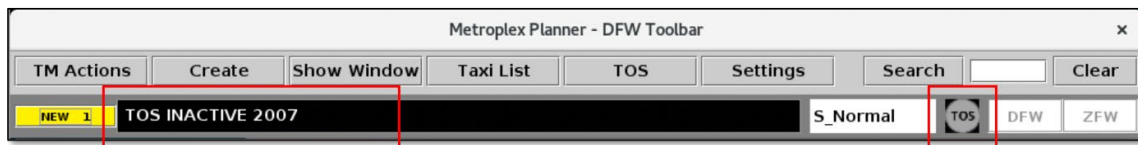


Figure 3.123. When TOS Submissions are inactive, the TOS icon on the Toolbar is displayed in gray. A notification, “TOS INACTIVE *hmm*”, is generated when TOS Submissions are inactivated.

### 3.1.11.2 Excluded Destinations

Use the “**Excluded Destinations**” field to inform the ATD-2 Metroplex Planner that flights bound to a particular destination are ineligible for TOS rerouting (Figure 3.124). This field may be useful when ATC is aware of an advisory that impacts TOS rerouting, but the ATD-2 system has not automatically parsed, or recognized, the advisory.

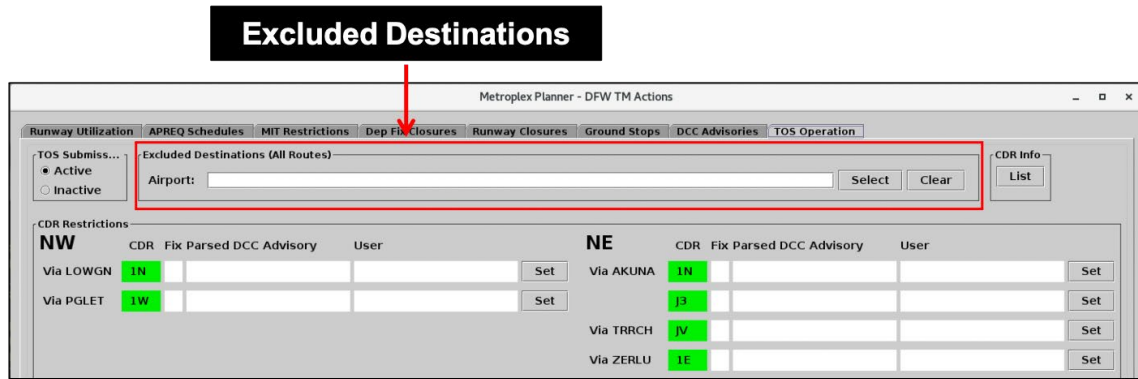


Figure 3.124. TOS Operation tab: Excluded Destinations.

For example, if an advisory makes LGA-bound flights ineligible for TOS rerouting, 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 can be displayed in the TOS Departure Table, but their Eligibility and Coordination States are “**Excluded**” and “**ATC Excluded**”, respectively.

## To add 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 (Figure 3.118) to open the TOS Operation tab (Figure 3.119).

**Step 2:** In the “Excluded Destinations” section, select the “Select” button (Figure 3.125).

**Step 3:** In the “Select Airport” window, check the destination(s) to be excluded from TOS rerouting (e.g., “LGA” in Figure 3.126).

**Step 4:** Select the “Select” button to confirm the destination(s) and close the “Select Airport” window (Figure 3.126).

**Alternatively:** Type the 3-letter airport code directly in the “Excluded Destinations” field (e.g., “LGA” Figure 3.127). Separate multiple airport codes with a comma.

**Step 5:** On the TOS Operation tab, select the “Submit” button to apply changes (Figure 3.127).

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

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

**Step 6:** Select the “Close Window” button at the bottom right of the TOS Operation tab (pictured in Figure 3.119) to close the TM Actions panel.

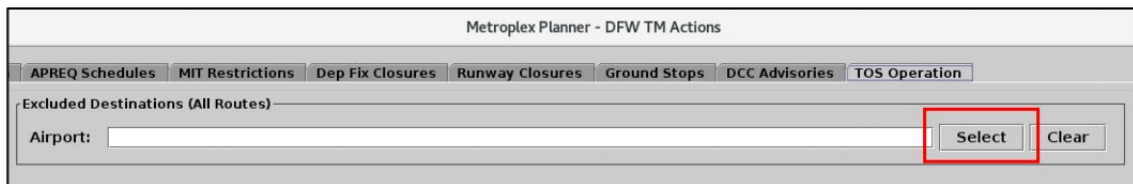


Figure 3.125. TOS Operation tab: Excluded Destinations. Use the “Select” button to open airport list.



Figure 3.126. TOS Operation tab: Select destinations (in this example, “LGA”).

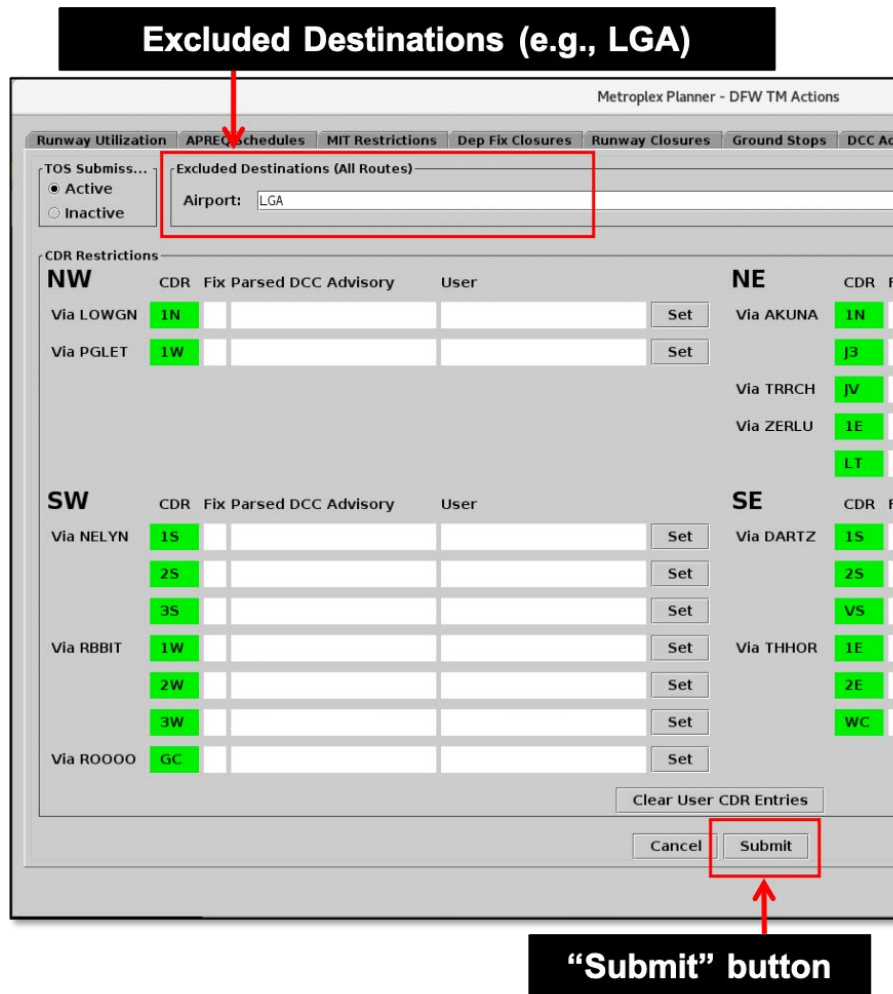


Figure 3.127. TOS Operation tab: After selecting or entering Excluded Destinations (in this example, “LGA”), use the “Submit” button to apply changes.

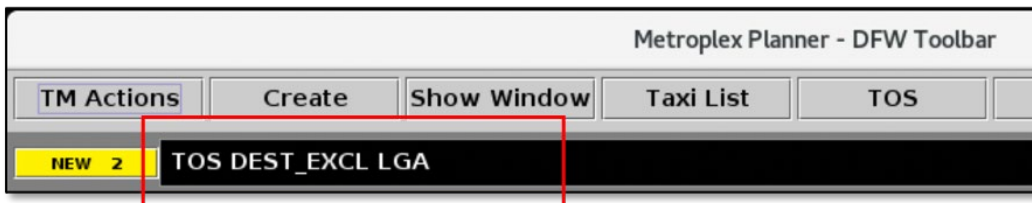


Flights to an “excluded” destination are not eligible for TOS rerouting. In the TOS Departure Table, these flights have an “**Excluded**” Eligibility State and an “**ATC Excluded**” Coordination State. In this example, flights bound for LGA are excluded from TOS rerouting (Figure 3.128).

C/P	Rwy	Dest	Route of Flight	Dep Gate	Dep Fix	ETOT	Top CDR	Top Rwy	Eligibility State	Coord State	Flight Sta
Y	E17R	LGA	KDFW.FORCK2....	EAST	HANUH	26/20:05			Excluded	ATC Excluded	Scheduled

**Figure 3.128. TOS Departure Table: When a destination is excluded from TOS rerouting, flights bound to that destination are shown with an “Excluded” Eligibility State and an “ATC Excluded” Coordination State (in this example, the LGA-bound flights are excluded from TOS rerouting).**

When the “Excluded Destinations” field is populated, a Notification is generated, “TOS DEST\_EXCL.” In this example, LGA-bound flights are excluded from TOS rerouting (Figure 3.129).



**Figure 3.129. Notification: Destination 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 (Figure 3.118) to open the TOS Operation tab (Figure 3.119).

**Step 2:** In the “Excluded Destinations” section, select the “Select” button (Figure 3.130).

**Step 3:** In the “Select Airport” window, check additional destinations or uncheck previous selections (e.g., “LGA” and “JFK” are both selected in Figure 3.131).

**Step 4:** Select the “Select” button to confirm the destination(s) and close the “Select Airport” window (Figure 3.131).

**Alternatively:** Type the 3-letter airport code directly in the “Excluded Destinations” field. Separate multiple airport codes with a comma, but no space (e.g., “JFK,LGA” in Figure 3.132).

**Step 5:** On the TOS Operation tab, select the “Submit” button to apply changes (Figure 3.132).

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

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

**Step 6:** Select the “Close Window” button at the bottom right of the TOS Operation tab (pictured in Figure 3.119) to close the TM Actions panel.

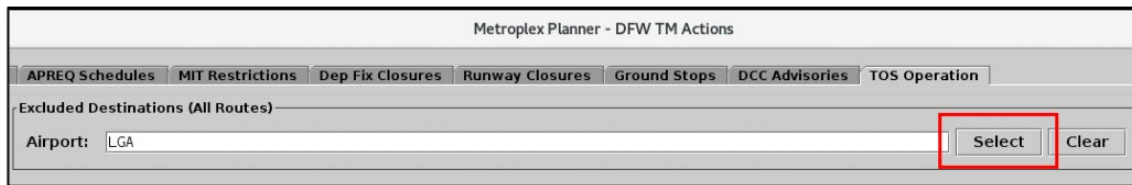


Figure 3.130. TOS Operation tab: Excluded Destinations. Use the “Select” button to open airport list.

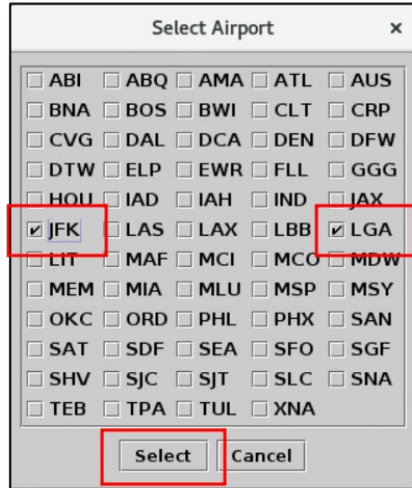


Figure 3.131. TOS Operation tab: Select excluded destinations (in this example, “LGA” and “JFK”).

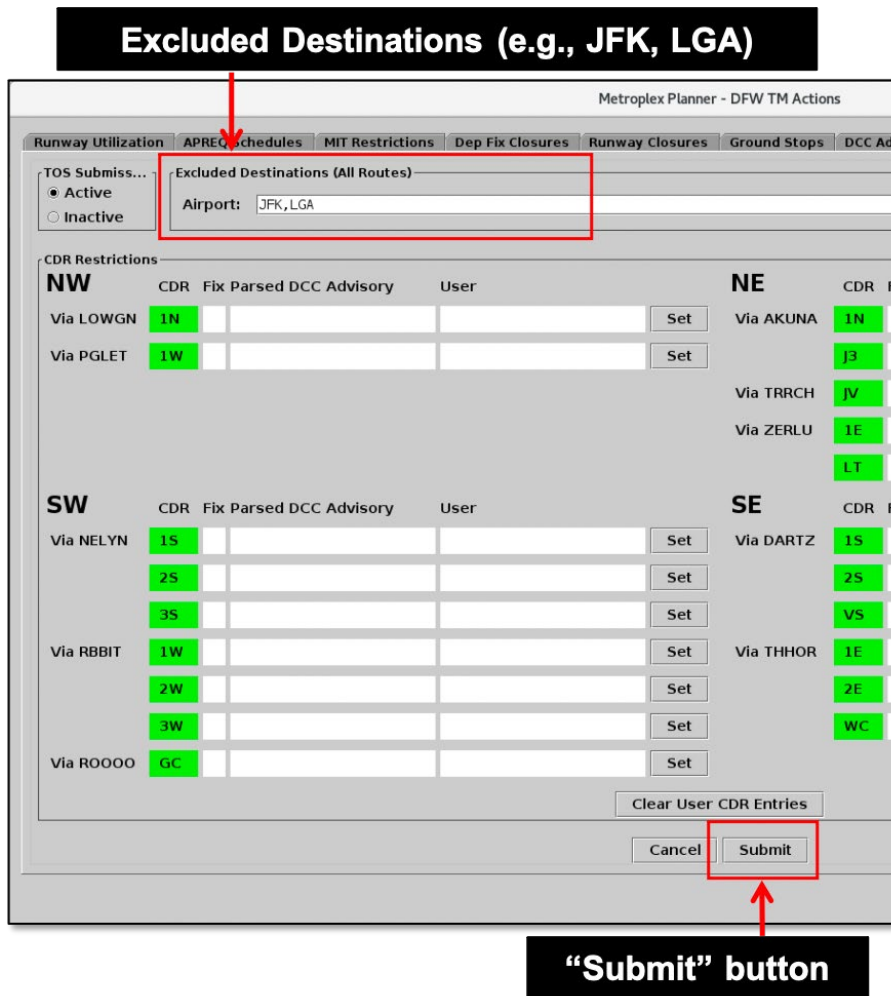


Figure 3.132. TOS Operation tab: After modifying Excluded Destinations (in this example, “JFK” and “LGA”), use the “Submit” button to apply changes.

## 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 (Figure 3.118) to open the TOS Operation tab (Figure 3.119).

**Step 2:** In the “Excluded Destinations” section, select the “Clear” button to clear all destinations from the text box (Figure 3.133).

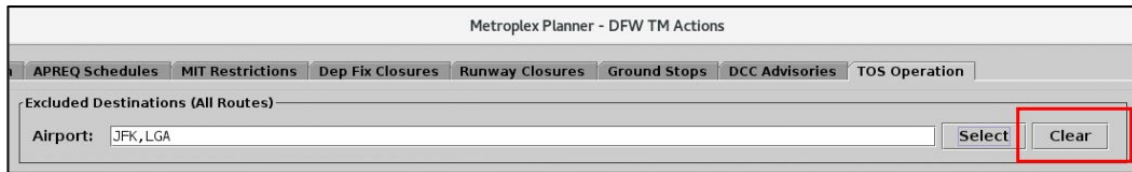
**Alternatively:** Use the keyboard to delete each destination in the text field.

**Step 3:** On the TOS Operation tab, select the “Submit” button to apply changes (Figure 3.134).

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

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

**Step 4:** Select the “Close Window” button at the bottom right of the TOS Operation tab (pictured in Figure 3.119) to close the TM Actions panel.



**Figure 3.133. TOS Operation tab: Excluded Destinations. Use the “Clear” button to clear all destinations.**

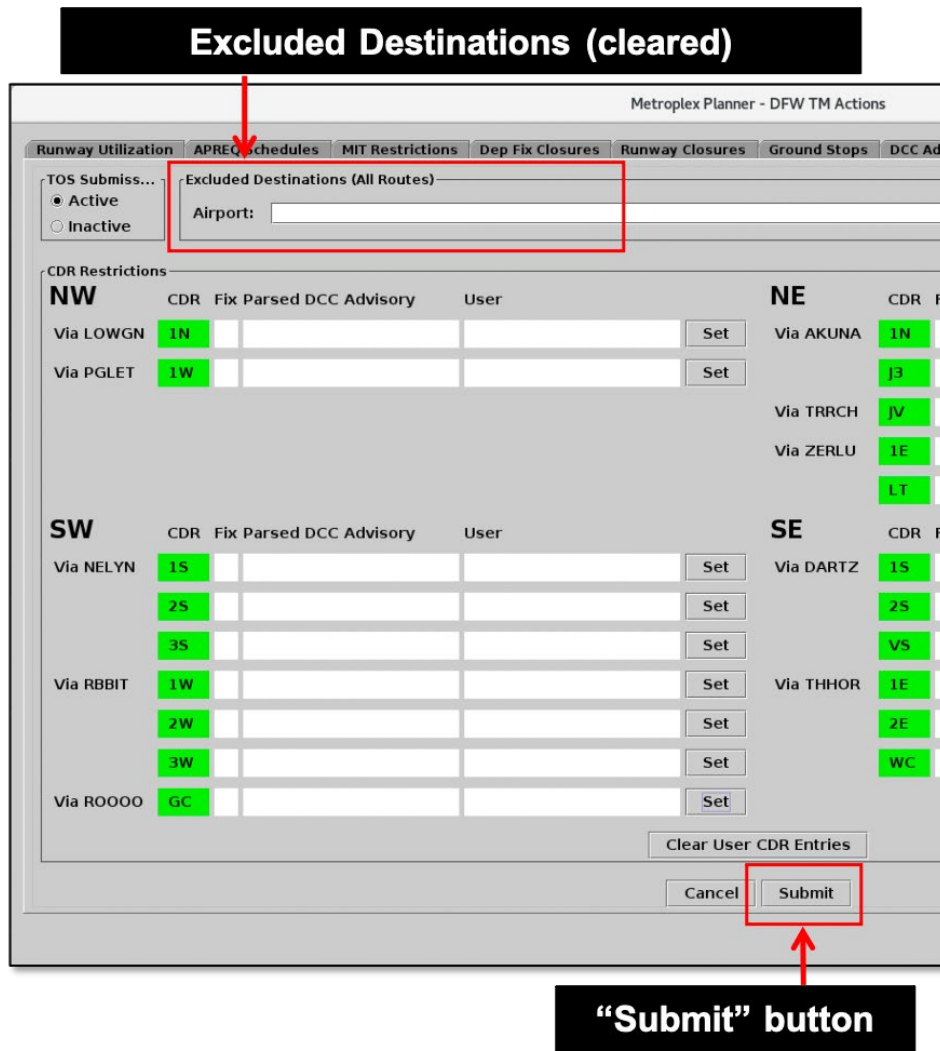


Figure 3.134. TOS Operation tab: After clearing the “Excluded Destinations” field, use the “Submit” button to apply changes.

When the Excluded Destinations field is cleared, a Notification is generated, “TOS DEST\_EXCL cleared” (Figure 3.135).

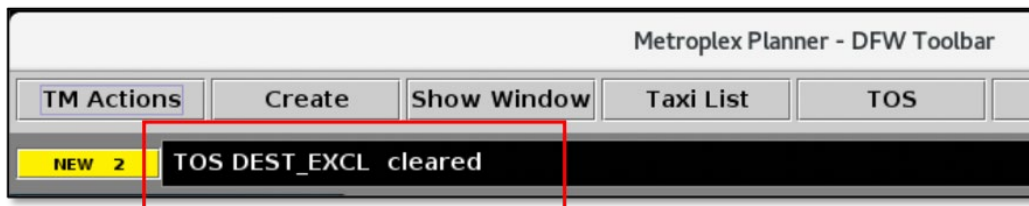


Figure 3.135. Notification: Excluded Destinations are cleared.

### 3.1.11.3 CDR List

Use “**CDR Info**” to view a list of each unique CDR/city-pair used in ATD-2 TOS operations.

To view the CDR List:

**Step 1:** Select “TOS Operation” from the TM Actions dropdown menu (Figure 3.118) to open the TOS Operation tab (Figure 3.119).

**Step 2:** In the “CDR Info” section, select the “List” button (Figure 3.136) to open the CDR List (Figure 3.137).

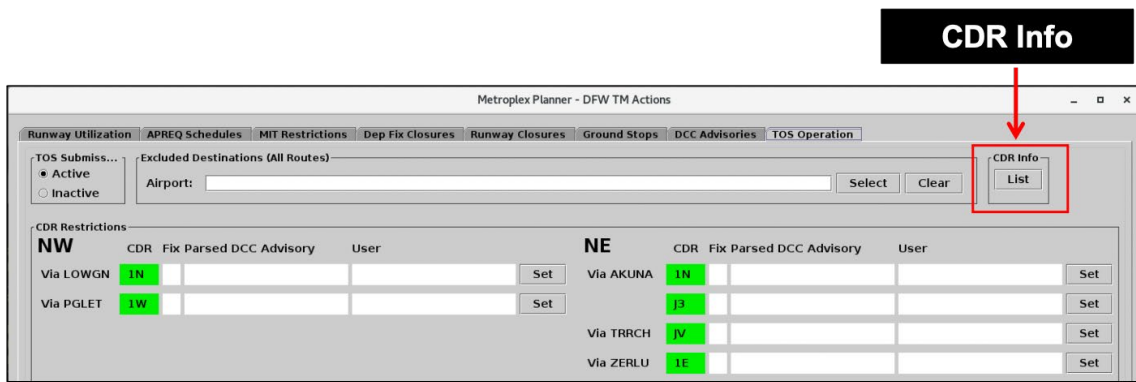


Figure 3.136. CDR Info: Select “List” to view the CDR List.

Available	CDR	Origin	Dest	Dep Fix	Dep Gate	Procedures
Y	DFWABI0P	KDFW	KABI	RBBIT	WEST	KDFW.WSTEX2.WSTEX..KABI
Y	DFWABI1N	KDFW	KABI	LOWGN	NORTH	KDFW.LOWGN8.ADM.J52.CRUSR.J6.PNH..KABI
Y	DFWABI1S	KDFW	KABI	NELYN	SOUTH	KDFW.NELYN6.HOARY..JCT..KABI
Y	DFWABI2S	KDFW	KABI	NELYN	SOUTH	KDFW.NELYN6.SAT..DLF..SJT..KABI
Y	DFWABQ0P	KDFW	KABQ	TYGGR	WEST	KDFW.HRPER3.HULZE..TX0.MIERA2.KABQ
Y	DFWABQ1N	KDFW	KABQ	LOWGN	NORTH	KDFW.LOWGN8.ADM.J52.CRUSR.J6.TCC.MIERA2.KABQ
Y	DFWABQ1S	KDFW	KABQ	NELYN	SOUTH	KDFW.NELYN6.HOARY..JCT.J15.CME.MIERA2.KABQ
Y	DFWABQ2S	KDFW	KABQ	NELYN	SOUTH	KDFW.NELYN6.SAT..DLF..INK.J15.CME.MIERA2.KABQ
Y	DFWABQ3S	KDFW	KABQ	NELYN	SOUTH	KDFW.NELYN6.SAT..FST..PEQ..CME.MIERA2.KABQ
Y	DFWACKMH	KDFW	KACK	HANUH	EAST	KDFW.FORCK2.FORCK.ELD..SQS.Q30.VUZ..ATL..T...
Y	DFWAGS0P	KDFW	KAGS	HANUH	EAST	KDFW.FORCK2.FORCK.ELD..SQS.Q30.VUZ..ATL..AH..
Y	DFWAGS1N	KDFW	KAGS	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..MEM..VUZ..IRQ..KA..
Y	DFWAGS1S	KDFW	KAGS	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH..GCV..MGM..IRQ..KAGS
Y	DFWALBMH	KDFW	KALB	HANUH	EAST	KDFW.FORCK2.FORCK.ELD..SQS.Q30.VUZ..ATL..T...
Y	DFWAMA0P	KDFW	KAMA	PGLT	WEST	KDFW.HUDAD2.HUDAD..PNH..KAMA
Y	DFWAMA1N	KDFW	KAMA	LOWGN	NORTH	KDFW.LOWGN8.ADM.J52.CRUSR.J6.PNH..KAMA
Y	DFWAMA1S	KDFW	KAMA	NELYN	SOUTH	KDFW.NELYN6.HOARY..JCT..ABI.J17.PNH..KAMA
Y	DFWAMA2S	KDFW	KAMA	NELYN	SOUTH	KDFW.NELYN6.SAT..DLF..BGS..PNH..KAMA

Figure 3.137. CDR List.

### 3.1.11.3.1 CDR List: Availability

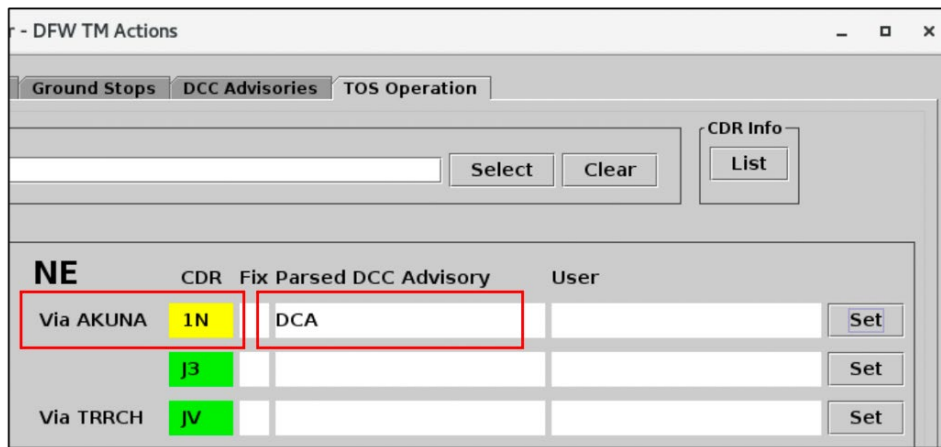
The availability status of each CDR/city-pair is displayed in the CDR List (Table 3.5). A CDR is *unavailable* when:

- Departure fixes are closed (see Section 3.1.11.4.3.1), or
- A route restriction is imposed by a DCC advisory — the advisory is parsed by the ATD-2 system (see Section 3.1.11.4.3.2 for a description of parsed DCC advisories), or
- A user enters a CDR restriction in the ATD-2 software (see Section 3.1.11.4.3.3 for a description of user entries).

**Table 3.5. CDR List: Availability**

Available	Description
Y	Yes, the CDR is available for TOS rerouting.
N	No, the CDR is currently unavailable for TOS rerouting due to route restrictions or Departure Fix closures.

Restrictions displayed on the TOS Operation tab are also reflected in the CDR List. In the following example, DCA-bound flights are restricted from using the AKUNA “1N” CDR as a TOS reroute option due to a DCC advisory. This restriction is indicated on the TOS Operation tab (Figure 3.138).



**Figure 3.138. CDR restrictions are displayed 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, in the CDR List the AKUNA “1N” CDR to DCA (DFWDCA1N) is shown as *unavailable* for TOS rerouting, indicated by the “N” and red highlighting in the “Available” column.



Available	CDR	Origin	Dest	Dep Fix	Dep Gate	Procedures
Y	DFWCLT1N	KDFW	KCLT	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..BNA..TAZZA.FILPZ...
Y	DFWCMH1N	KDFW	KCMH	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..PXV.GAILL3.KCMH...
Y	DFWCOS1N	KDFW	KCOS	LOWGN	NORTH	KDFW.LOWGN8.ROLLS.J52.LAA..PUB..FSHER.DBRY...
Y	DFWCVG1N	KDFW	KCVG	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..PXV.SARGO3.KCVG...
Y	DFWDAY1N	KDFW	KDAY	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..PXV..SINKR..KDAY...
N	DFWDCA1N	KDFW	KDCA	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..BNA.J42.BKW.TRU...
Y	DFWDTW1N	KDFW	KDTW	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..PXV..WVODD.HAN...
Y	DFWELP1N	KDFW	KELP	LOWGN	NORTH	KDFW.LOWGN8.ADM.J52.CRUSR.J6.PNH.J26.CME.S...
Y	DFWEV1N	KDFW	KEV	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..PXV..KEV...
Y	DFWEWR1N	KDFW	KEWR	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..BNA.J42.GVE.PHL...
Y	DFWFAT1N	KDFW	KFAT	LOWGN	NORTH	KDFW.LOWGN8.ADM.J52.CRUSR.J6.PNH.J6.DRK.J6...

Figure 3.139. CDR List: In this example, the DFWDCA1N CDR is unavailable.

Exclusions entered in the “Excluded Destinations” field (see Section 3.1.11.2 for a description of this field) are also reflected in the CDR List. In this example, EWR-bound flights are excluded from TOS rerouting (Figure 3.140).

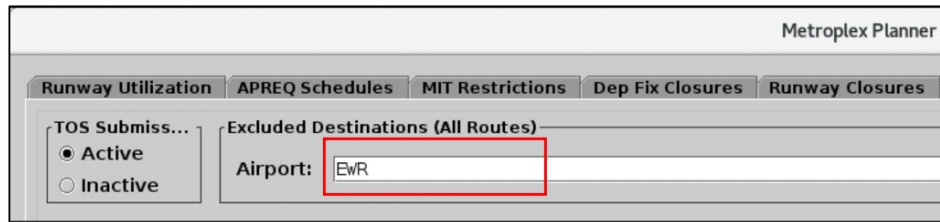


Figure 3.140. Excluded Destinations: In this example, EWR-bound flights are excluded from TOS rerouting.

As a result, in the CDR List all CDRs associated with this destination (in this example, EWR) are shown as *unavailable* for TOS rerouting, indicated by the “N” and red highlighting in the “Available” column (Figure 3.141).



Available	CDR	Origin	Dest ▲	Dep Fix	Dep Gate	Procedures
Y	DFWELP1S	KDFW	KELP	NELYN	SOUTH	KDFW.NELYN6.HOARY..JCT.J86.ELP..KELP
Y	DFWELP3S	KDFW	KELP	NELYN	SOUTH	KDFW.NELYN6.SAT..FST.J86.ELP..KELP
Y	DFWEV0P	KDFW	KEV	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT.J131.PXV..KEV
Y	DFWEV1N	KDFW	KEV	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..PXV..KEV
N	DFWEWRRD	KDFW	KEWR	TRRCH	EAST	KDFW.TRYTN3.LOOSE..MEM.Q29.DORET.J584.SLT.
N	DFWEWRVS	KDFW	KEWR	DARTZ	SOUTH	KDFW.DARTZ8.TNV.J87.IAH.J2.LCH.J138.SJI.J37.CA.
N	DFWEWRWB	KDFW	KEWR	TRRCH	EAST	KDFW.TRYTN3.LOOSE..MEM.J42.BNA.J42.BKW.J42.
N	DFWEWRWC	KDFW	KEWR	THHOR	EAST	KDFW.MRSSH2.ZALEA..SWB..MCB..CEW..JEF01..TE.
N	DFWEWRWV	KDFW	KEWR	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..SQS.J52.VUZ..ATL..TW
N	DFWEWRWM	KDFW	KEWR	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..MEI.J4.MGM..MCN..TW
N	DFWEWRJ3	KDFW	KEWR	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..STL..VHP..ROD..KLYNE..
N	DFWEWRLT	KDFW	KEWR	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT.J131.PXV..ROD..KLYNE..
N	DFWEWRM3	KDFW	KEWR	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..MEI.J4.MGM..MCN..TW
N	DFWEWR1S	KDFW	KEWR	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH.J138.SJI.J37.CATLN..
N	DFWEWR1N	KDFW	KEWR	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..BNA.J42.GVE.PHL..
N	DFWEWR0P	KDFW	KEWR	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..SQS.Q30.VUZ..ATL..T.
Y	DFWFAT0P	KDFW	KFAT	RO000	WEST	KDFW.KATZZ2.BRHMA..CNX.J74.SJN.J231.DRK.J6.H
Y	DFWFAT2S	KDFW	KFAT	NELYN	SOUTH	KDFW.NELYN6.SAT..DLF..FST.J86.ELP.J50.BLH.J65.
Y	DFWFAT1N	KDFW	KFAT	LOWGN	NORTH	KDFW.LOWGN8.ADM.J52.CRUSR.J6.PNH.J6.DRK.J6..
Y	DFWFAT1S	KDFW	KFAT	NELYN	SOUTH	KDFW.NELYN6.HOARY..JCT.J86.ELP.J50.BLH.J65.PM

Figure 3.141. Excluded Destinations are reflected in the CDR List. In this example, all EWR CDRs are unavailable.

### 3.1.11.3.2 Display CDR on the Map

Select a CDR/city-pair in the CDR List to view the route on the map.

To display a CDR on the map:

**Step 1:** Select “TOS Operation” from the TM Actions dropdown menu (Figure 3.118) to open the TOS Operation tab (Figure 3.119).

**Step 2:** In the “CDR Info” section, select the “List” button (Figure 3.136) to open the CDR List (Figure 3.137).

**Step 3:** Select a CDR to display on the map.

**Note:** *On the map, routes are color-coded, based on availability.*

- A route that is available (not restricted), is displayed in green on the map (e.g., DFWJFK1N in Figure 3.142).
- A route that is not available (restricted), is displayed in red on the map (e.g., DFWDC1N in Figure 3.143).

Available	CDR	Origin	Dest	Dep Fix	Dep Gate	Procedures
Y	DFWLN1N	KDFW	KILN	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..PXV..FLM..KILN
Y	DFWIND1N	KDFW	KIND	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..TERGE.SMUKE2.KI...
Y	DFWJAN1N	KDFW	KJAN	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..MEM..SQS..KJAN
Y	DFWJAX1N	KDFW	KJAX	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..MEM.J41.MGM..CA...
Y	DFWJFK1N	KDFW	KJFK	AKUNA	NORTH	KDFW.AKUNA9.MLC..ARG..BNA.J42.MOL.J24.HCM.....
Y	DFWLAS1N	KDFW	KLAS	LOWGN	NORTH	KDFW.LOWGN8.ADM.J52.CRUSR.J6.ABQ.J72.GUP.....
Y	DFWLAX1N	KDFW	KLAX	LOWGN	NORTH	KDFW.LOWGN8.ADM.J52.CRUSR.J6.DRK.J231.HIPPI...
Y	DFWLBB1N	KDFW	KLBB	LOWGN	NORTH	KDFW.LOWGN8.ADM.J52.CRUSR.J6.PNH..KLBB

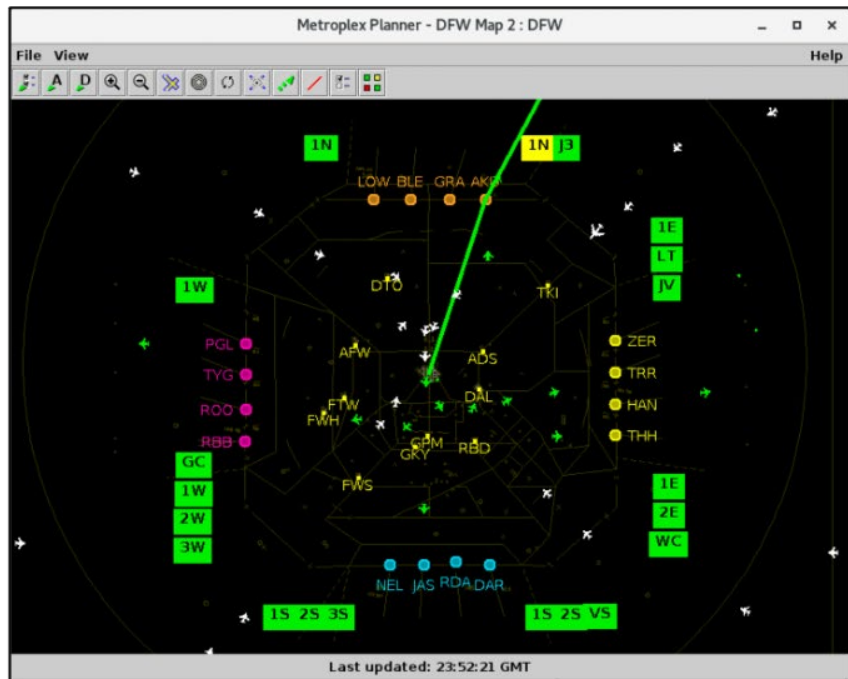


Figure 3.142. Select a CDR in the CDR List to display the route on the map. In this example, CDR “1N” is displayed in *green* on the map because it is currently *available* for TOS rerouting for DFW departures bound for JFK.

Available	CDR	Origin	Dest	Dep Fix	Dep Gate	Procedures
Y	DFWCMH1N	KDFW	KCMH	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..PXV.GAILL3.KCMH
Y	DFWCOS1N	KDFW	KCOS	LOWGN	NORTH	KDFW.LOWGN8.ROLLS.J52.LAA..PUB..FSHER.DBRY
Y	DFWCVG1N	KDFW	KCVG	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..PXV.SARGO3.KCVG
Y	DFWDAY1N	KDFW	KDAY	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..PXV..SINKR..KDAY
N	DFWDCA1N	KDFW	KDCA	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..BNA.J42.BKW.TRU
Y	DFWDTW1N	KDFW	KDTW	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..PXV..WWODD.HAN
Y	DFWELP1N	KDFW	KELP	LOWGN	NORTH	KDFW.LOWGN8.ADM.J52.CRUSR.J6.PNH.J26.CME.S
Y	DFWEV1N	KDFW	KEV	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..PXV..KEV
Y	DFWEV2N	KDFW	KEV	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..BNA.J42.GVE.PH

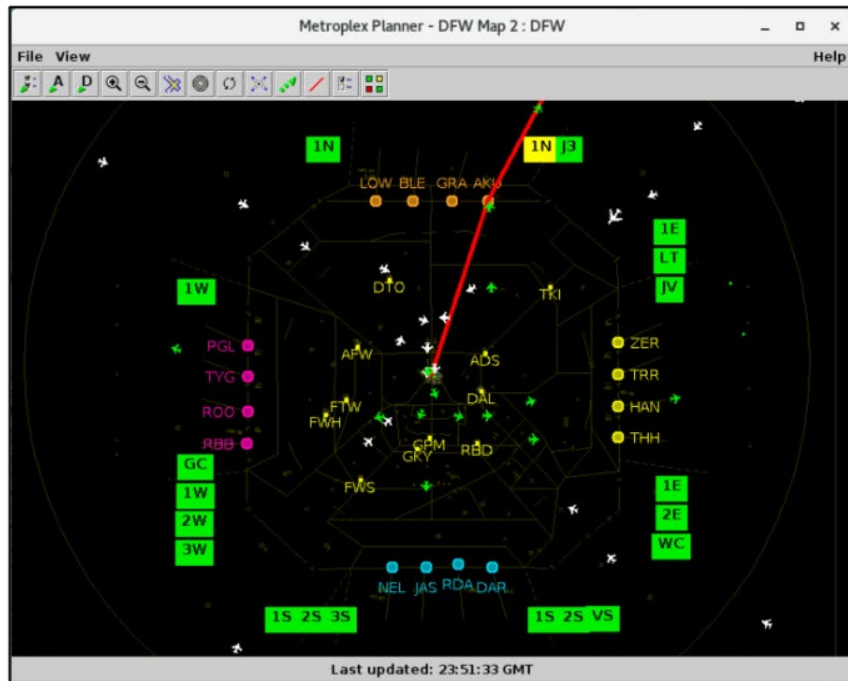


Figure 3.143. Select a CDR in the CDR List to display the route on the map. In this example, CDR “1N” is displayed in red on the map because it is currently *unavailable* for TOS rerouting for DFW departures bound for DCA.

### 3.1.11.3.3 CDR List: Sort

The CDR List can be sorted by selecting column headers.

**To sort the CDR List:**

**Step 1:** Select “TOS Operation” from the TM Actions dropdown menu (Figure 3.118) to open the TOS Operation tab (Figure 3.119).

**Step 2:** In the “CDR Info” section, select the “List” button (Figure 3.136) to open the CDR List (Figure 3.137).

**Step 3:** 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.
- Click *twice* in the column header to sort in *descending* order. A down-arrow is displayed (e.g., “Departure Gate” in Figure 3.144).
- Click a *third* time to cancel the sort.

**Step 4 (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 3.144).

The screenshot shows a window titled "CDR List" with a search bar and a table of flight data. The table has columns: Available, CDR, Origin, Dest, Dep Fix, Dep Gate, and Procedures. The "Dep Gate" column is sorted in descending order, and the "Dep Fix" column is sorted in ascending order. A red box highlights the "Dep Fix" and "Dep Gate" columns.

Available	CDR	Origin	Dest	Dep Fix	Dep Gate	Procedures
Y	DFWSAT1W	KDFW	KSAI	RBBIT	WEST	KDFW.WSTEX2.DOSXX..SJT..JCT.CSI2.KS
Y	DFWGGT1W	KDFW	MGGT	RBBIT	WEST	KDFW.WSTEX2.DOSXX..SJT..JCT..SAT..N
Y	DFWIAH1W	KDFW	KIAH	RBBIT	WEST	KDFW.WSTEX2.DOSXX..SJT..JCT..SAT..TE
Y	DFWIAH3W	KDFW	KIAH	RBBIT	WEST	KDFW.WSTEX2.WSTEX..LLO..SAT..TEJAS
Y	DFWIAH2W	KDFW	KIAH	RBBIT	WEST	KDFW.WSTEX2.CIKAN..WUNIL..SJT..JCT.
Y	DFWHOU2W	KDFW	KHOU	RBBIT	WEST	KDFW.WSTEX2.CIKAN..WUNIL..SJT..JCT.
Y	DFWGRK1W	KDFW	KGRK	RBBIT	WEST	KDFW.WSTEX2.WSTEX..BWD..KGRK
Y	DFWMGL1W	KDFW	MMGL	RBBIT	WEST	KDFW.WSTEX2.DOSXX..SJT..JCT..SAT..L
Y	DFWHOU3W	KDFW	KHOU	RBBIT	WEST	KDFW.WSTEX2.WSTEX..LLO..SAT..BELLF
Y	DFWMMX1W	KDFW	MMMX	RBBIT	WEST	KDFW.WSTEX2.DOSXX..SJT..LRD..NLD..
Y	DFWDENG	KDFW	KDEN	RO000	WEST	KDFW.KATZ22.BRHMA..CNX..GNDLA..TE
Y	DFWLGEBEE	KDFW	KLGB	RO000	WEST	KDFW.KATZ22.BRHMA..CNX..ONM..SSC
Y	DFWLAXEE	KDFW	KLAX	RO000	WEST	KDFW.KATZ22.BRHMA..CNX..ONM..PXF
Y	DFWSANEE	KDFW	KSAN	RO000	WEST	KDFW.KATZ22.BRHMA..CNX..ONM..SSC
Y	DFWSNAEE	KDFW	KSNA	RO000	WEST	KDFW.KATZ22.BRHMA..CNX..ONM..SSC
Y	DFWPHXEE	KDFW	KPHX	RO000	WEST	KDFW.KATZ22.BRHMA..CNX..ONM..DRF
Y	DFWMTJEM	KDFW	KMTJ	TYGGR	WEST	KDFW.HRPER3.HULZE..MOSE..ESPAN
Y	DFWGUCED	KDFW	KGUC	TYGGR	WEST	KDFW.HRPER3.HULZE..MOSE..ESPAN
Y	DFWNMG1S	KDFW	MNMG	DARTZ	SOUTH	KDFW.DARTZ8.BILEE..J87..IAH..SBI..A76
Y	DFWSHV1S	KDFW	KSHV	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LKF..EMG..KS
Y	DFWDTW1S	KDFW	KDTW	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH..J22..MCB
Y	DFWCSG1S	KDFW	KCSG	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH..GCV..MC
Y	DFWGSP1S	KDFW	KGSP	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH..J138..SJI
Y	DFWLGAI1S	KDFW	KLGA	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH..J138..SJI

**Figure 3.144. CDR List: Sort.** In this example, the table is first sorted in descending order by Departure Gate (down-arrow) and then sorted in ascending order by Departure Fix (smaller, up-arrow).



### 3.1.11.3.4 CDR List: Toolbar

Use the toolbar to configure the CDR List (Figure 3.145). Three icons are displayed on the toolbar:

- Edit Filters (Section 3.1.11.3.4.1)
- Show/Hide Columns (Section 3.1.11.3.4.2)
- Table Color Settings (Section 3.1.11.3.4.3)

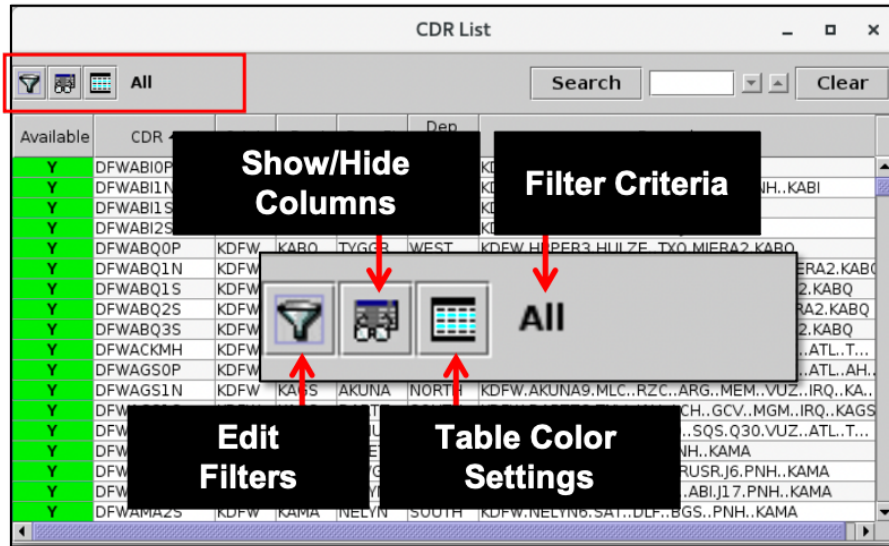


Figure 3.145. CDR List: Toolbar.

#### 3.1.11.3.4.1 Edit Filters

Use “Edit Filters” 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**

<b>Field</b>	<b>Description</b>	<b>Options</b>
Available	<p>Indicator of CDR Availability Status:</p> <ul style="list-style-type: none"> <li>• “Yes” if the CDR is available for TOS rerouting.</li> <li>• “No” if the CDR is restricted and currently excluded from TOS rerouting.</li> </ul>	<p>Select:</p> <p><i>Yes</i></p> <p><i>No</i></p>
CDR	<p>Coded Departure Route (CDR): Standard procedures for alternative routes.</p> <p>Each unique CDR name is made up of three elements. For example, “DFWDCA1N”:</p> <ul style="list-style-type: none"> <li>• Origin Airport (e.g., DFW)</li> <li>• Destination Airport (e.g., DCA)</li> <li>• Two-digit CDR code (e.g., 1N)</li> </ul>	<p>Enter:</p> <p><i>[Full CDR name]</i></p> <p><i>[3-letter Origin Airport Code]</i></p> <p><i>[3-letter Destination Airport Code]</i></p> <p><i>[Two-digit CDR code]</i></p>
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 “TOS Operation” from the TM Actions dropdown menu (Figure 3.118) to open the TOS Operation tab (Figure 3.119).

**Step 2:** In the “CDR Info” section, select the “List” button (Figure 3.136) to open the CDR List (Figure 3.137).

**Step 3:** Select the “Edit Filters” icon (Figure 3.145) in the toolbar to open the Filter window.

**Step 4:** Select a variable from the dropdown menu in the “Field” column (e.g., “Destination” in Figure 3.146).

**Step 5:** Select a modifier from the dropdown list in the “Operator” column (e.g., “=” in Figure 3.146).

**Step 6:** Select an option(s) from the dropdown list or enter criteria in the text box to populate the “Values” field (e.g., “DCA, IAD” in Figure 3.146). Separate multiple entries with a comma.

**Step 7 (Optional):** Additional filters can be applied by making entries on a new row. Begin additional rows by selecting a qualifier (i.e., “AND” or “OR”).

**Note:** *If a new row is not available, select the “Add Fields” button (Figure 3.146).*

**Step 8:** 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:** *Select “Clear” (Figure 3.146) to clear entries from the “Values” field — while retaining the “Field” and “Operator” selections.*

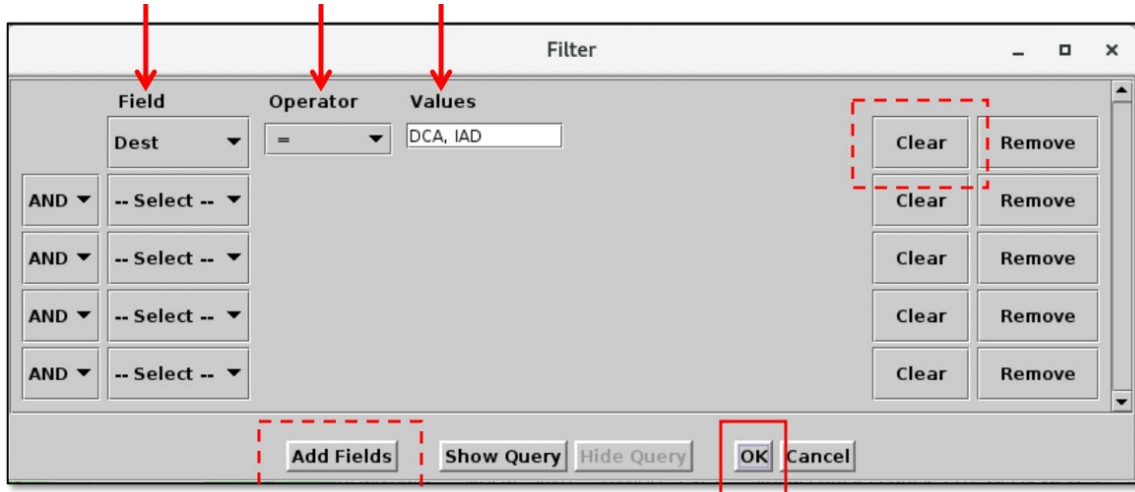


Figure 3.146. CDR List: Filter.

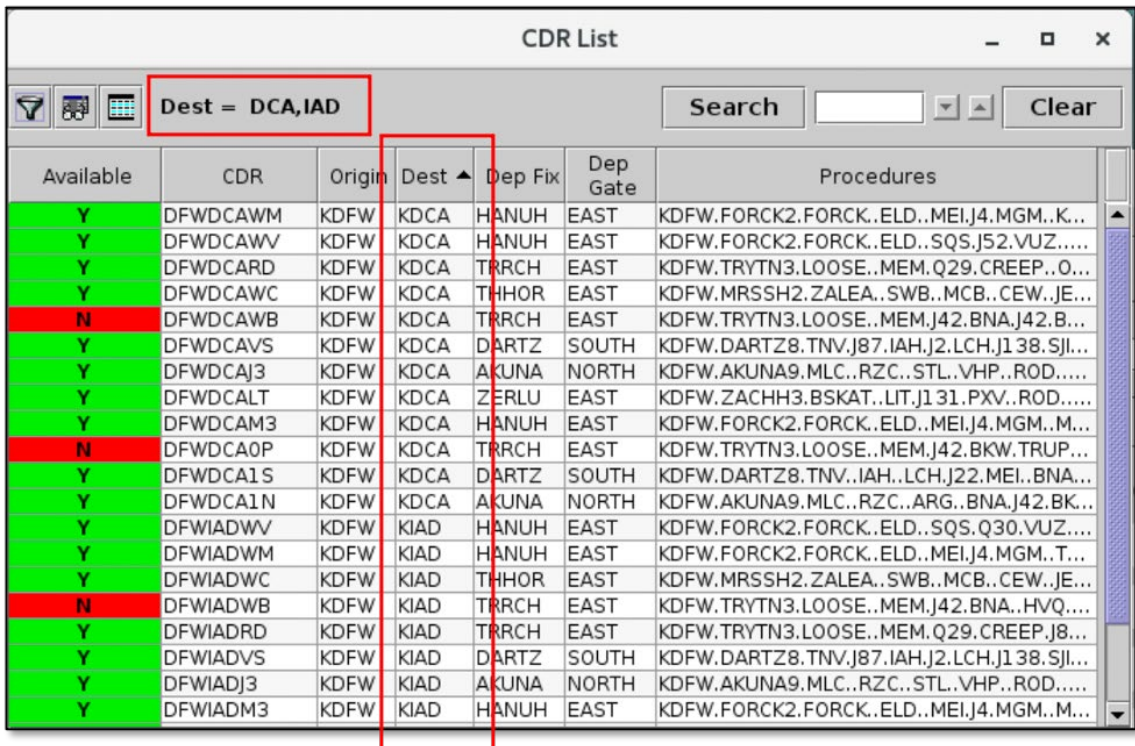


Figure 3.147. Filter criteria are displayed in the toolbar, in this example, “Dest = DCA, IAD.”



**To remove a filter in the CDR List:**

- Step 1:** Select “TOS Operation” from the TM Actions dropdown menu (Figure 3.118) to open the TOS Operation tab (Figure 3.119).
- Step 2:** In the “CDR Info” section, select the “List” button (Figure 3.136) to open the CDR List (Figure 3.137).
- Step 3:** Select the “Edit Filters” icon (Figure 3.145) in the toolbar to open the Filter window.
- Step 4:** In the dropdown menu in the “Field” column, select “-- Select --” to clear selections in that row (Figure 3.148).
- Alternatively:** Select the “Remove” button to delete that row entirely (Figure 3.148).
- Step 5:** When complete, select “OK” to close the Filter window.

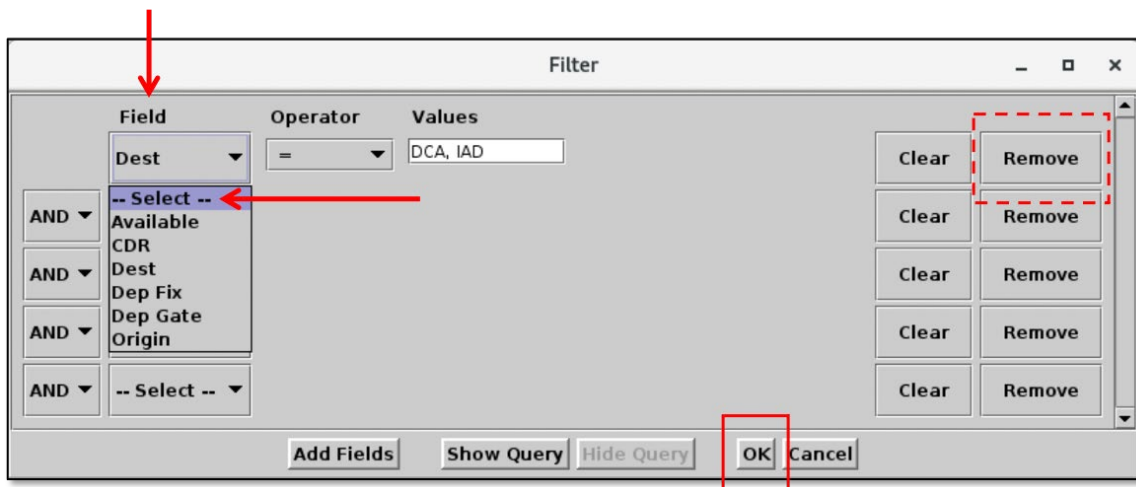


Figure 3.148. CDR List: Remove filters.

**3.1.11.3.4.2 Show/Hide Columns**

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

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: <ul style="list-style-type: none"> <li>• “Yes” if the CDR is available for TOS rerouting.</li> </ul>

	<ul style="list-style-type: none"> <li>• “No” if the CDR is restricted and currently excluded from TOS rerouting.</li> </ul>
CDR	<p>Coded Departure Route (CDR): Standard procedures for alternative routes. Each unique CDR name is made up of three elements. For example, “DFWDCA1N”:</p> <ul style="list-style-type: none"> <li>• Origin Airport (e.g., DFW)</li> <li>• Destination Airport (e.g., DCA)</li> <li>• Two-digit CDR code (e.g., 1N)</li> </ul>
Dest	Destination airport for departures
Dep Fix	Departure Fix
Dep Gate	Terminal-area Departure Gate
Origin	Origin airport for departures

### To add and reorder columns in the CDR List:

**Step 1:** Select “TOS Operation” from the TM Actions dropdown menu (Figure 3.118) to open the TOS Operation tab (Figure 3.119).

**Step 2:** In the “CDR Info” section, select the “List” button (Figure 3.136) to open the CDR List (Figure 3.137).

**Step 3:** Select the “Show/Hide Columns” icon (Figure 3.145) in the toolbar to open the “Column Settings” window.

**Note:** *Two lists are shown in the Column Settings window (Figure 3.149):*

- *On the left, “Available”, columns that are not currently displayed in the table.*
- *On the right, “Shown”, columns currently displayed in the table.*

**Step 4:** Select a column in the “Available” list (e.g., “Dep Fix” in Figure 3.149).

**Step 5:** Select the *right* arrow to move the column to the “Shown” list (Figure 3.149).

**Step 6 (Optional):** Select a column in the “Shown” list and use the “Move Up” and “Move Down” buttons to reorder the columns (Figure 3.150).

**Step 7:** When complete, select “OK” to close the Column Settings window (Figure 3.150).

**Alternatively:** Select “Cancel” to cancel the pending changes and close the Column Settings window.

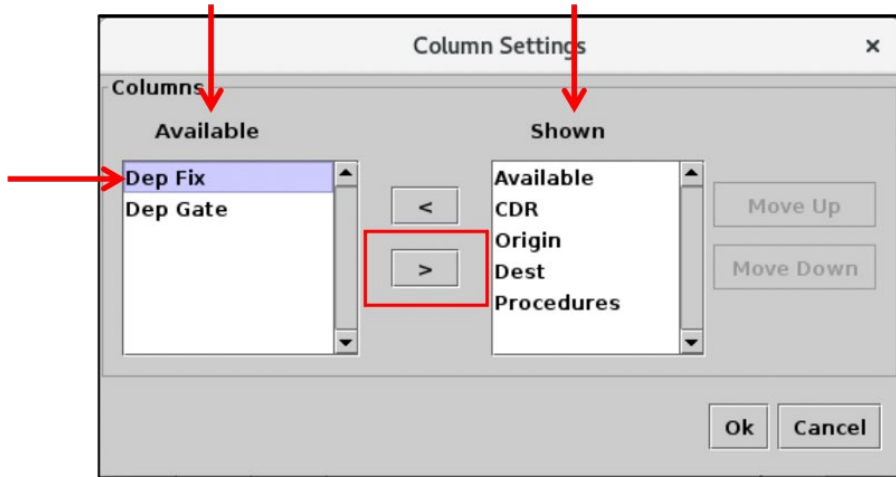


Figure 3.149. CDR List: Column Settings. Use the right arrow to add a column.

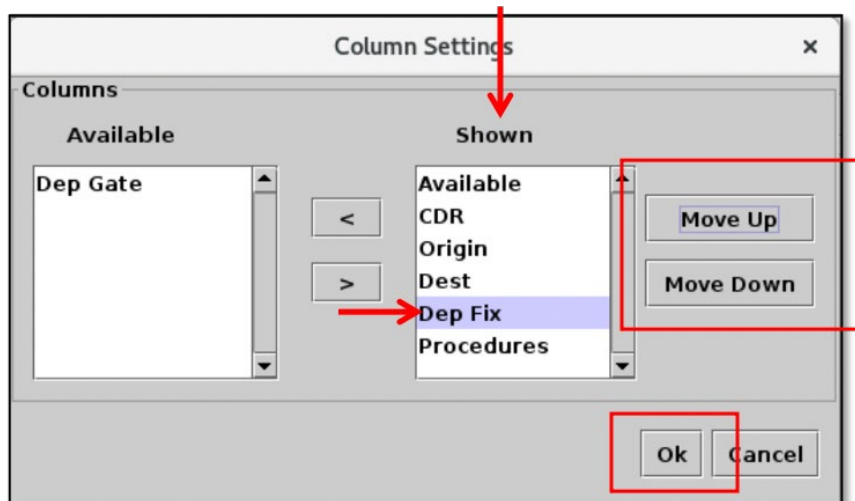


Figure 3.150. CDR List: Column Settings. Use the “Move Up” and “Move Down” buttons to reorder columns.

## To remove a column from the CDR List:

**Step 1:** Select “TOS Operation” from the TM Actions dropdown menu (Figure 3.118) to open the TOS Operation tab (Figure 3.119).

**Step 2:** In the “CDR Info” section, select the “List” button (Figure 3.136) to open the CDR List (Figure 3.137).

**Step 3:** Select the “Show/Hide Columns” icon (Figure 3.145) in the toolbar to open the “Column Settings” window.

**Step 4:** Select a column in the “Shown” list (e.g., “*Departure Fix*” in Figure 3.151).

**Step 5:** Select the *left* arrow to move the column to the “Available” list (Figure 3.151).

**Step 6:** When complete, select “OK” to close the Column Settings window (Figure 3.151).

**Alternatively:** Select “Cancel” to cancel the pending changes and close the Column Settings window.

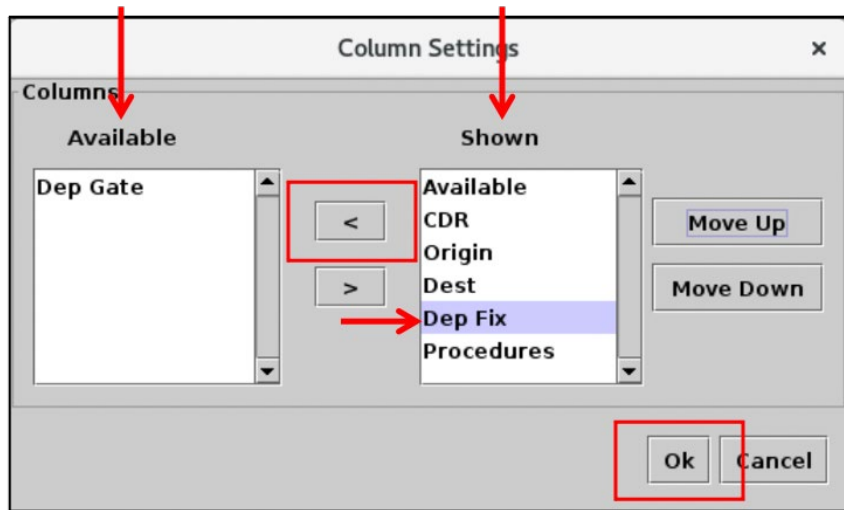


Figure 3.151. CDR List: Column Settings. Use the left arrow to remove a column.

### 3.1.11.3.4.3 Table Color Settings

Use “Table Color Settings” (Figure 3.145) to set an alternate row color and field color alerts for variables in the CDR List.

#### 3.1.11.3.4.3.1 Set Row Colors

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

## To set row colors in the CDR List:

**Step 1:** Select “TOS Operation” from the TM Actions dropdown menu (Figure 3.118) to open the TOS Operation tab (Figure 3.119).

**Step 2:** In the “CDR Info” section, select the “List” button (Figure 3.136) to open the CDR List (Figure 3.137).

**Step 3:** Select the “Table Color Settings” icon (Figure 3.145).

**Step 4:** Select the “Set Row Colors” tab (Figure 3.152).

**Step 5:** Select either the “Odd Row” or “Even Row” color box to open the “Choose Row Color” window (e.g., “Odd Row Color” in Figure 3.152).

**Step 6:** On the “Swatches” tab, select a color (e.g., green in Figure 3.153).

**Step 7 (Optional):** If needed, use the other four color-palette tabs (HSV, HSL, RGB, CMYK) to refine the color selection (Figure 3.153).

**Step 8:** When finished making the color selection, select “OK” (Figure 3.153).

**Note:** A preview of the alternating row colors is shown on the “Set Row Colors” tab (e.g., green/white in Figure 3.154).

**Step 9 (Optional):** Repeat these steps to select a color for the other odd/even row. Or, use the default color (white), as shown in Figure 3.154).

**Step 10:** Select “Ok” to close the Color Settings window and apply the color changes (Figure 3.154). See an example of alternating row colors in Figure 3.155.

**Alternatively:** Select “Cancel” to close the window without saving the changes.



Figure 3.152. Color Settings: Set Row Colors tab.

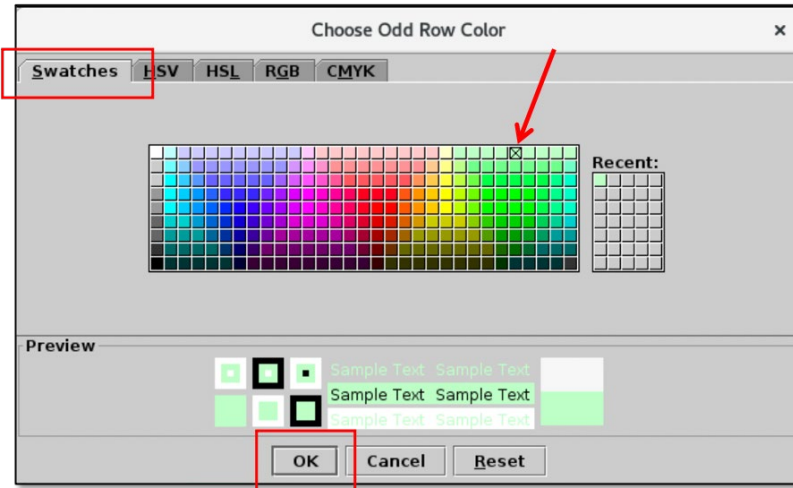


Figure 3.153. Use the “Swatches” tab to select a color. Use the HSV, HSL, RGB, or CMYK color palettes to refine the color selection, if necessary.

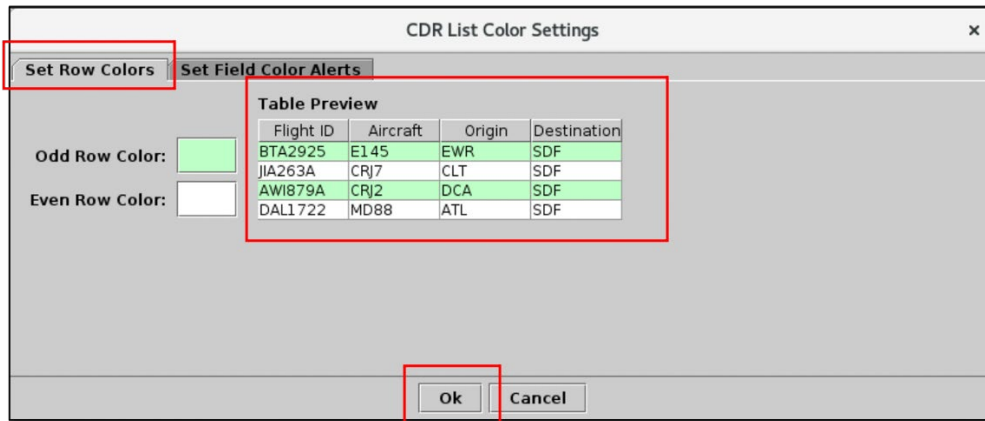


Figure 3.154. Set Row Colors: Alternating row color preview.

Available	CDR	Origin	Dest	Dep Fix	Dep Gate	Procedures
Y	DFWABI0P	KDFW	KABI	RBBIT	WEST	KDFW.WSTEX2.WSTEX..KABI
Y	DFWABI1N	KDFW	KABI	LOWGN	NORTH	KDFW.LOWGN8.ADM.J52.CRUSR.J6.PNH..KABI
Y	DFWABI1S	KDFW	KABI	NELYN	SOUTH	KDFW.NELYN6.HOARY..JCT..KABI
Y	DFWABI2S	KDFW	KABI	NELYN	SOUTH	KDFW.NELYN6.SAT..DLF..SJT..KABI
Y	DFWABQ0P	KDFW	KABQ	TYGGR	WEST	KDFW.HRPER3.HULZE..TXO.MIERA2.KABQ
Y	DFWABQ1N	KDFW	KABQ	LOWGN	NORTH	KDFW.LOWGN8.ADM.J52.CRUSR.J6.TCC.MIERA2.KABQ
Y	DFWABQ1S	KDFW	KABQ	NELYN	SOUTH	KDFW.NELYN6.HOARY..JCT.J15.CME.MIERA2.KABQ
Y	DFWABQ2S	KDFW	KABQ	NELYN	SOUTH	KDFW.NELYN6.SAT..DLF..INK.J15.CME.MIERA2.KABQ
Y	DFWABQ3S	KDFW	KABQ	NELYN	SOUTH	KDFW.NELYN6.SAT..FST..PEQ..CME.MIERA2.KABQ
Y	DFWACKMH	KDFW	KACK	HANUH	EAST	KDFW.FORCK2.FORCK.ELD..SQS.Q30.VUZ..ATL..TWOUP...
Y	DFWAGS0P	KDFW	KAGS	HANUH	EAST	KDFW.FORCK2.FORCK.ELD..SQS.Q30.VUZ..ATL..AHN..IR...
Y	DFWAGS1N	KDFW	KAGS	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..MEM..VUZ..IRQ..KAGS

Figure 3.155. CDR List: Alternating row colors example.

### 3.1.11.3.4.3.2 Set Field Color Alerts

Use the “Set Field Color Alerts” tab 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**

<b>Field</b>	<b>Description</b>	<b>Options</b>
Available	Indicator of CDR Availability Status: <ul style="list-style-type: none"> <li>• “Yes” if the CDR is available for TOS operations.</li> <li>• “No” if the CDR is currently restricted and being excluded from TOS operations.</li> </ul>	Yes No

#### To set Field Color Alerts in the CDR List:

**Step 1:** Select “TOS Operation” from the TM Actions dropdown menu (Figure 3.118) to open the TOS Operation tab (Figure 3.119).

**Step 2:** In the “CDR Info” section, select the “List” button (Figure 3.136) to open the CDR List (Figure 3.137).

**Step 3:** Select the “Table Color Settings” icon (Figure 3.145).

**Step 4:** Select the “Set Field Color Alerts” tab (Figure 3.156).

**Note:** *Color selections for the “Available” field are preset but can be modified (Figure 3.156).*

**Step 5:** To change the default color for “Available = No”, select the color box to open the “Choose Color” window (Figure 3.156).

**Step 6:** On the “Swatches” tab, select a color (e.g., orange in Figure 3.157).

**Step 7 (Optional):** If necessary, use the other four color-palette tabs (HSV, HSL, RGB, CMYK) to refine the color selection (Figure 3.157).

**Step 8:** When finished making the color selection, select “OK” (Figure 3.157).

**Note:** *The selected color is shown on the “Set Field Color Alerts” tab (e.g., orange in Figure 3.158).*

**Step 9 (Optional):** Repeat these steps to add/modify more field color alerts.

**Step 10:** Select “Ok” to close the “Color Settings” window and apply the color changes (Figure 3.158). See an example of color alerts in Figure 3.159.

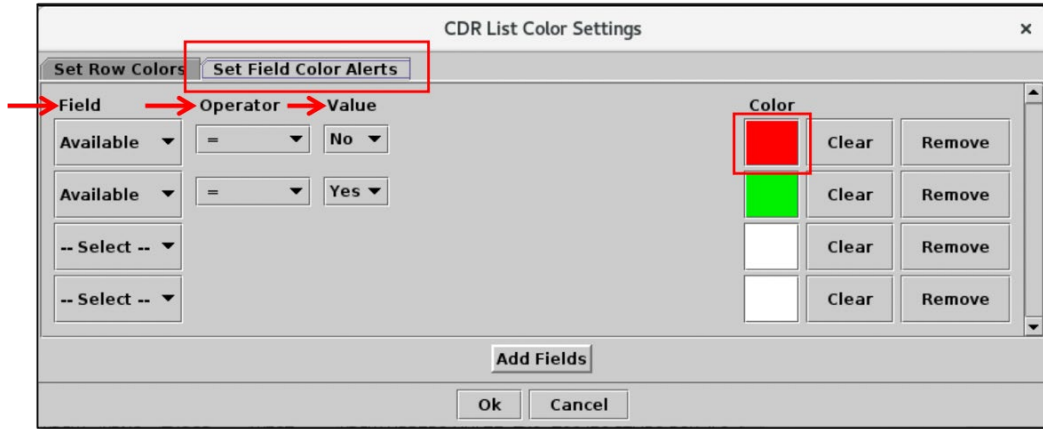


Figure 3.156. Color Settings: Set Field Color Alerts tab.

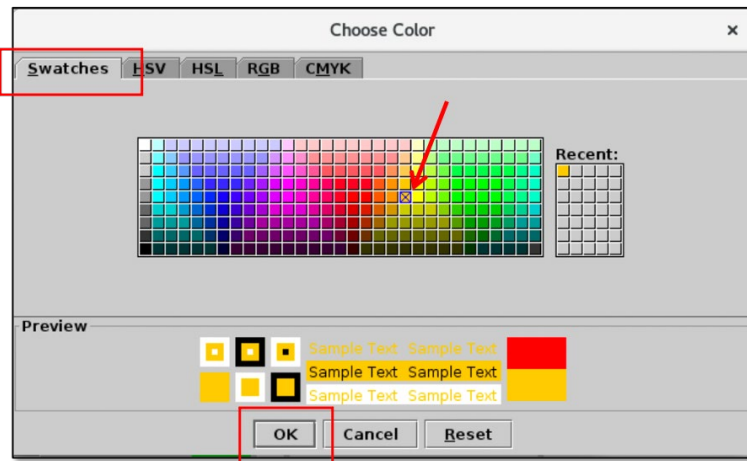


Figure 3.157. Use the “Swatches” tab to select a color. Use the HSV, HSL, RGB, or CMYK color palettes to refine the color selection, if necessary.

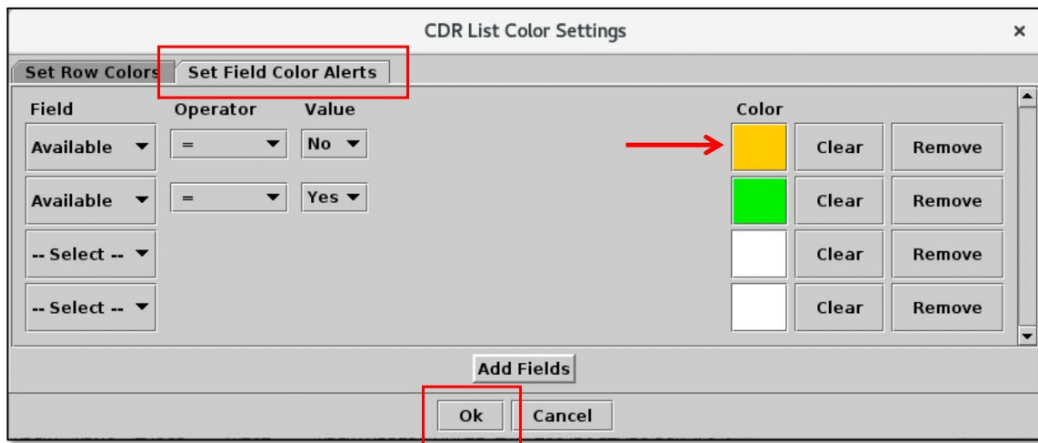


Figure 3.158. Set Field Color Alerts tab: Selected color is displayed (in this example, orange).



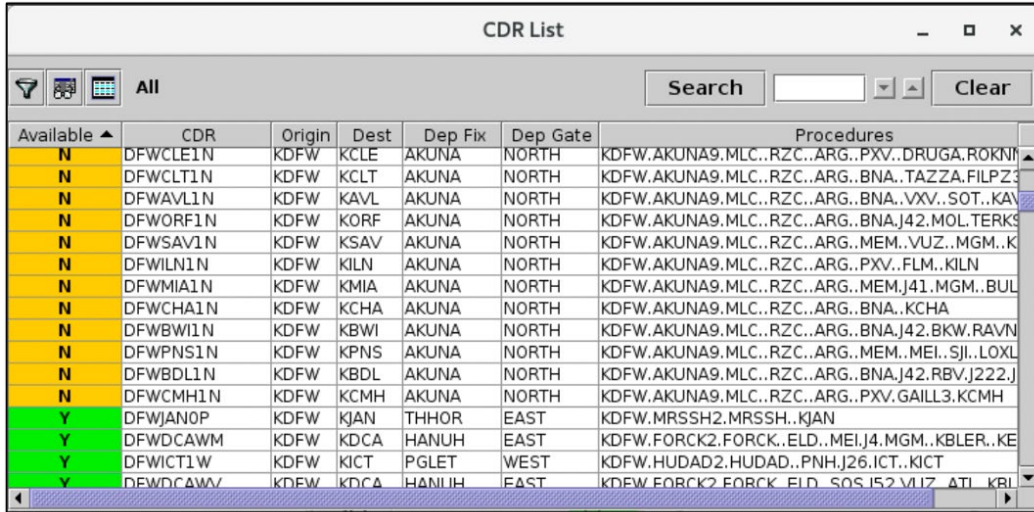


Figure 3.159. CDR List: Field Color Alerts. In this example, Available = No is highlighted orange.

### 3.1.11.3.5 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 (e.g., “JFK” in Figure 3.160).

**Step 2:** Use the up/down arrow buttons to step through each row that matches the search criteria (Figure 3.160).

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

CDR List

All

Available	CDR	Origin	Dest ▲	Dep Fix	Dep Gate	Procedures
Y	DFWJAX1N	KDFW	KJAX	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..ARG..MEM.J41.MGM..CABLO..C
Y	DFWJAX1S	KDFW	KJAX	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH.J2.DEFUN..CABLO..CAPPS...
Y	DFWJAX0P	KDFW	KJAX	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..MEI..MGM..CABLO..CAPPS.M...
Y	DFWJFKRD	KDFW	KJFK	TRRCH	EAST	KDFW.TRYTN3.LOOSE..MEM.Q29.JHW.J70.LVZ.LENDY6.KJF
Y	DFWJFKWC	KDFW	KJFK	THHOR	EAST	KDFW.MRSSH2.ZALEA..SWB..MCB..CEW..JEF01..TEEEM.Q.
Y	DFWJFKWV	KDFW	KJFK	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..SQS.Q30.VUZ..ATL..FIGEY.Q.
Y	DFWJFKWM	KDFW	KJFK	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..MEI.J4.MGM..FIGEY.Q64.TYI...
Y	DFWJFKVS	KDFW	KJFK	DARTZ	SOUTH	KDFW.DARTZ8.TNV.J87.IAH.J2.LCH.J138.SJI.J37.CATLN.Q6
Y	DFWJFKM3	KDFW	KJFK	HANUH	EAST	KDFW.FORCK2.FORCK..ELD..MEI.J4.MGM..MCN..TWIN..PA
Y	DFWJFKLT	KDFW	KJFK	ZERLU	EAST	KDFW.ZACHH3.BSKAT..LIT.J131.PXV..ROD..KLYNE.Q29.JH.
Y	DFWJFKJ3	KDFW	KJFK	AKUNA	NORTH	KDFW.AKUNA9.MLC..RZC..STL..VHP..ROD..KLYNE.Q29.JH.
Y	DFWJFK1S	KDFW	KJFK	DARTZ	SOUTH	KDFW.DARTZ8.TNV..IAH..LCH.J138.SJI.J37.CATLN.Q64.TYI
Y	DFWJFK1N	KDFW	KJFK	AKUNA	NORTH	KDFW.AKUNA9.MLC..ARG..BNA.J42.MOL.J24.HCM..SAWED
Y	DFWJFK0P	KDFW	KJFK	TRRCH	EAST	KDFW.TRYTN3.LOOSE..MEM.J42.MOL.J24.HCM..SAWED.J1.
Y	DFWLAS3S	KDFW	KLAS	NELYN	SOUTH	KDFW.NELYN6.SAT..FST..PEQ..CME.J15.ABQ.J72.GUP..HA
Y	DFWLAS0P	KDFW	KLAS	TYGGR	WEST	KDFW.HRPER3.HULZE..TXO.J72.GUP..HAHAA.RKSTR1.KLA
Y	DFWLAS1N	KDFW	KLAS	LOWGN	NORTH	KDFW.LOWGN8.ADM.J52.CRUSR.J6.ABQ.J72.GUP..HAHAA.

Figure 3.160. CDR Search: In this example, the first CDR matching “JFK” is highlighted in cyan.

### 3.1.11.4 CDR Restrictions

Use the “**CDR Restrictions**” portion of the TOS Operation tab to view and manage restrictions that impact TOS CDRs (Figure 3.161). CDR restrictions are used to filter the routes that are presented as TOS reroute options.

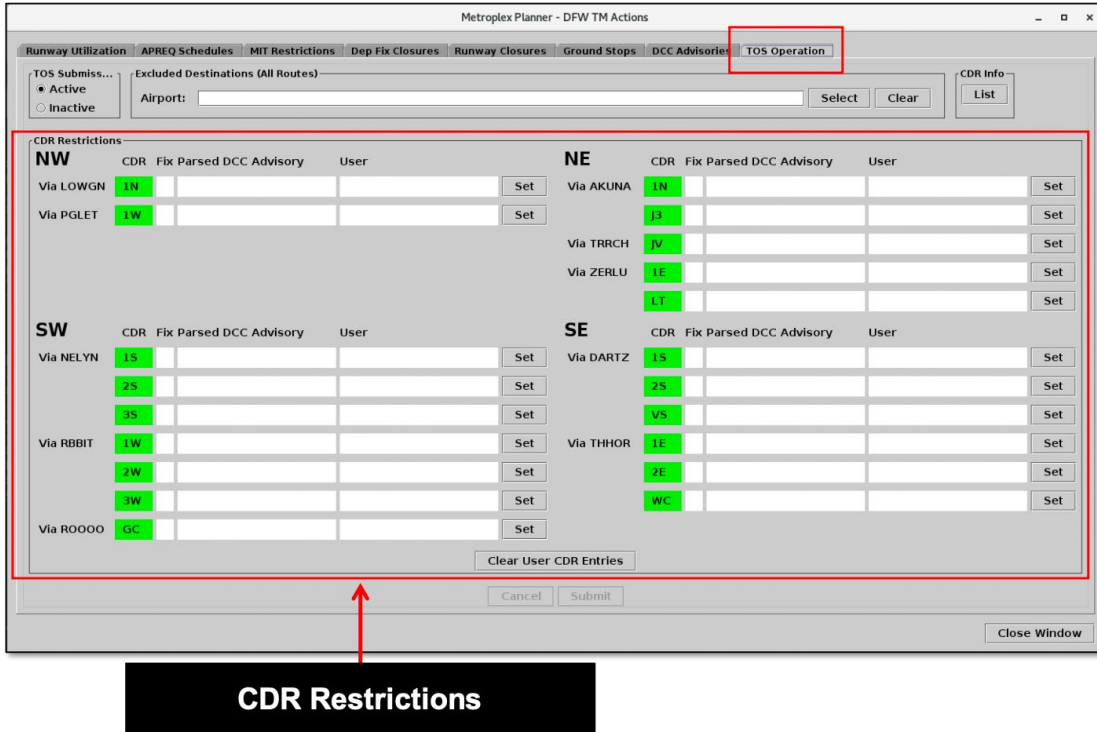


Figure 3.161. TOS Operation tab: CDR Restrictions.

CDRs are grouped by terminal area quadrants NW, NE, SW, and SE and Departure Fixes. For example, in Figure 3.162, 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 3.162).

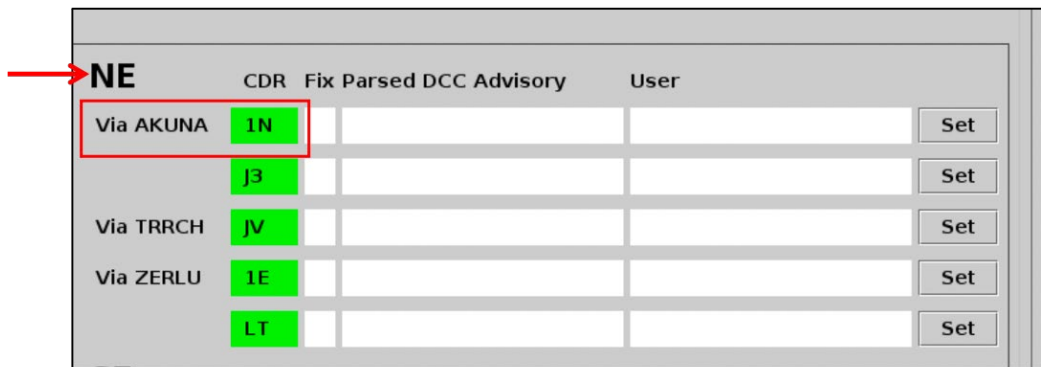


Figure 3.162. CDR Restrictions: Each row represents an individual CDR.

### 3.1.11.4.1 CDR Color-Coding

Each CDR is color-coded green, yellow, or red based on current restrictions. The color-coding indicates the availability of the CDR for TOS rerouting (see an example in Figure 3.163).

NE	CDR	Fix	Parsed DCC Advisory	User
Via AKUNA	1N		FCA002	Set
	J3			Set
Via TRRCH	JV	X		Set
Via ZERLU	1E	X		Set
	LT	X		Set
SE	CDR	Fix	Parsed DCC Advisory	User
Via DARTZ	1S		FCA002	Set
	2S			BWI DCA IAD Set
	VS			BWI DCA IAD Set
Via THHOR	1E			Set
	2E			Set
	WC			All Set

Figure 3.163. CDR color-coding indicates current availability for TOS rerouting.

Color-code definitions are described in Table 3.10.

Table 3.10. CDR Restrictions: CDR Color-Coding

Color	Description
Green	<b>Open.</b> The CDR is available and can be used for TOS rerouting.
Yellow	<b>Partially Restricted.</b> One or more destinations are restricted from using the CDR. Or, the CDR is impacted by a Flow Constrained Area (FCA) advisory. The CDR is <i>partially</i> restricted.
Red	<b>Closed.</b> The CDR is unavailable to <i>all</i> flights for TOS rerouting. The CDR is closed.

The same color-coded CDR labels can also be displayed on the map (Figure 3.164). See Section 4.6.11 for a description of how to display the labels.

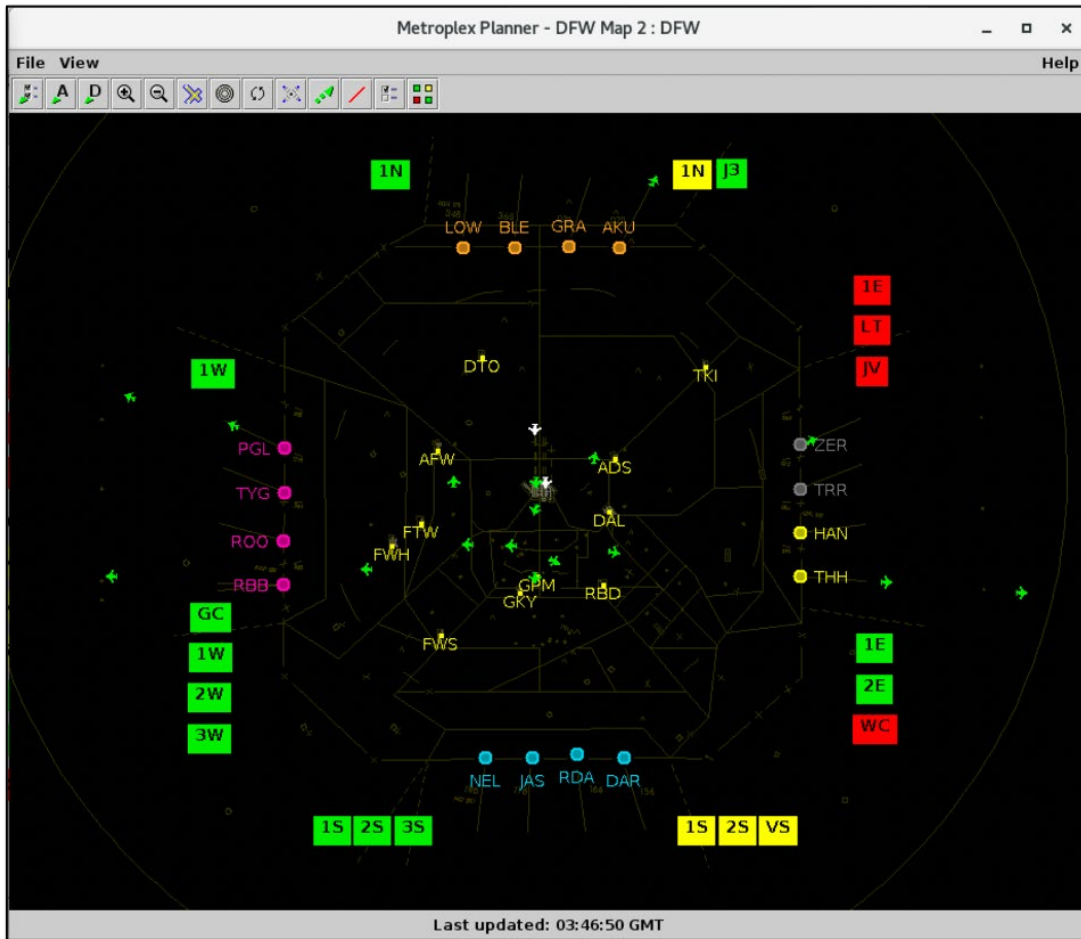


Figure 3.164. TOS Route Availability Labels on the Map.

### 3.1.11.4.2 CDR Restriction Notifications

When a CDR is partially restricted or closed, a Notification is generated (e.g., “DARTZ\_1S” in Figure 3.165). See Section 3.8 for a description of Notifications.

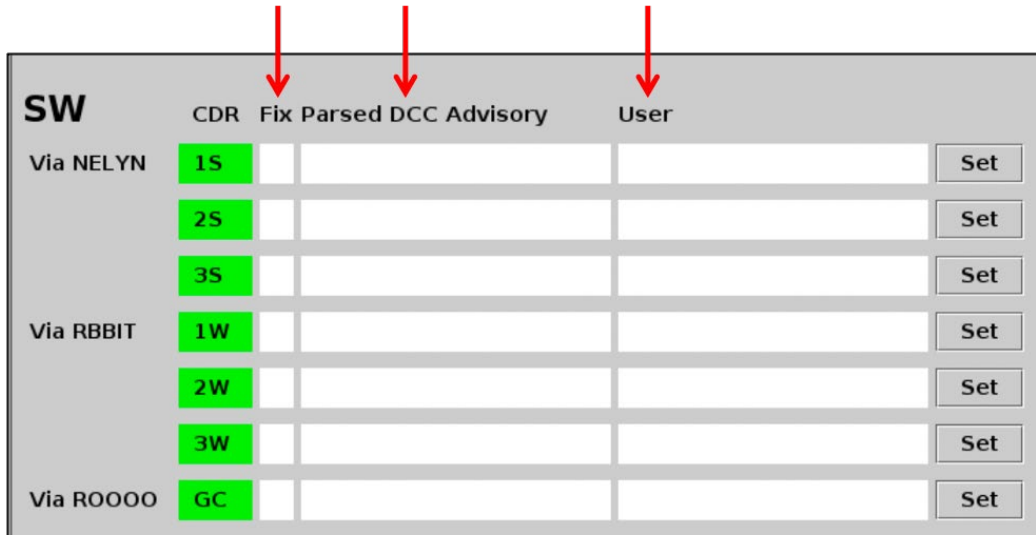


Figure 3.165. Restricted CDR Notification. Start time is shown in *hhmm* UTC format.

### 3.1.11.4.3 Types of Restrictions

Each CDR has three columns: “**Fix**”, “**Parsed DCC Advisories**”, and “**User**” (Figure 3.166). The three columns are described in detail in the following sections:

- Fix (Section 3.1.11.4.3.1)
- Parsed DCC Advisories (Section 3.1.11.4.3.2)
- User (Section 3.1.11.4.3.3)



SW	CDR	Fix	Parsed DCC Advisory	User
Via NELYN	1S			Set
	2S			Set
	3S			Set
Via RBBIT	1W			Set
	2W			Set
	3W			Set
Via ROOOO	GC			Set

Figure 3.166. Three columns are shown for each CDR: Fix, Parsed DCC Advisory, and User.

### 3.1.11.4.3.1 CDR Restrictions: Fix

When Departure Fixes are closed, the CDRs associated with those fixes are unavailable for TOS rerouting. An “X” is displayed in the “Fix” column to indicate that the CDR is closed due to fix closures. The CDR is also color-coded *red* to indicate that it is unavailable for TOS rerouting.

Fix closures take precedence over any partial-restrictions (yellow); CDRs remain closed (red) until the fixes are reopened.

In this example, the ZERLU and TRRCH Departure Fixes are closed. As a result, an “X” is displayed next to the TRRCH “JV” and ZERLU “1E” and “LT” CDRs (Figure 3.167).

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

Figure 3.167. An “X” is displayed next to CDRs that are closed due to fix closures. The CDR is color-coded red to indicate that it is unavailable for TOS rerouting.

A closed CDR is color-coded red on the map (e.g., “1E”, “LT”, and “JV” Figure 3.168). Closed Departure Fixes are grayed-out (in this example, ZERLU and TRRCH).

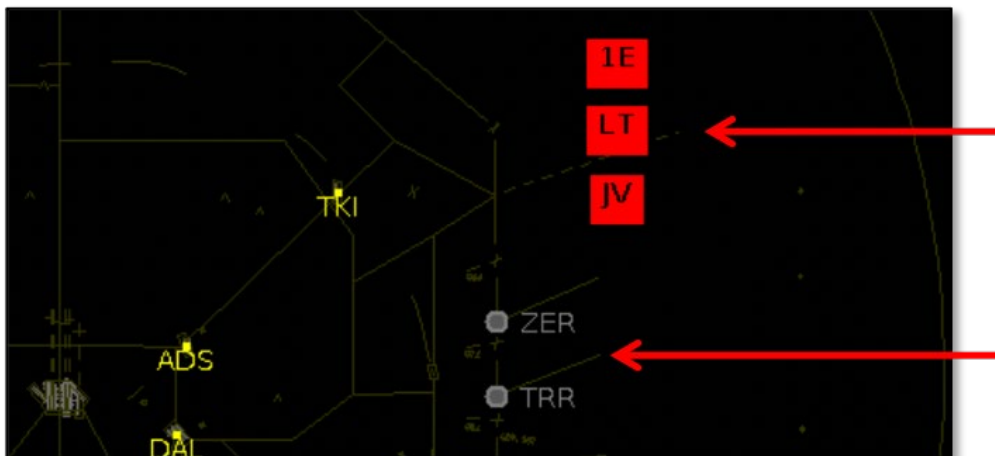


Figure 3.168. Closed CDRs are shown in red on the map.



In the **TOS Departure Table**, “FixClsd” is indicated in the “TMI Info” column when a flight’s filed route is assigned to a closed Departure Fix. In Figure 3.169, the TRRCH and ZERLU fixes are closed.

TOS Departure - Runway = DFW:17R, D

Flight ID	Rwy	Route of Flight	Dep Gate	Dep Fix ▲	TMI Info
AAL...	E17R	KDFW.MRSSH2...	EAST	THHOR	
ENY...	E17R	KDFW.MRSSH2...	EAST	THHOR	
AAL...	E17R	KDFW.MRSSH2...	EAST	THHOR	
JIA5...	17R	KDFW.TRYTN3...	EAST	TRRCH	FixClsd
AAL...	E17R	KDFW.TRYTN3...	EAST	TRRCH	FixClsd
ENY...	E17R	KDFW.TRYTN3...	EAST	TRRCH	FixClsd
ENY...	E17R	KDFW.TRYTN3...	EAST	TRRCH	FixClsd
AAL...	E17R	KDFW.TRYTN3...	EAST	TRRCH	FixClsd
AAL...	E18L	KDFW.HRPER3...	WEST	TYGGR	
AAL...	E18L	KDFW.HRPER3...	WEST	TYGGR	
AAL...	E18L	KDFW.HRPER3...	WEST	TYGGR	
AAL...	E18L	KDFW.HRPER3...	WEST	TYGGR	
AAL...	E17R	KDFW.ZACHH3...	EAST	ZERLU	FixClsd
AAL...	E17R	KDFW.ZACHH3...	EAST	ZERLU	FixClsd
ASH...	E17R	KDFW.ZACHH3...	EAST	ZERLU	FixClsd
AAL...	E17R	KDFW.ZACHH3...	EAST	ZERLU	FixClsd
AAL...	E17R	KDFW.ZACHH3...	EAST	ZERLU	FixClsd
AAL...	E17R	KDFW.ZACHH3...	EAST	ZERLU	FixClsd

Figure 3.169. TOS Departure Table: “FixClsd” is indicated in the “TMI Info” column.



### 3.1.11.4.3.1.1 Override CDR Fix Closures

Use the “CDR Settings” window to override CDR restrictions imposed by Departure Fix closures. In this example, the user opens the TRRCH “JV” CDR to make it available for TOS rerouting.

#### 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 open the “CDR Settings” window (e.g., the TRRCH “JV” CDR in Figure 3.170).

**Note:** *In the “CDR Settings” window, the Departure Fix closure is listed in the “Restrictions” table (e.g., “TRRCH Closed” in Figure 3.171). The checkmark in the “Active” column indicates that the restriction is currently being applied to this CDR — making it unavailable for TOS Operations.*

**Step 2:** To override the CDR restriction imposed by the Fix closure, *uncheck* the “TRRCH Closed” checkbox. Deselected (unchecked) restrictions are grayed-out (Figure 3.172).

**Step 3:** Select “Save” to save the change and close the “CDR Settings” window (Figure 3.172).

**Note:** *An “X” is no longer displayed in the “Fix” column. If no other restrictions are in place, the CDR is color-coded green (Figure 3.173).*

**Step 4:** On the TOS Operation tab, select the “Submit” button to apply the change (Figure 3.173).

**Note:** *Any 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:** Select the “Close Window” button at the bottom right of the TOS Operation tab (Figure 3.173) to close the TM Actions panel.

**Note:** *Restore the CDR restriction by reselecting the checkbox in the “CDR Settings” window.*

As with all TMI restrictions, Departure Fix closures can be entered manually by the ATC-user or populated automatically by automation. Note that deselecting a Departure Fix closure in a “CDR Settings” window on the **TOS Operation tab** only removes the restriction from TOS rerouting. It does *not* remove the Departure Fix closure itself from

the ATD-2 system. See Section 3.1.5 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			
	J3			
Via TRRCH	JV	X		
Via ZERLU	1E	X		
	LT	X		

Figure 3.170. Use the “Set” button to open the “CDR Settings” window.

Restrictions			
Active	Restricted	Advz#	Source
<input checked="" type="checkbox"/>	TRRCH Closed		USER

Figure 3.171. In the Restrictions Table, “TRRCH Closed” indicates that this CDR is unavailable for TOS rerouting because of fix closures.

Restrictions			
Active	Restricted	Advz#	Source
<input type="checkbox"/>	TRRCH Closed		USER

Figure 3.172. Uncheck the box to *override* the CDR closure.

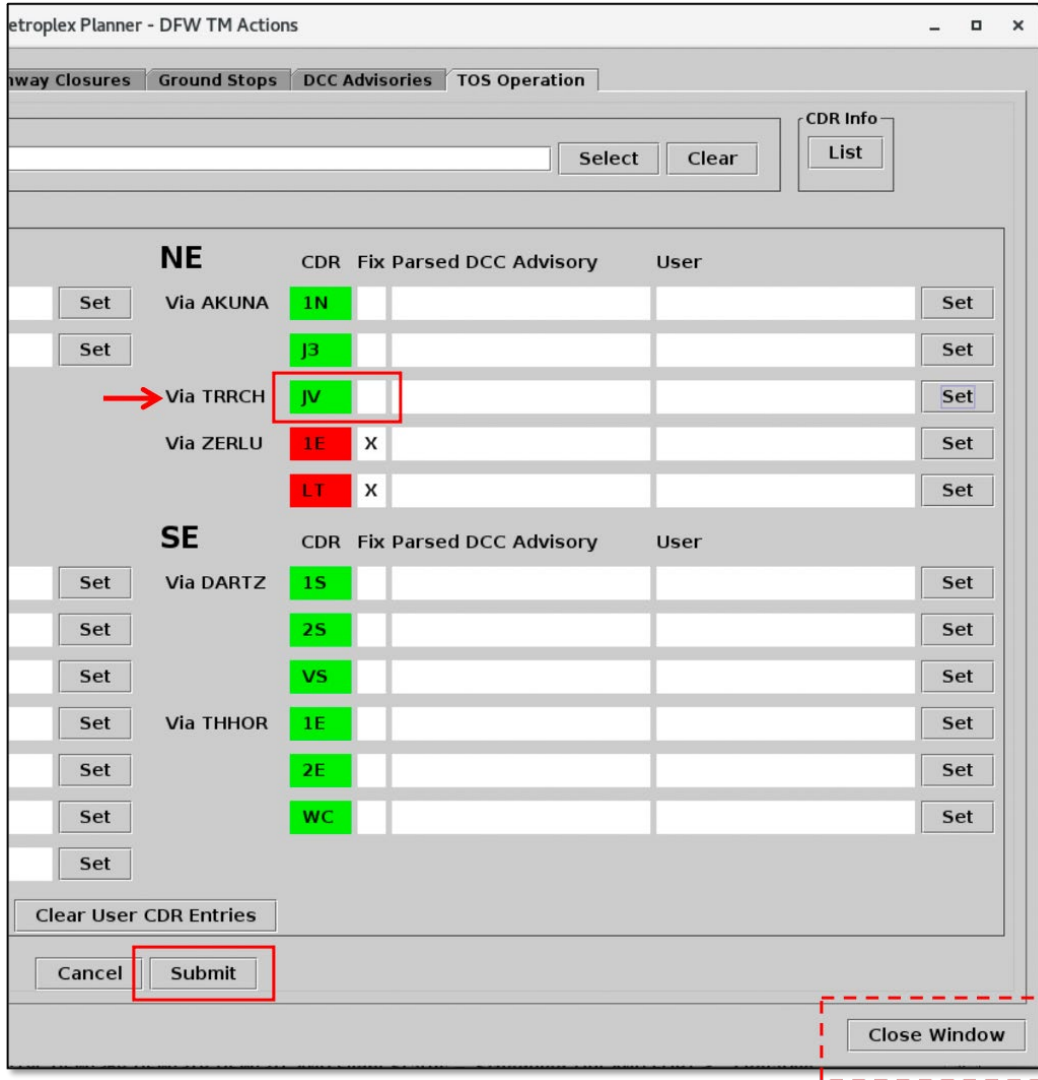


Figure 3.173. In this example, an “X” is no longer displayed in the “Fix” column for the TRRCH “JV” CDR. The CDR is color-coded green because it is now available for TOS rerouting.

### 3.1.11.4.3.2 CDR Restrictions: Parsed DCC Advisories

Restrictions created by FAA Air Traffic Control System Command Center (ATCSCC; “DCC”) advisories impact the availability of the CDRs used in ATD-2 TOS operations. The ATD-2 Metroplex Planner automatically parses (reads) DCC advisories from the TFM SWIM data feed. A DCC advisory is indicated on the **TOS Operation tab** when one of the following is true:

- The advisory has a **required reroute** with an origin center matching ZFW, ZHU, ZME, ZAB, or ZKC that restricts one, or more, of the CDRs listed on this tab. (Note, these are also displayed on the “DCC Advisories” tab, see Section 3.1.10.)
- The advisory is associated with airspace that has a **Flow Constrained Area (FCA)** that one, or more, of the CDRs listed on this tab traverses.
- The advisory is associated with an **Airspace Flow Program (AFP) based on a Flow Constrained Area (FCA)** that one, or more, of the CDRs listed on this tab traverses.

Only DCC advisories that have been parsed (read) by the ATD-2 software — and that are *currently* in effect — appear on the TOS Operation tab.

When an advisory with a **required reroute** impacts a CDR, restricted destinations are displayed in the “**Parsed DCC Advisory**” column. In Figure 3.174, for example, flights bound for TEB, EWR, JFK, or LGA are restricted from using the “1S” and “VS” CDRs through the DARTZ departure fix. While the restriction is in effect, the “1S” and “VS” CDRs will not be considered as reroute options for flights bound for these destinations.

SE	CDR	Fix	Parsed DCC Advisory	User
Via DARTZ	1S		TEB EWR JFK LGA	<input type="button" value="Set"/>
	2S			<input type="button" value="Set"/>
	VS		TEB EWR JFK LGA	<input type="button" value="Set"/>

Figure 3.174. Restricted destinations are displayed in the Parsed DCC Advisory column.

A partially restricted CDR is color-coded yellow on the map; click on the label to view the restricted destinations (e.g., TEB, EWR, JFK, LGA on the DARTZ “VS” CDR) in Figure 3.175).



Figure 3.175. TOS Route Availability Labels on the Map. Click on a yellow label to view restrictions.

When an advisory that is associated with:

- an airspace that has a **Flow Constrained Area (FCA)**, or
- an **Airspace Flow Program (AFP) based on a Flow Constrained Area (FCA)**

impacts a CDR, the advisory name is displayed in the “**Parsed DCC Advisory**” column. In Figure 3.176, for example, the “FCA002” advisory impacts the “1S” CDR through the DARTZ departure fix. While the advisory is in effect, any DARTZ “1S” route that traverses the airspace outlined in the advisory will not be considered as a TOS reroute option (for example, the DFWBOS1S CDR may traverse the airspace outlined in the advisory, while the DFWATL1S CDR may not.)

SE	CDR	Fix	Parsed DCC Advisory	User
Via DARTZ	1S		FCA002	<input type="button" value="Set"/>
	2S			<input type="button" value="Set"/>
	VS			<input type="button" value="Set"/>

Figure 3.176. FCA advisory names (e.g., FCA002) are displayed in the Parsed DCC Advisory column.

A partially restricted CDR is color-coded yellow on the map; click on the label to view the FCA advisory name (e.g., “FCA002” for the DARTZ “1S” CDR in Figure 3.177).

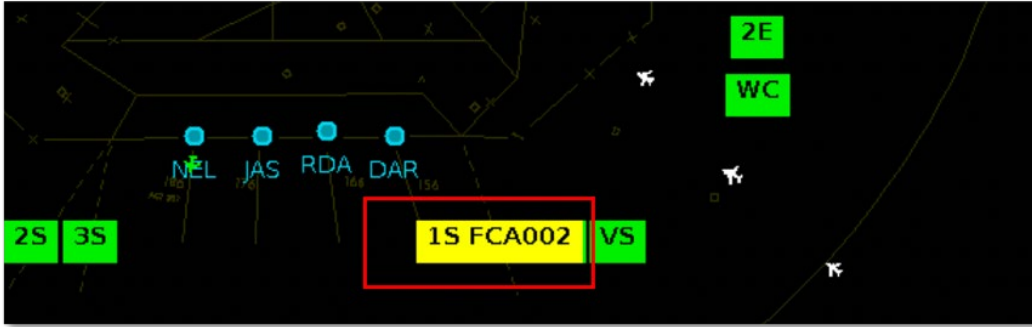


Figure 3.177. TOS Route Availability Labels on the Map. Click on a yellow label to view restrictions.

Restrictions generated by a **required reroute**, an advisory associated with airspace that has a **Flow Constrained Area (FCA)**, or an advisory associated with an **Airspace Flow Program (AFP) based on a Flow Constrained Area (FCA)** can be in effect concurrently for the same CDR. For example, in Figure 3.179, both an FCA advisory name (e.g., FCAPH3) and restricted destinations (e.g., IAD, DCA, EWR, JFK) are displayed for the AKUNA “J3” CDR.

NE	CDR	Fix	Parsed DCC Advisory	User
Via AKUNA	1N		FCA001 FCAPH3 IAD DC...	<input type="button" value="Set"/>
	J3		FCAPH3 IAD DCA EWR JF...	<input type="button" value="Set"/>
Via TRRCH	JV			<input type="button" value="Set"/>
Via ZERLU	1E			<input type="button" value="Set"/>
	LT		FCAPH3 IAD DCA EWR JF...	<input type="button" value="Set"/>

Figure 3.178. Parsed DCC Advisories: FCA restrictions and restricted destinations.

When an advisory makes a CDR unavailable for TOS rerouting, its Eligibility State is displayed as “Excluded” in the **TOS Flight Menu** (Figure 3.179). In this example, the DARTZ “1S” CDR is not an available reroute option for this flight.

TOS Flight Menu - AAL						
All						
Flight ID	Route	Dep Gate	Dep Fix	CDR	Eligibility State	
AAL...	KDFW.FORCK...	EAST	HANUH			1
AAL...	KDFW.AKUNA...	NORTH	AKUNA	DFWATL1N	Potential	1
AAL...	KDFW.DARTZ...	SOUTH	DARTZ	DFWATL1S	Excluded	1

Figure 3.179. TOS Flight Menu: CDR with “Excluded” Eligibility State.

### 3.1.11.4.3.2.1 Override CDR Restrictions Imposed by DCC Advisories

Use the “CDR Settings” window to override CDR restrictions imposed by parsed DCC advisories. In this example, the user removes restricted destinations from the DARTZ “1S” CDR.

#### To override/restore CDR Restrictions imposed by DCC 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 open the “CDR Settings” window (e.g., the DARTZ “1S” CDR in Figure 3.180).

**Note:** *In the “CDR Settings” window, the restrictions imposed by the DCC advisory are listed in the “Restrictions” table (e.g., “TEB, EWR, JFK, LGA” in Figure 3.181). The checkmark in the “Active” column indicates that flights bound for this destination are currently restricted from using this CDR for TOS rerouting.*

**Step 2:** To override the CDR restriction, *uncheck* the checkbox next to each destination. Deselected (unchecked) restrictions are grayed-out (Figure 3.182).

**Step 3:** Select “Save” to save the changes and close the “CDR Settings” window (Figure 3.182).

**Note:** *“TEB, EWR, JFK, LGA” are no longer displayed in the “Parsed DCC Advisory” column of the DARTZ “1S” CDR. Because no restrictions are in place, the CDR is color-coded green (Figure 3.183).*

**Step 4:** On the TOS Operation tab, select “Submit” to apply changes (Figure 3.183).

**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:** Select the “Close Window” button at the bottom right of the TOS Operation tab (Figure 3.183) to close the TM Actions panel.

**Note:** *Restore the CDR restriction by reselecting the checkboxes next to each destination in the “CDR Settings” window.*

**Note:** *Use the same steps to override FCA-generated restrictions.*



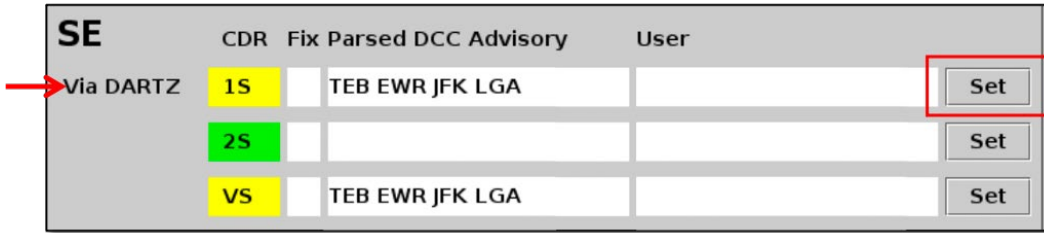


Figure 3.180. Use the “Set” button to open the “CDR Settings” window.

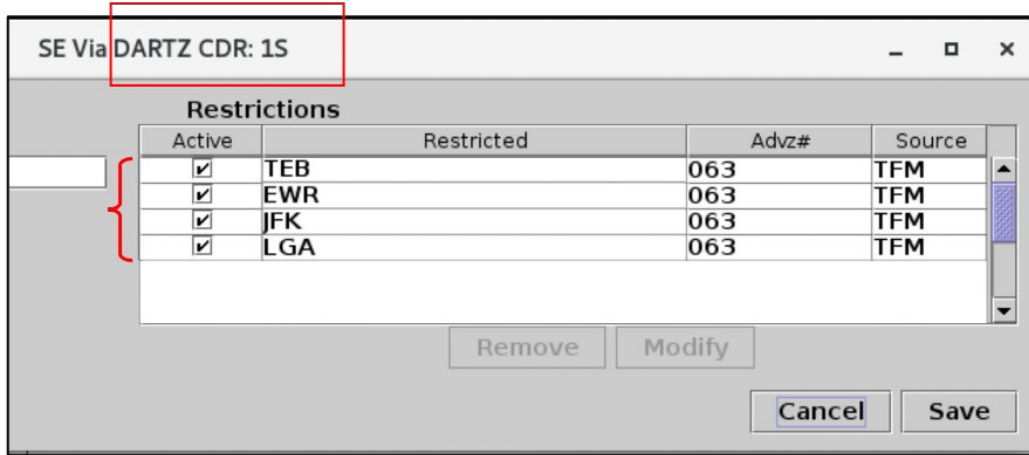


Figure 3.181. Restricted destinations are displayed in the “Restrictions” table (in this example, TEB, EWR, JFK, and LGA).

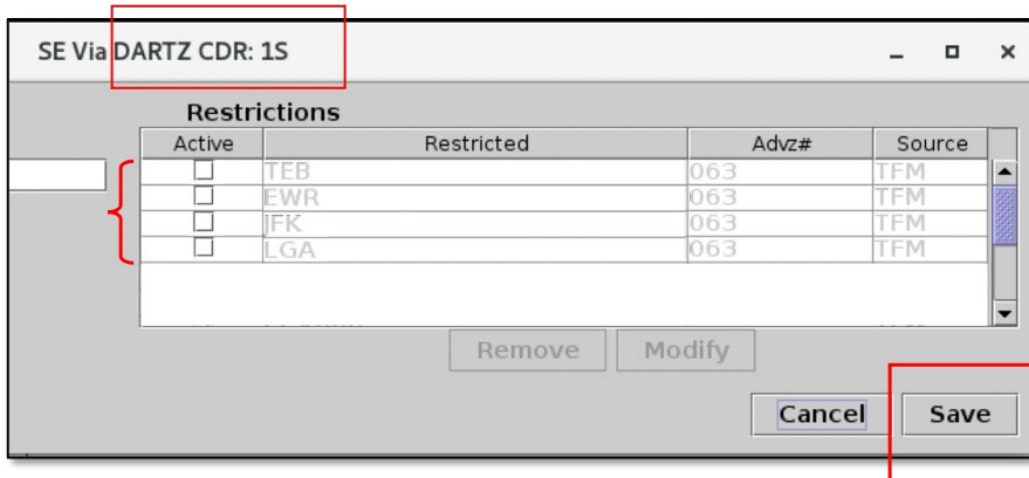


Figure 3.182. Uncheck destinations to override DCC Advisory restrictions.

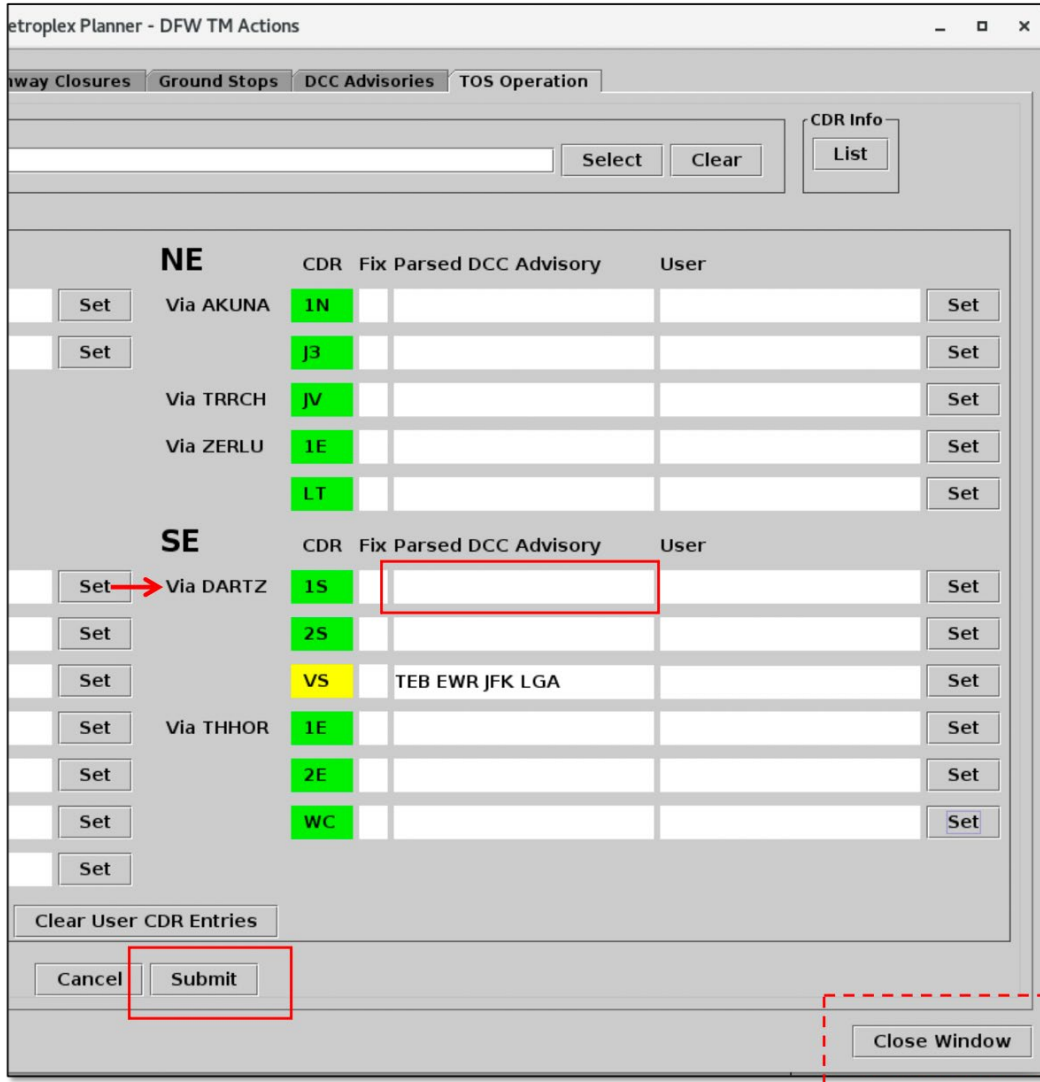


Figure 3.183. In this example, the DARTZ “1S” CDR is no longer restricted. The CDR is color-coded green to indicated that it is available for TOS rerouting.

### 3.1.11.4.3.3 CDR Restrictions: User Entries

In addition to the “Fix” and “Parsed DCC Advisory” fields which populate automatically with CDR restrictions, users can also manually add and remove CDR restrictions. Like the fix closures and DCC advisories, user-entered restrictions are also used to filter the routes that are presented as TOS reroute options. Manually entered restrictions are displayed in the “User” column (Figure 3.184).

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

Figure 3.184. CDR Restrictions: Manually entered restrictions are displayed in the “User” column.

The following types of user entries are described below:

- Add a CDR Restriction (Section 3.1.11.4.3.3.1)
- Close a CDR (Section 3.1.11.4.3.3.2)
- Close a CDR with Excepted Destinations (Section 3.1.11.4.3.3.3)
- Remove a User-Entered CDR Restriction (Section 3.1.11.4.3.3.4)
- Clear all User Entries (Section 3.1.11.4.3.3.5)

### 3.1.11.4.3.3.1 Add a CDR Restriction

Use the “CDR Settings” window to partially close a CDR by entering one or more restricted destinations. In this example, the user restricts SEA- and SFO-bound flights from being rerouted on the LOWGN “1N” CDR.

#### To manually add a CDR restriction:

*Note: CDR restrictions can only be entered and modified in ATC versions.*

**Step 1:** Only one CDR can be modified at a time. Select the “Set” button that corresponds with the CDR to open the “CDR Settings” window (e.g., the LOWGN “1N” CDR in Figure 3.185).

**Note: When a CDR is open (unrestricted), the Restrictions table is empty (Figure 3.186).**

**Step 2:** In the “Restricted Destinations” section, click on the “Select” button to open the “Select Airport” window (Figure 3.187).

**Step 3:** Check the destination(s) to be restricted (e.g., SEA and SFO in Figure 3.187).

**Step 4:** Click on the “Select” button to confirm the airport selection and close the “Select Airport” window (Figure 3.187).

**Alternatively:** Type the 3-letter airport code(s) in “Restricted Destinations” text box (e.g., “SEA,SFO” in Figure 3.187). Separate multiple airports with a comma.

**Step 5:** Select “Add” to add the new restrictions to the Restrictions Table (Figure 3.187).

**Step 6:** Select “Save” to save the changes and close the “CDR Settings” window (Figure 3.188).

**Note: SEA and SFO are displayed in the User column of the LOWGN “1N” CDR. The CDR is color-coded yellow because it is partially restricted (Figure 3.189).**

**Step 7:** On the TOS Operation tab, select “Submit” to apply changes (Figure 3.189).

**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:** Select the “Close Window” button at the bottom right of the TOS Operation tab (pictured in Figure 3.119) to close the TM Actions panel.

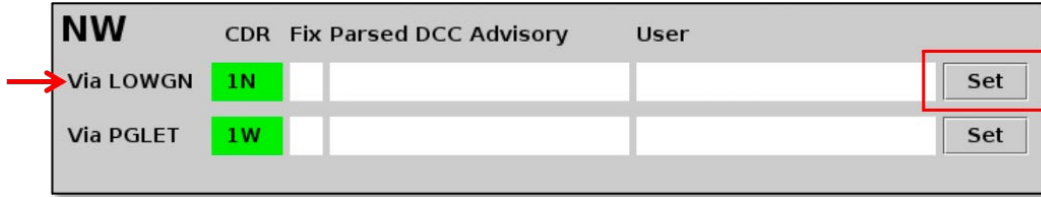


Figure 3.185. Use the “Set” button to open the “CDR Settings” window.

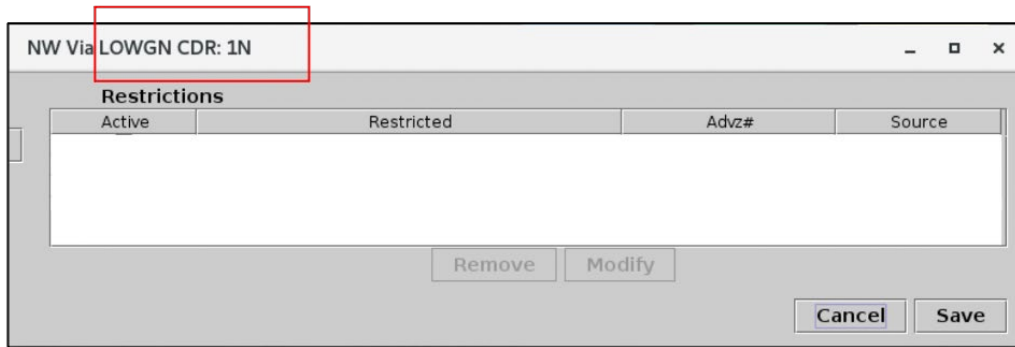


Figure 3.186. CDR Settings window: When the CDR is open, the Restrictions table is empty.

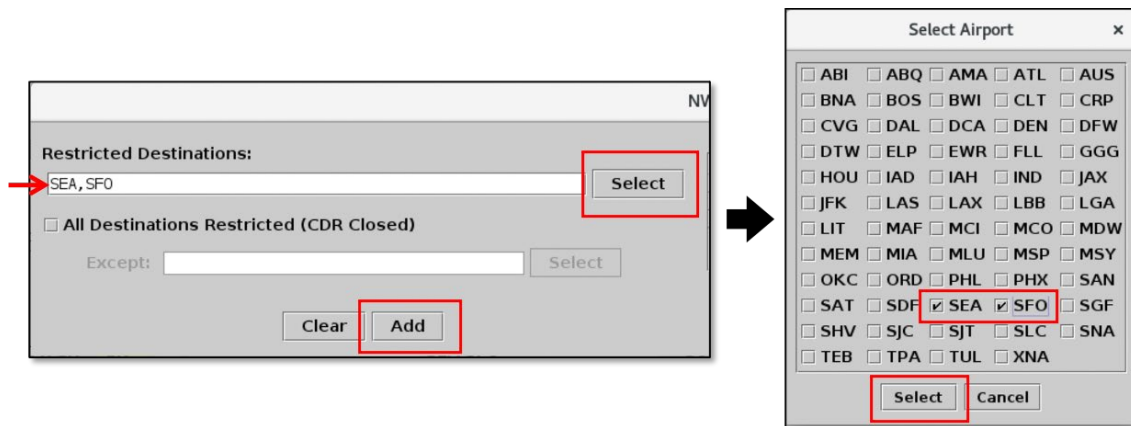


Figure 3.187. Enter or select restricted destinations (in this example, SEA and SFO).



Figure 3.188. CDR Settings window: Restricted Destinations (e.g., SEA, SFO).

CDR Restrictions					
	CDR	Fix	Parsed DCC Advisory	User	
<b>NW</b>	Via LOWGN	1N		SEA SFO	Set
	Via PGLET	1W			Set
<b>SW</b>	Via NELYN	1S			Set
		2S			Set
		3S			Set
	Via RBBIT	1W			Set
		2W			Set
		3W			Set
	Via ROOOO	GC			Set

Figure 3.189. In this example, the LOWGN “1N” CDR is color-coded yellow because it is now partially restricted (SEA- and SFO-bound flights are restricted from using this CDR).

A partially restricted CDR is color-coded yellow on the map; click on the label to view the restricted destinations (e.g., SEA and SFO on the LOWGN “1N” CDR in Figure 3.190).



Figure 3.190. TOS Route Availability Labels on the Map. Click on a yellow label to view restrictions.

### 3.1.11.4.3.3.2 Close a CDR

Use the “CDR Settings” window to close a CDR. **All destinations** associated with a closed CDR are restricted from using that CDR for TOS rerouting. In this example, the user closes the PGLET “1W” CDR.

#### To close a CDR:

*Note: CDR restrictions can only be entered and 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 open the “CDR Settings” window (e.g., the PGLET “1W” CDR in Figure 3.191).

**Note: When a CDR is open (unrestricted), the Restrictions table is empty (Figure 3.192).**

**Step 2:** Select the checkbox next to “All Destinations Restricted (CDR Closed)” (Figure 3.193).

**Step 3:** Select “Add” to add the new closure to the Restrictions table (Figure 3.193).

**Note: “All” is displayed in the Restrictions table to indicate that all destinations associated with this CDR are restricted from using this CDR for TOS rerouting (Figure 3.194).**

**Step 4:** Select “Save” to save the changes and close the CDR Settings window (Figure 3.194).

**Note: “All” is displayed in the “User” column of the PGLET “1W” CDR. The CDR is color-coded red because it is closed (Figure 3.195).**

**Step 5:** On the TOS Operation tab, select “Submit” to apply changes (Figure 3.195).

**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:** Select the “Close Window” button at the bottom right of the TOS Operation tab (pictured in Figure 3.119) to close the TM Actions panel.

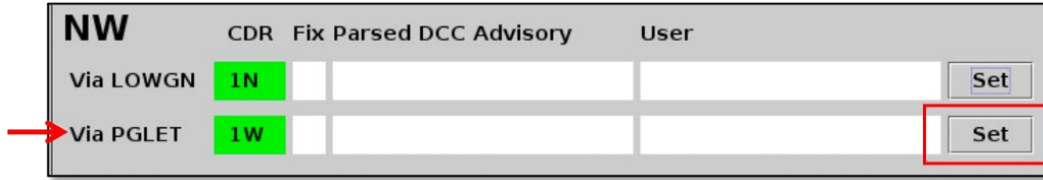


Figure 3.191. Use the “Set” button to open the “CDR Settings” window.

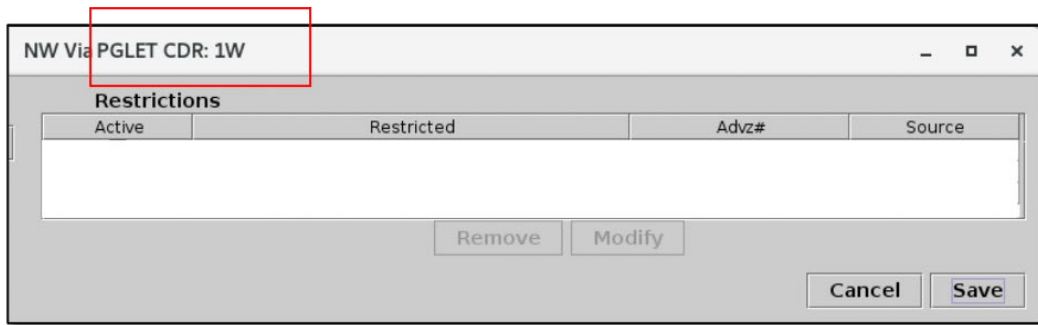


Figure 3.192. CDR Settings window: When the CDR is open, the Restrictions table is empty.



Figure 3.193. Select “All Destinations Restricted” to close the CDR.

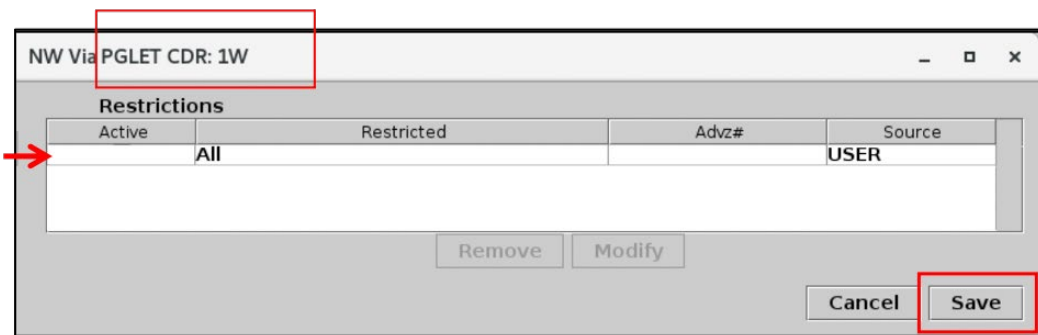


Figure 3.194. CDR Settings window: All destinations restricted.



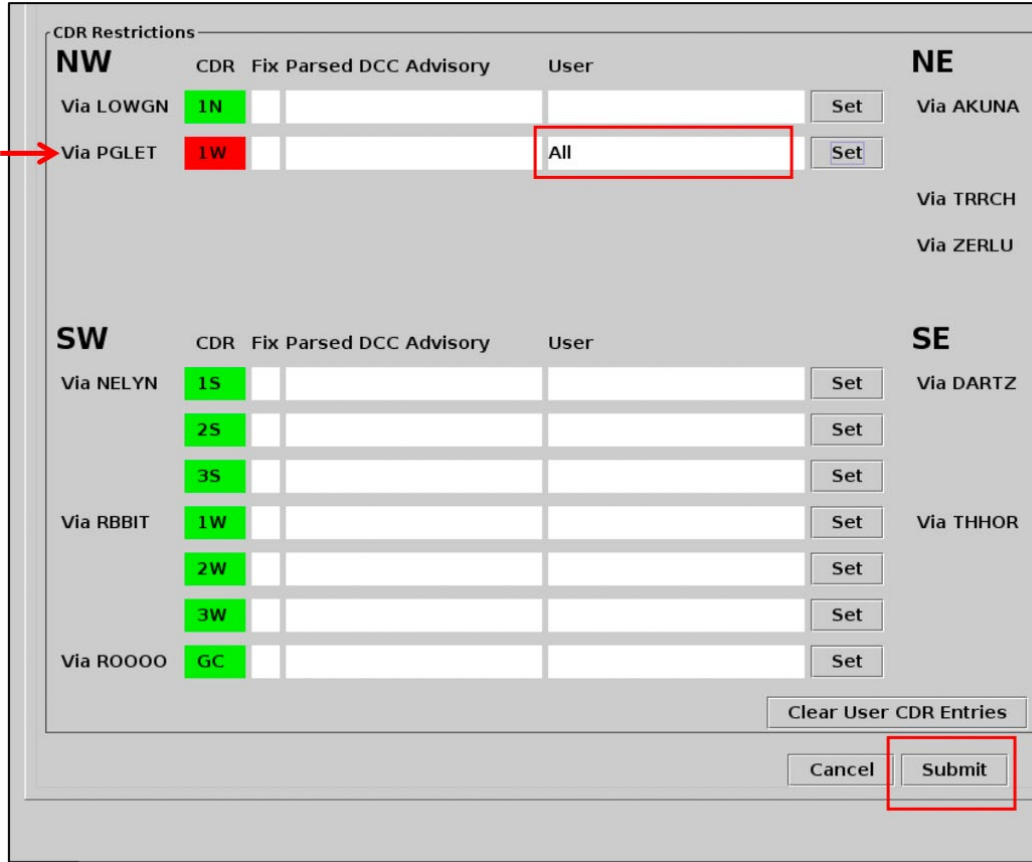


Figure 3.195. In this example, the PGLT “1W” CDR is color-coded red because it is closed, restricted for “All” destinations.

A closed CDR is color-coded red on the map (e.g., “1W” in Figure 3.196).

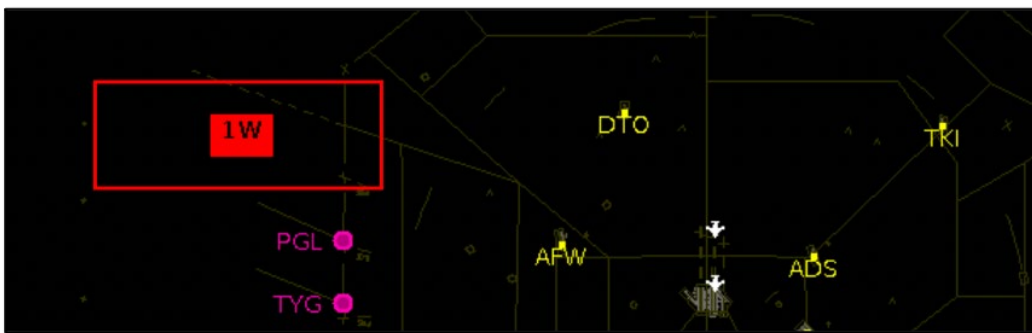


Figure 3.196. TOS Route Availability Labels on the Map. In this example, the PGLT “1W” CDR is color-coded red because it is closed.

### 3.1.11.4.3.3 Close a CDR with Excepted Destinations

All destinations associated with a closed CDR are restricted from using that CDR for TOS rerouting. Use the “Except” function in the “CDR Settings” window to exclude

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

### To close a CDR with Excepted Destinations:

*Note: CDR restrictions can only be entered and modified in ATC versions. .*

**Step 1:** Select the “Set” button that corresponds with the CDR to open the “CDR Settings” window (e.g., the PGLET “1W” CDR in Figure 3.197).

**Step 2:** Select “All” in the Restrictions table (row is highlighted in cyan) and select the “Modify” button (Figure 3.198).

**Step 3:** In the “All Destinations Restricted (CDR Closed)” section, click on the “Select” button to open the “Select Airport” window (Figure 3.199).

**Step 4:** Check the destination(s) to be excepted from the closure (e.g., OKC and TUL in Figure 3.199).

**Step 5:** Click on the “Select” button to confirm the selection(s) and close the “Select Airport” window (Figure 3.199).

**Alternatively:** Type the 3-letter airport code(s) directly in “Except” field (e.g., “OKC,TUL” in Figure 3.199). Separate multiple airports with a comma.

**Step 6:** Select the “Update” button (Figure 3.199).

**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 3.200).*

**Step 7:** Select the “Save” button to save the changes and close the CDR Settings window (Figure 3.200).

**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 now only partially restricted (Figure 3.201).*

**Step 8:** On the TOS Operation tab, select “Submit” (Figure 3.201).

**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:** Select the “Close Window” button at the bottom right of the TOS Operation tab (pictured in Figure 3.119) to close the TM Actions panel.

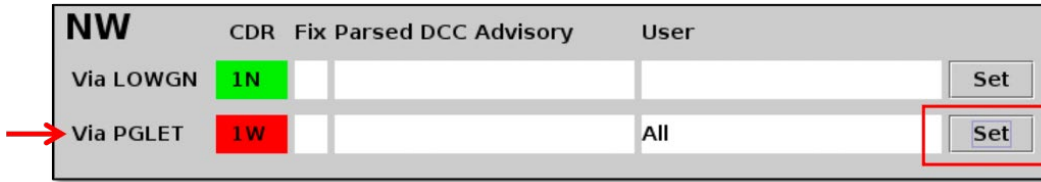


Figure 3.197. Use the “Set” button to open the “CDR Settings” window.

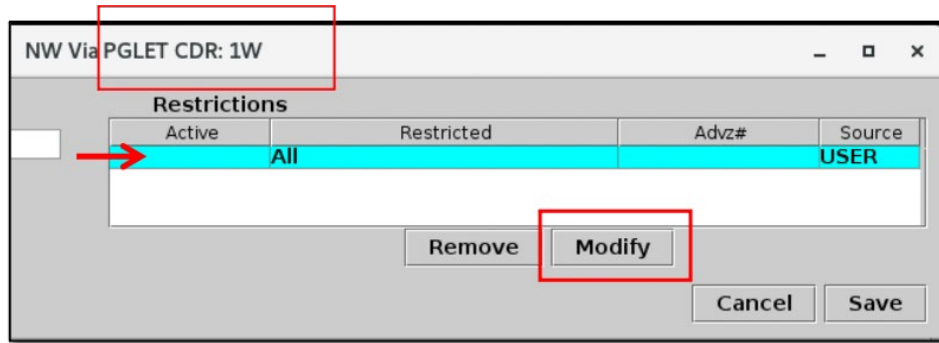


Figure 3.198. CDR Settings window: “All” indicates that the CDR is currently closed.

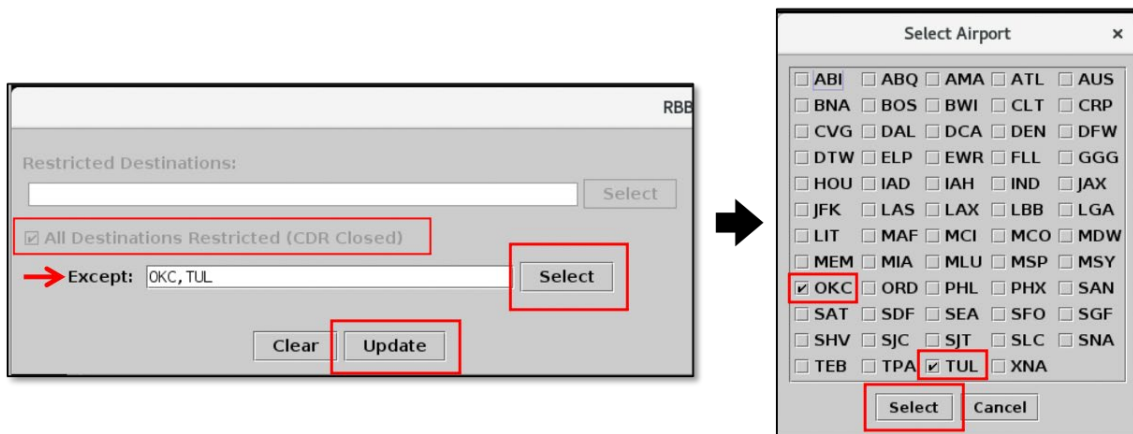


Figure 3.199. Enter or select *excepted* destinations (in this example, OKC and TUL).

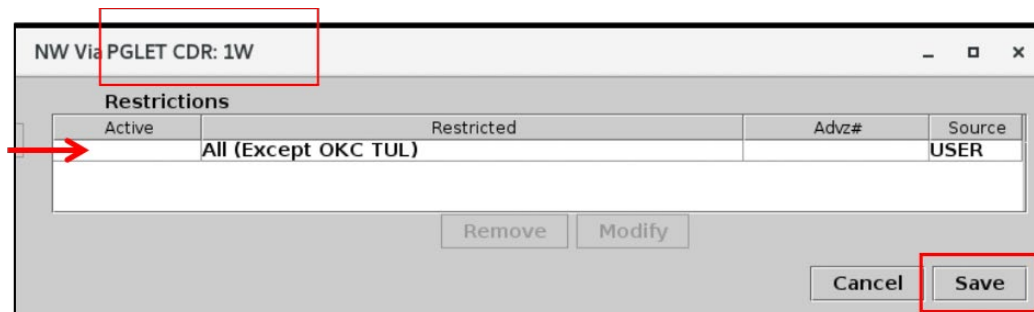


Figure 3.200. CDR Settings window: All destinations are restricted *except* for OKC and TUL.

CDR Restrictions						
	CDR	Fix	Parsed DCC Advisory	User		
<b>NW</b>	Via LOWGN	1N			Set	<b>NE</b>
	Via PGLET	1W		All (Except OKC TUL)	Set	Via AKUNA
						Via TRRCH
						Via ZERLU
<b>SW</b>	Via NELYN	1S			Set	<b>SE</b>
		2S			Set	Via DARTZ
		3S			Set	
	Via RBBIT	1W			Set	Via THHOR
		2W			Set	
		3W			Set	
	Via R0000	GC			Set	

Figure 3.201. In this example, the PGLET “1W” CDR is color-coded yellow because it is now partially restricted (all destinations *except* for OKC and TUL).

A partially restricted CDR is color-coded yellow on the map; click on the label to view the *excepted* destinations (e.g., OKC and TUL on the PGLET “1W” CDR in Figure 3.202). All destinations are restricted from using this CDR *except* for OKC and TUL.



Figure 3.202. 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-bound flights.

### 3.1.11.4.3.3.4 Remove a User-Entered CDR Restriction

Use the “CDR Settings” window to remove a user-entered restriction. In this example, the user removes *one of two* restricted destinations (SEA) from the LOWGN “1N” CDR.

#### To remove a user-entered CDR restriction:

*Note: CDR restrictions can only be entered and 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 open the “CDR Settings” window (e.g., the LOWGN “1N” CDR in Figure 3.203).

**Note:** *Destinations currently restricted from using this CDR are listed in the Restrictions table (e.g., SEA and SFO in Figure 3.204).*

**Step 2:** Select a destination in the Restrictions table (row is highlighted in cyan) and select the “Remove” button (e.g., SEA in Figure 3.204).

**Step 3:** Select “Save” to save the change and close the “CDR Settings” window (Figure 3.205).

**Note:** *Only SFO is now displayed in the User column of the LOWGN “1N” CDR. The CDR is color-coded yellow because it remains partially restricted — in this example, by SFO (Figure 3.206).*

**Step 4:** On the TOS Operation tab, select “Submit” to apply changes (Figure 3.206).

**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:** Select the “Close Window” button at the bottom right of the TOS Operation tab (pictured in Figure 3.119) to close the TM Actions panel.

**Note:** *Follow the same steps to remove CDR closures.*

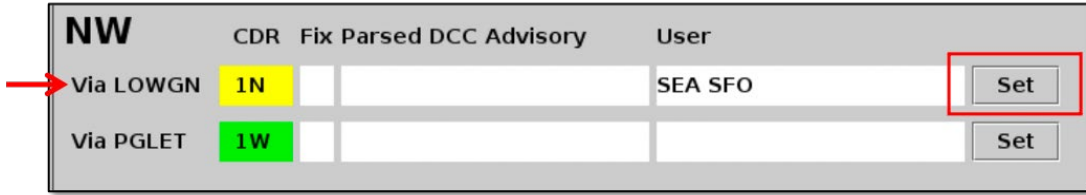


Figure 3.203. Use the “Set” button to open the “CDR Settings” window.

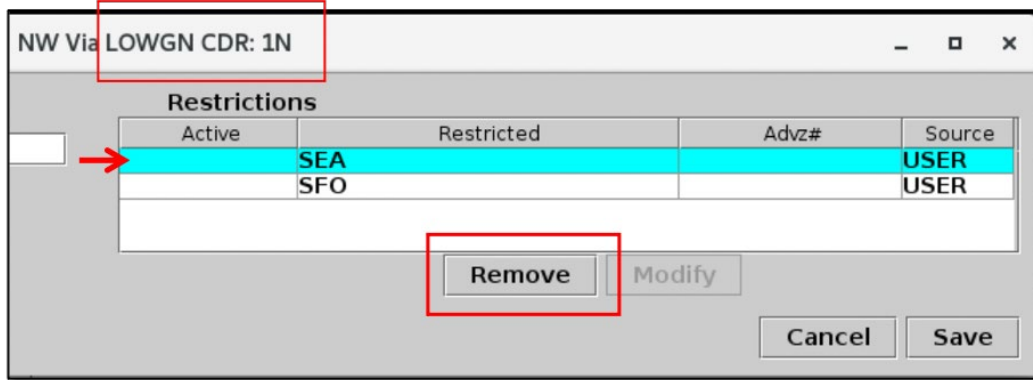


Figure 3.204. CDR Settings window: Restricted destinations, SEA and SFO.

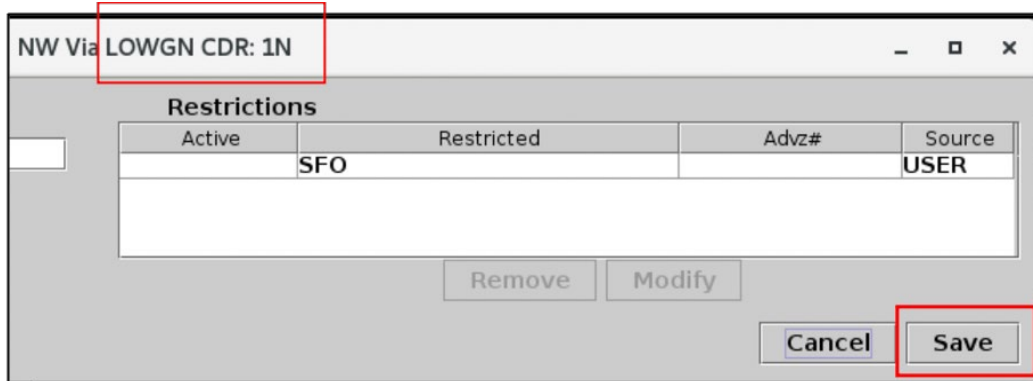


Figure 3.205. CDR Settings window: After removing SEA, SFO remains restricted.

Metroplex Planner - DFW TM Actio

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

TOS Submiss...  
 Active  
 Inactive

Excluded Destinations (All Routes)  
 Airport:

CDR Restrictions

	CDR	Fix	Parsed	DCC	Advisory	User	
<b>NW</b>							<b>NE</b>
Via LOWGN	1N					SFO	Via AKUNA
Via PGLET	1W						Via TRRCH
							Via ZERLU
<b>SW</b>							<b>SE</b>
Via NELYN	1S						Via DARTZ
	2S						
	3S						
Via RBBIT	1W						Via THHOR
	2W						
	3W						
Via ROOOO	GC						

Clear User CDR Entries

Cancel Submit

Figure 3.206. In this example, the LOWGN “1N” CDR is color-coded yellow because it remains partially restricted.

### 3.1.11.4.3.3.5 Clear all User Entries

Use the “Clear User CDR Entries” button to remove *all* user-entered CDR restrictions and closures.

#### To clear all user entries:

*Note: CDR restrictions can only be entered and modified in ATC versions of the Metroplex Planner.*

**Step 1:** If CDR restrictions or closures have been entered by a user, select the “Clear User CDR Entries” button to clear all entries at once (Figure 3.207).

**Step 2:** On the TOS Operation tab, select “Submit” to apply changes (Figure 3.207).

**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 3:** Select the “Close Window” button at the bottom right of the TOS Operation tab (pictured in Figure 3.119) to close the TM Actions panel.



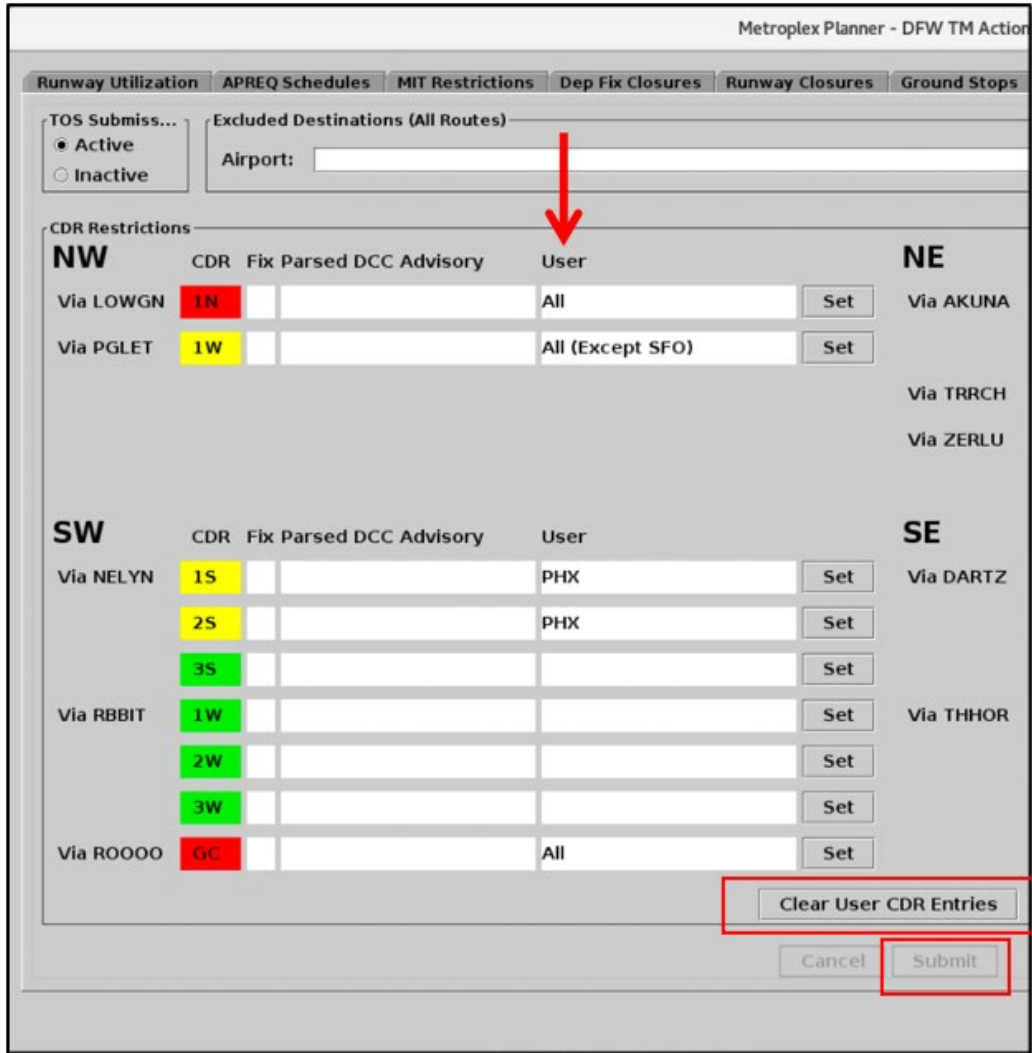


Figure 3.207. Use the “Clear User CDR Entries” button to clear all user-entered CDR restrictions at once.

## 3.2 Toolbar: Create

Use the “**Create**” button on the Toolbar to open a new Map, Table, Timeline, or Graph (Figure 3.208). 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 8 for Graphs). An overview of the “Create” function is described here.



Figure 3.208. 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 3.209).

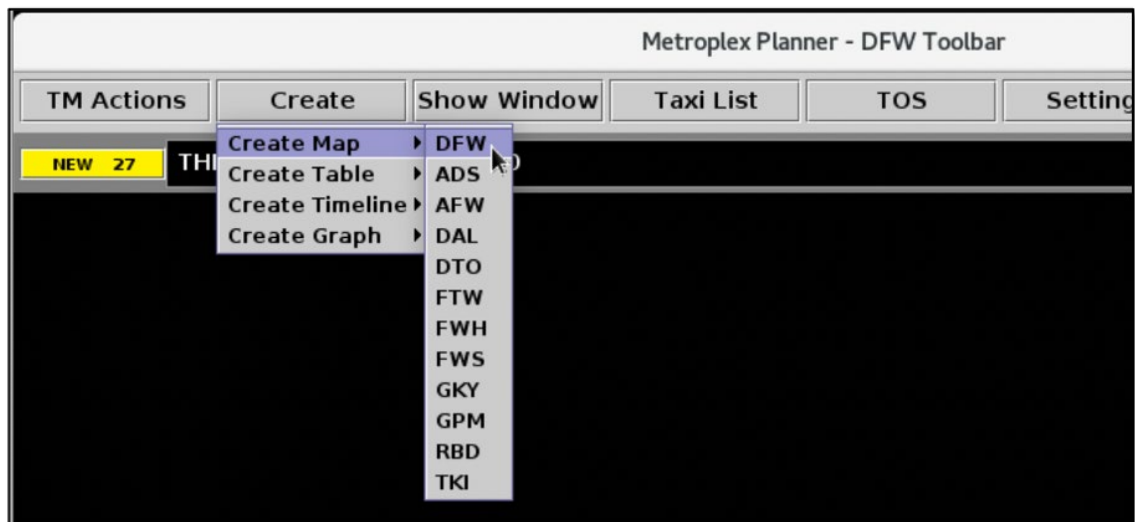


Figure 3.209. Create Map: Select Airport (in this example, “DFW” is selected).

By default, the newly created map is centered on the selected (primary) airport (e.g., DFW in Figure 3.210). The 3-letter code of the primary airport is displayed in the title bar of the map (e.g., “DFW” in Figure 3.210).

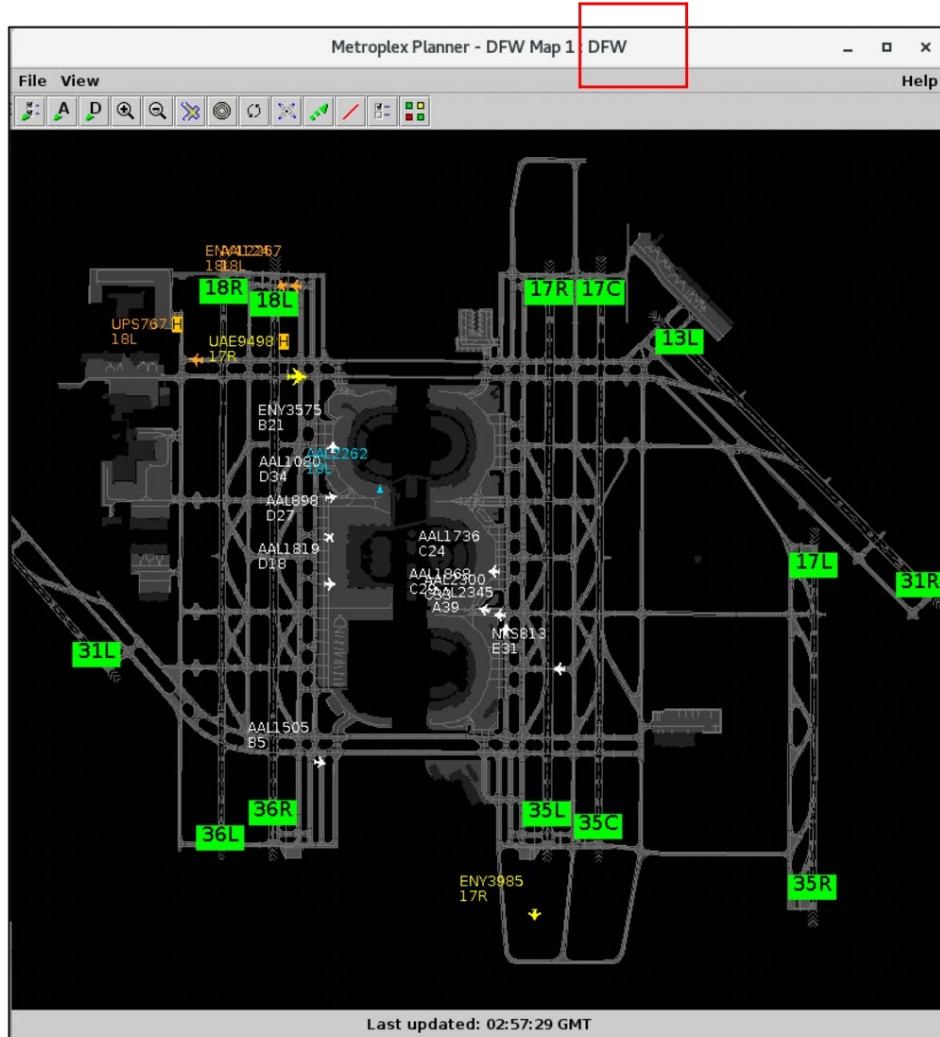


Figure 3.210. Create Map: The new map is centered on the primary airport (in this example, DFW).

If the map is repositioned or the zoom level is changed, use the “Reset Zoom” function (see Section 4.6.4) to re-center the map on the primary 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 3.211).

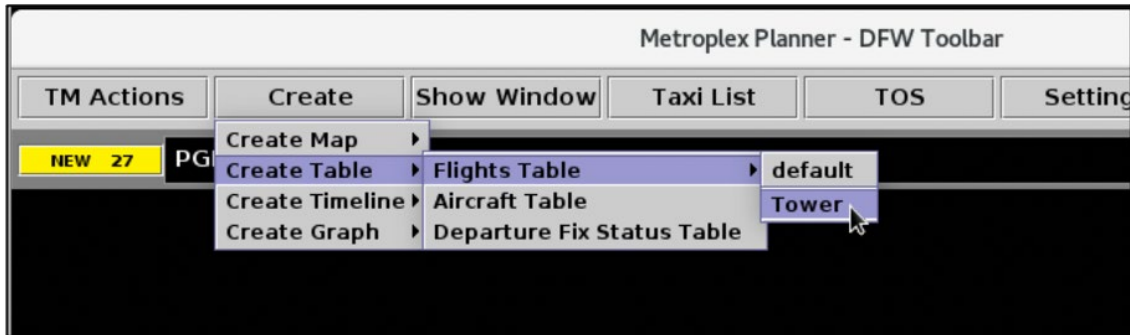


Figure 3.211. Create Table (in this example, “Flights Table”). Choose from the default configuration or a saved configuration (in this example, “Tower”).

### 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 6.6.4.1) are listed in this menu (e.g., “Tower” Figure 3.212).

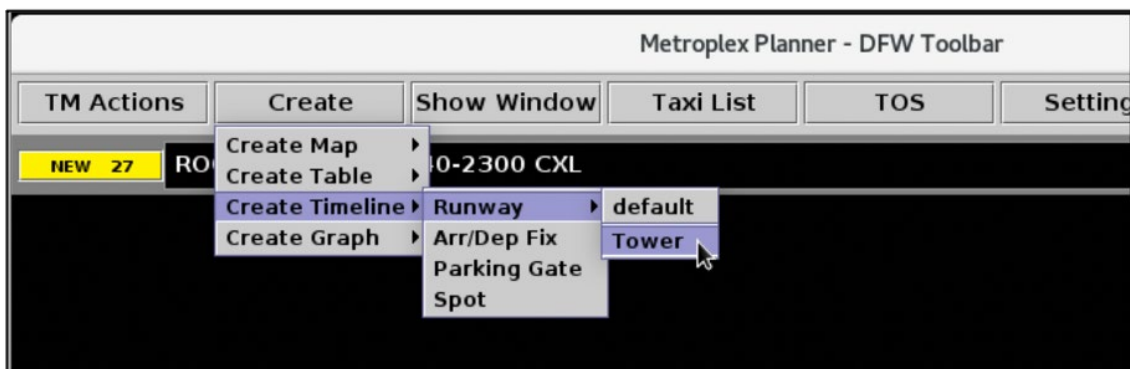


Figure 3.212. Create Timeline (in this example, “Runway” timeline). Choose from the default configuration or a saved configuration (in this example, “Tower”).

### 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 3.213). See Section 8 for a description of the graphs.

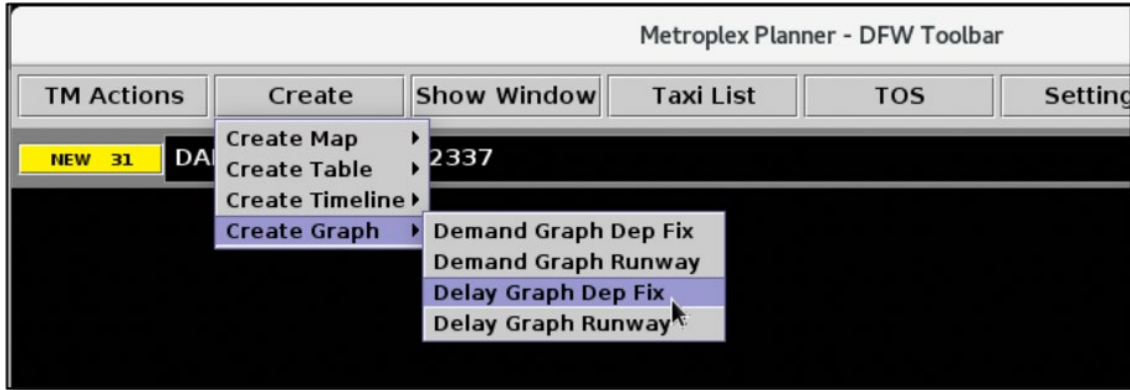


Figure 3.213. Create Graph (in this example, “Delay Graph Dep Fix”).

### 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 3.214). Displays that do not currently have open windows are grayed out and not selectable (e.g., “Show TOS Alert” in Figure 3.214).



Figure 3.214. 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 the “**Taxi List**” button on the Toolbar to view a list of departure flights and their Airport Movement Area (AMA) taxi times (Figure 3.215). The Taxi List is designed to provide a view of AMA departure delay similar to the Airport Resource Management Tool (ARMT).

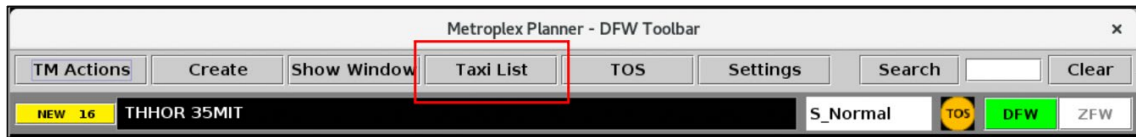


Figure 3.215. Toolbar: Taxi List.

The Taxi List includes four columns, described in Table 3.11. Click *once* on a column header to sort in ascending order; click *twice* to sort in descending order.

Table 3.11. Taxi List: Columns

Column	Description
Flight ID	Flight number (call sign). For General Aviation (GA) flights, the tail number is used.
AMA Time	<p><b>AMA Time:</b> 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.</p> <p><b>Delay Color-Coding:</b> The color-coding applied in this column (Figure 3.216) represents AMA delay (in minutes) and corresponds to the legend at the bottom of the window.</p> <p>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 <i>resulting delay value</i> exceeds 12 minutes, the cell is color-coded for situational awareness.</p> <p>See Section 3.4.1 for a description of color-coding.</p>
Dep Fix	<b>Departure Fix.</b> 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 <b>dark blue</b> (see “HANUH” in Figure 3.216).
Dest	<b>Destination</b> (3-letter airport code). When a destination is subject to a Ground Stop, the cell is color-coded <b>dark blue</b> (see “ORD” in Figure 3.216).

Three flight counts are displayed below the list. In Figure 3.216, for example:

- **Departure Count:** Number of departures displayed in the list (e.g., “25”).
- **Arrival Count:** Number of arrivals expected to land on this runway (e.g., “0”).
- **Total Runway Demand:** Sum of the Departure and Arrival counts (e.g., “25”).

The screenshot shows the 'Metroplex Planner - DFW Taxi List' window. At the top, there are two callout boxes: 'Add a Taxi List' pointing to the 'Add Taxi List' button, and 'Runway Dropdown Menu' pointing to the 'DFW 17R/35L' dropdown menu. On the left side, there are three callout boxes: 'Configure Window' pointing to the window title bar, 'Runway Departure List' pointing to the flight list table, and 'Departure, Arrival, and Total Counts' pointing to the summary section at the bottom of the list. At the bottom left, there is a callout box 'AMA Time Legend' pointing to the color-coded legend for AMA delay times. The flight list table has columns for Flight ID, AMA Time, Dep Fix, and Dest. The summary section shows a Departure Count of 25, an Arrival Count of 0, and a Total Runway Demand of 25. The AMA Time Legend shows a color scale from 15 to 180 minutes of delay.

Flight ID	AMA Time	Dep Fix	Dest
AAL2207	00:53:51	ZERLU	CMH
AAL963	00:23:14	THHOR	SBGR
ENY3703	01:03:05	NELYN	MMLO
AAL2594	01:06:14	JASPA	AUS
AAL2636	00:48:13	JASPA	AUS
ASH5825	00:53:58	THHOR	MOB
ENY4086	01:27:42	THHOR	LFT
AAL2708	00:56:13	AKUNA	ORD
ASH5861	00:26:43	THHOR	JAN
AAL947	00:03:11	AKUNA	PHL
ASH5871	00:40:37	NELYN	MMSP
ASH5989	00:07:33	AKUNA	BMI
AAL2752	00:56:52	TRRCH	DCA
ENY9809	00:09:53	ARDIA	CLL
AAL2212	00:30:04	AKUNA	ORD
ENY3311	00:20:34	THHOR	BTR
AAL1076	00:40:44	TRRCH	BNA
ENY3437	00:58:00	NELYN	ACT
AAL1547	00:57:11	NELYN	MMUN
ATN3200	00:35:32	AKUNA	ILN
ENY3551	01:08:40	NELYN	MMQT
ASH5850	00:52:30	THHOR	MLU
ASH5925	01:23:52	THHOR	PNS
ENY3396	00:40:26	HANUH	ILM
AAL346	00:39:35	THHOR	MSY

Summary:

Departure Count	Arrival Count	Total Runway Demand
25	0	25

AMA Time Legend (mins of delay): No ..., w/i 3, 15, 30, 45, 60, 75, 90, 105, 120, 135, 150, 165, 18...

Figure 3.216. Taxi List: 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 represents 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 3.217). 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.

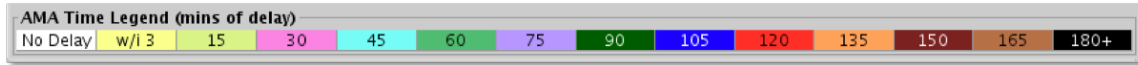


Figure 3.217. Taxi List: AMA Time Legend (minutes of delay).

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.

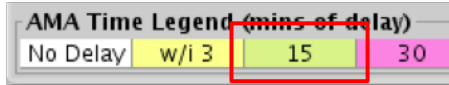
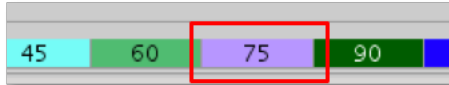
### 3.4.2 Calculating Delay in the Taxi List

In the Taxi List, delay is computed by subtracting an allotted 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 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		
<table border="1"> <tr><th>AMA Time</th></tr> <tr><td>00:10:35</td></tr> </table>	AMA Time	00:10:35	Subtract the allotted 10-min taxi time = <b>35 sec</b>	Because the value is less than the 15-min delay threshold, the flight is not color-coded. 
AMA Time				
00:10:35				
<table border="1"> <tr><th>AMA Time</th></tr> <tr><td>00:24:23</td></tr> </table>	AMA Time	00:24:23	Subtract the allotted 10-min taxi time = <b>14 min and 23 sec</b>	Because the value is <i>within three minutes</i> of the 15-min delay threshold, the flight is color-coded yellow. 
AMA Time				
00:24:23				

<table border="1"> <tr><th>AMA Time</th></tr> <tr><td>00:30:04</td></tr> </table>	AMA Time	00:30:04	Subtract the allotted 10-min taxi time = <b>20 min and 4 sec</b>	Because departure delay is between 15–29 min, the flight is color-coded light green. 
AMA Time				
00:30:04				
<table border="1"> <tr><th>AMA Time</th></tr> <tr><td>01:29:38</td></tr> </table>	AMA Time	01:29:38	Subtract the allotted 10-min taxi time = <b>79 min and 38 sec</b>	Because departure delay is between 75–89 min, the flight is color-coded purple. 
AMA Time				
01:29:38				

### 3.4.3 Configure Taxi List

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

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 time filter:

**Step 1:** Select “Taxi List” on the Toolbar (Figure 3.215).

**Step 2:** Select the “Configure Window” icon to open the Taxi List Configuration window (Figure 3.216).

**Step 3:** Select from one of two “Time” filters (Figure 3.218):

- 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 3.218).

**Step 4:** Select “Ok” to apply selections (Figure 3.218).

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

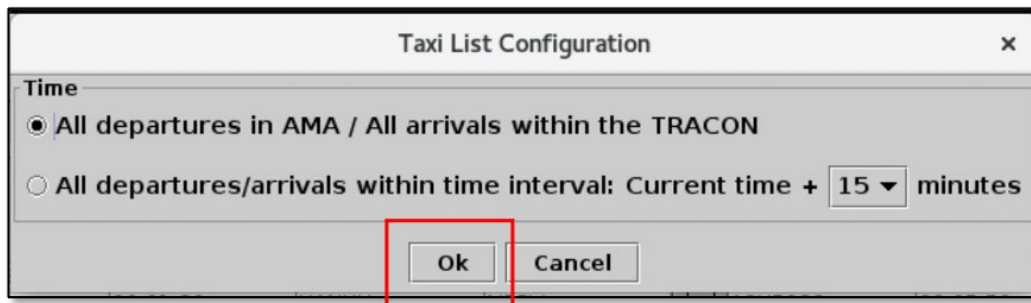


Figure 3.218. Taxi List time filter.

#### To add a Taxi List:

**Step 1:** Select “Taxi List” on the Toolbar (Figure 3.215).

**Step 2:** Select the “Add Taxi List” button (Figure 3.219).

**Step 3:** Select a runway from the dropdown list (e.g., “DFW 13R/31L” in Figure 3.219).

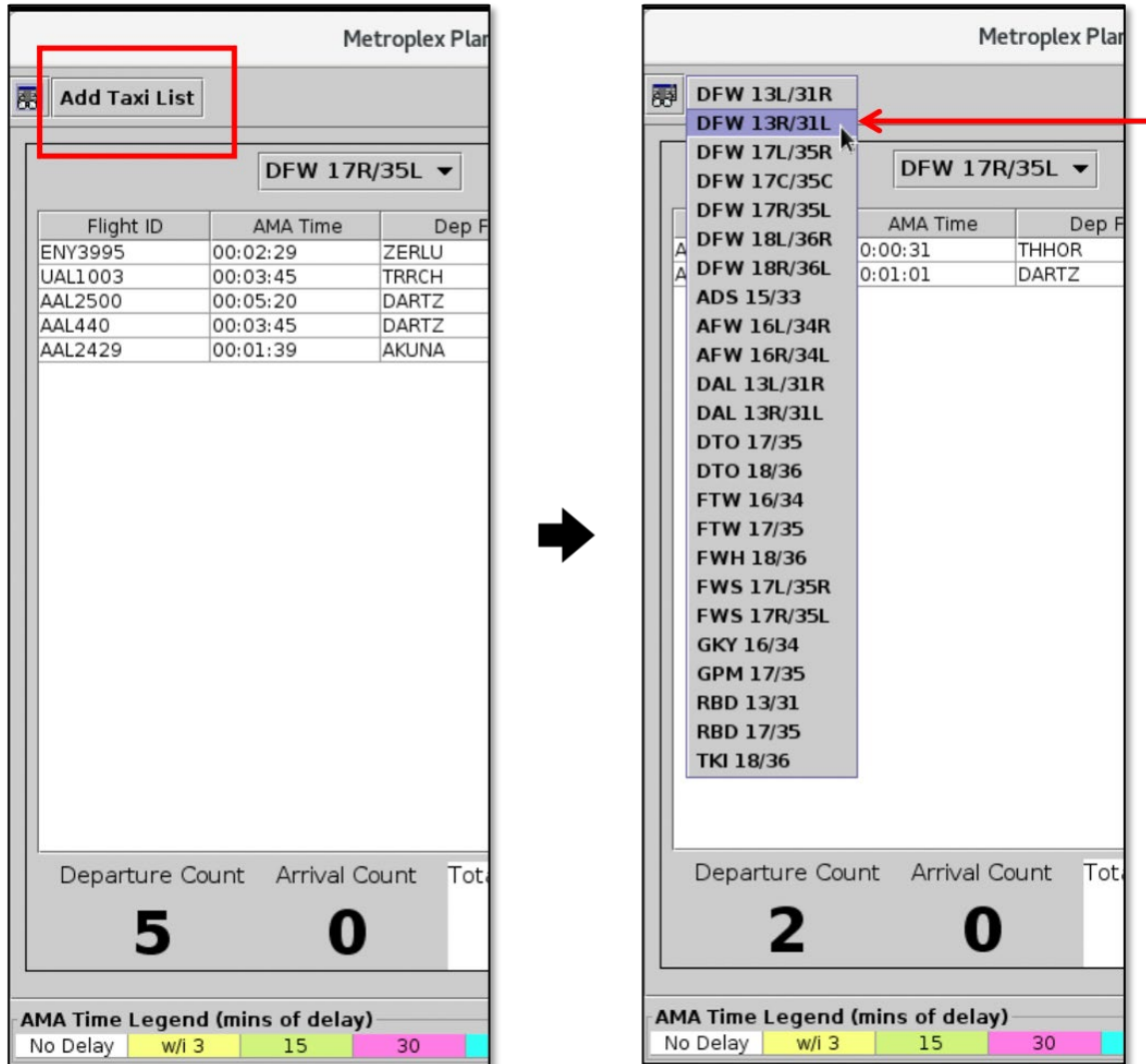


Figure 3.219. Add Taxi List, select runway.

**To change the runway:**

- Step 1:** Select “Taxi List” on the Toolbar (Figure 3.215).
- Step 2:** In an existing Taxi List, use the dropdown menu to select a different runway (e.g., “DFW 18L/36R” in Figure 3.220).

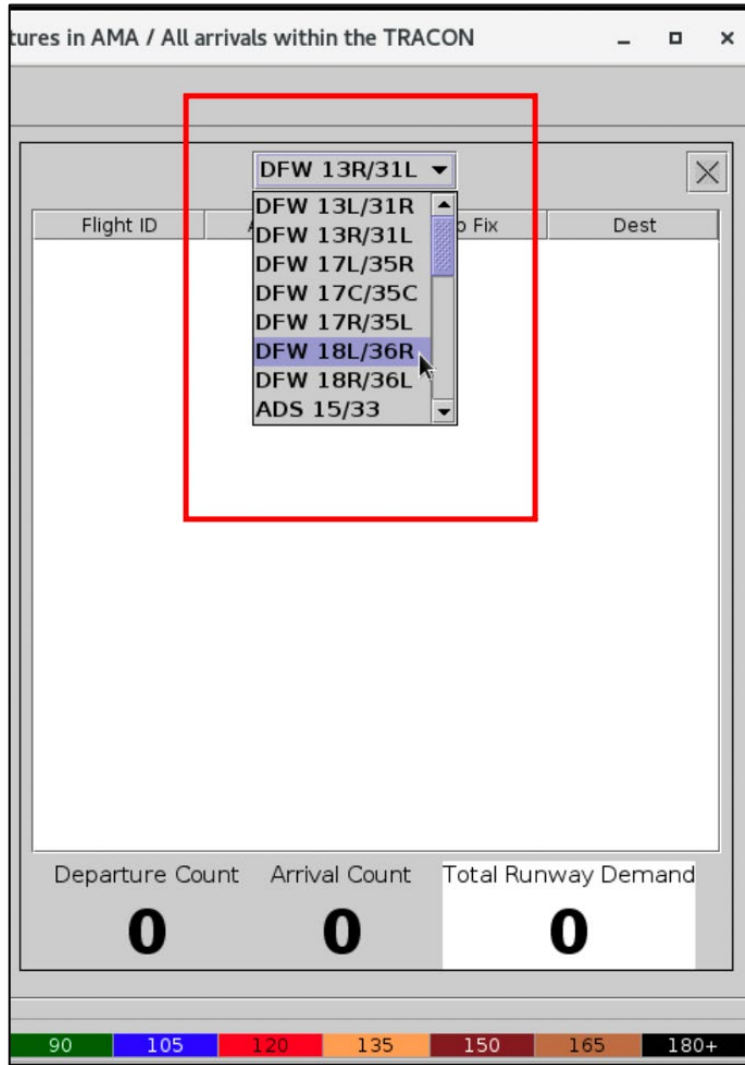


Figure 3.220. Select a different runway.

### 3.5 Toolbar: Trajectory Option Set (TOS)

Select the “TOS” button on the Toolbar to open the Trajectory Option Set (TOS) Operations window (Figure 3.221).

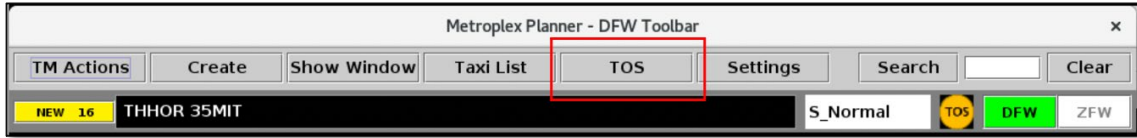


Figure 3.221. Toolbar: Trajectory Option Set (TOS).

The TOS Operations window can include multiple TOS Departure Tables (Figure 3.222).

The screenshot shows the Metroplex Planner - DFW TOS Operations window at 22:43 Z. It displays four TOS Departure Tables for Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R,DFW:31R,DFW:31L AND Coord State = Not Submitted, FO Submitted, ATC Approved, and Excluded. Each table has a header with columns: Flight ID, CPE, Rwy, Gate, Dest, Route of Flight, Dep Gate, Dep Fix, OFF Delay, IN Delay, EOBT, ETOT, Top Dep Fix, Top CDR, Top Rwy, Top OFF Del Sav, Eligibility State, Coord State, Flight Status, TMI Info, and Scratch Pad.

Flight ID	CPE	Rwy	Gate	Dest	Route of Flight	Dep Gate	Dep Fix	OFF Delay	IN Delay	EOBT	ETOT	Top Dep Fix	Top CDR	Top Rwy	Top OFF Del Sav	Eligibility State	Coord State	Flight Status	TMI Info	Scratch Pad
ENY...	17R	B21	CHA	KDFW.TRYTN3...	EAST	TRRCH		+37	+76	28/22:28	28/23:22	AKUNA	DFWCHALN	17R	-34	Candidate	Not Submitted	In Queue	35M	
AAL...	E17R	A10	MSY	KDFW.MRSSH2...	EAST	THHOR		+83	+117	28/23:10	29/00:43	DARTZ	DFWMSY1S	17R	-83	Candidate	Not Submitted	Scheduled Out	35M Fix...	
AAL...	17R	A19	MIA	KDFW.MRSSH2...	EAST	THHOR		+17	+4	28/22:27	28/22:58	DARTZ	DFWMIA1S	17R	-13	Candidate	Not Submitted	In Queue	35M Fix...	
AAL...	E17R	C33	FLL	KDFW.MRSSH2...	EAST	THHOR				28/23:57						Potential	Not Submitted	Scheduled Out	35M Fix...	
AAL...	E17R	A20	CHH	KDFW.ZACHH3...	EAST	ZERLU		+2	-9	28/23:36	28/23:47					Potential	Not Submitted	Scheduled Out		
AAL...	Y	E17R	B6	DTW	KDFW.AKUNA9...	NORTH	AKUNA	+2	-1	28/23:36	28/23:53					Potential	Not Submitted	Scheduled Out		
ENY...	E17R	B1A	SGF	KDFW.AKUNA9...	NORTH	AKUNA		+2	-15	28/23:51	29/00:08					Potential	Not Submitted	Scheduled Out		
AAL...	E18L	D22	SFO	KDFW.HRPER3...	WEST	TYGGR		0	+59	28/23:29	28/23:39	LOWGN	DFWSF01N	18L	0	Potential	Not Submitted	Scheduled Out	10M Fix...	
ENY...	E17R	E23B	CVI	KDFW.AKUNA9...	NORTH	AKUNA		-9		28/23:22	28/23:35	ZERLU	DFWCM1E	17R	0	Potential	Not Submitted	Scheduled Out		
ASH...	E18L	B29	OKC	KDFW.BLECO8...	NORTH	BLECO		0	-9	28/23:50	29/00:01					Potential	Not Submitted	Scheduled Out		
AAL...	Y	E18L	A14	SAT	KDFW.JASPA6...	SOUTH	JASPA	0	-6	28/23:32	28/23:42	RBBIT	DFWSAT3W	18L	0	Potential	Not Submitted	Scheduled Out		
ENY...	E17R	B46	MEM	KDFW.AKUNA9...	NORTH	AKUNA		+1	+5	28/22:45	28/22:59	DARTZ	DFWMEM1S	17R	0	Potential	Not Submitted	Scheduled Out		
AAL...	E18L	C7	LAS	KDFW.HRPER3...	WEST	TYGGR		+4	-7	28/23:00	28/23:17	LOWGN	DFWLAS1N	18L	-4	Potential	Not Submitted	Scheduled Out	10M Fix...	
AAL...	E18L	C12	PDX	KDFW.TEX1.RO...	NORTH	LOWGN		0	+20	28/22:56	28/23:12	NELYN	DFWPDX1S	18L	0	Potential	Not Submitted	Scheduled Out		
AAL...	Y	E17R	C19	IND	KDFW.AKUNA9...	NORTH	AKUNA	+2	-12	28/23:55	29/00:07					Potential	Not Submitted	Scheduled Out		

Flight ID	CPE	Rwy	Dest	Route of Flight	Dep Gate	Dep Fix	EOBT	ETOT	Top Dep Fix	Top CDR	Top Rwy	Eligibility State	Coord State	Flight Status	TMI Info	Scratch Pad
SKW...	17R	BTR	KDFW.MRS...	EAST	THHOR		28/20:30	28/23:14	22:48	DARTZ	DFWBTR1S	17R	Candidate	FO Submitted	In Queue	35M FixClsd

Flight ID	CPE	Rwy	Dest	Route of Flight	Dep Gate	Dep Fix	EOBT	ETOT	Eligibility State	Coord State	Flight Status	TMI Info	Scratch Pad
SKW...	E17R	BTR	KDFW.DARTZ8.TNV...	SOUTH	TRRCH		28/22:35	29/00:10	Candidate	ATC Approved	Scheduled Out		
AAL...	E17R	CLT	KDFW.AKUNA9.MLC...	NORTH	TRRCH		28/22:35	28/23:46	Candidate	ATC Approved	Out		

Flight ID	CPE	Rwy	Dest	Route of Flight	Dep Gate	Dep Fix	EOBT	ETOT	Top CDR	Eligibility State	Coord State	Flight Status	TMI Info	Scratch Pad
AAL...	E17R	MCO	KDFW.MRSSH2...	EAST	THHOR		28/23:45	29/02:28		Excluded	ATC Excluded	Scheduled Out	35M FixClsd	
AAL...	Y	E17R	MCO	KDFW.DARTZ8...	SOUTH	DARTZ	28/22:56	28/23:08		Excluded	ATC Excluded	Scheduled Out		

Add Table

Figure 3.222. Trajectory Option Set (TOS) Operations window.

See Section 5.4 for a full description of TOS Departure Tables.

## 3.6 Toolbar: Settings

Select the “**Settings**” button on the Toolbar to load/save user settings and to configure the display of information throughout the interface (Figure 3.223).

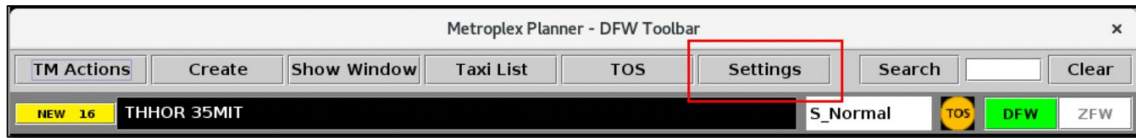


Figure 3.223. Toolbar: Settings.

### 3.6.1 Global Flights Settings

Use the “**Global Flights Settings**” tab 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 (Figure 3.223).

**Step 2:** Select the “Global Flights Settings” tab (Figure 3.224).

**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 3.225, 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 3.225, right).

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

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

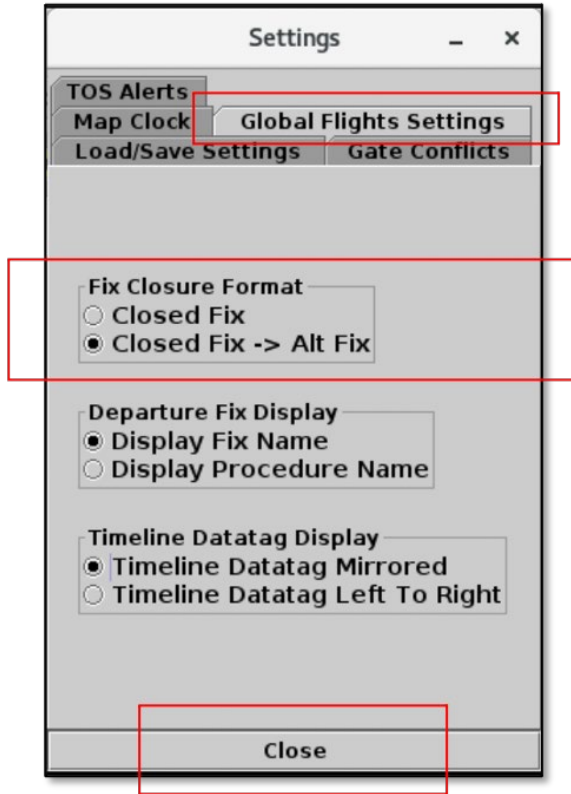


Figure 3.224. Global Flights Settings: Fix Closure Format.

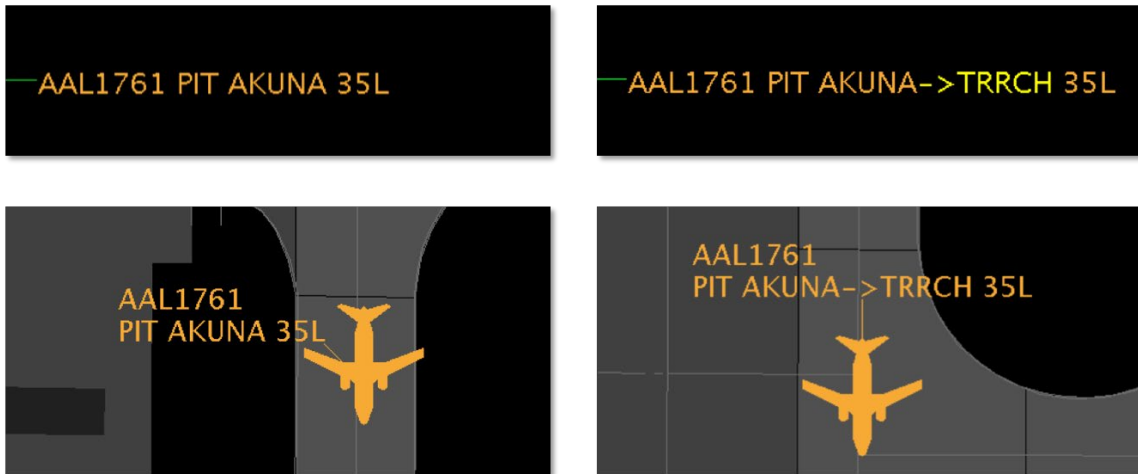


Figure 3.225. Fix Closure Format: Closed Fix (left) and Closed Fix → Alt Fix (right).



## 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 (Figure 3.223).

**Step 2:** Select the “Global Flights Settings” tab (Figure 3.226).

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

- **“Display Fix Name”** to display the Fix name (e.g., “ROOOO” in Figure 3.227, left).
- **“Display Procedure Name”** to display the Procedure name (e.g., “KATZZ” in Figure 3.227, right).

**Note:** *This setting applies throughout the Metroplex Planner interface:*

- *Timeline and map datablocks (Figure 3.227)*
- *Map labels (Figure 3.228)*
- *Flights Table*
- *TOS Operation tab*
- *TOS Departure Table*

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

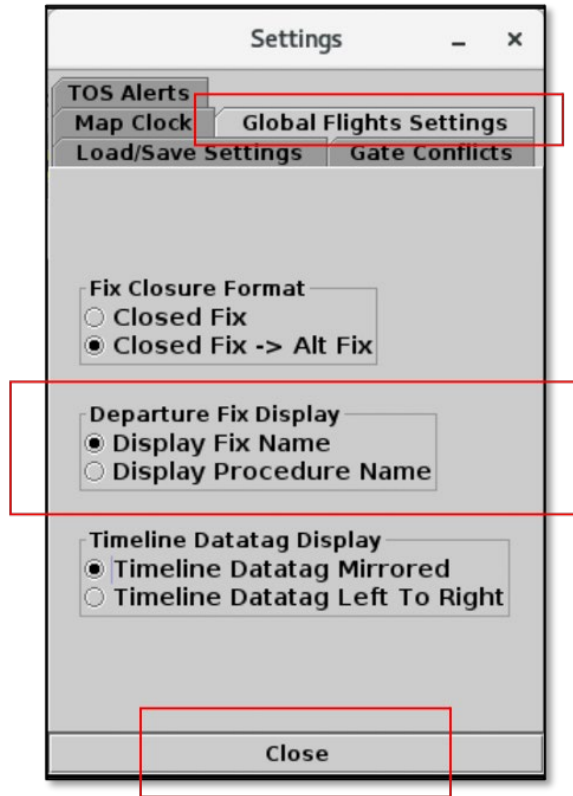


Figure 3.226. Global Flights Settings: Departure Fix Display.

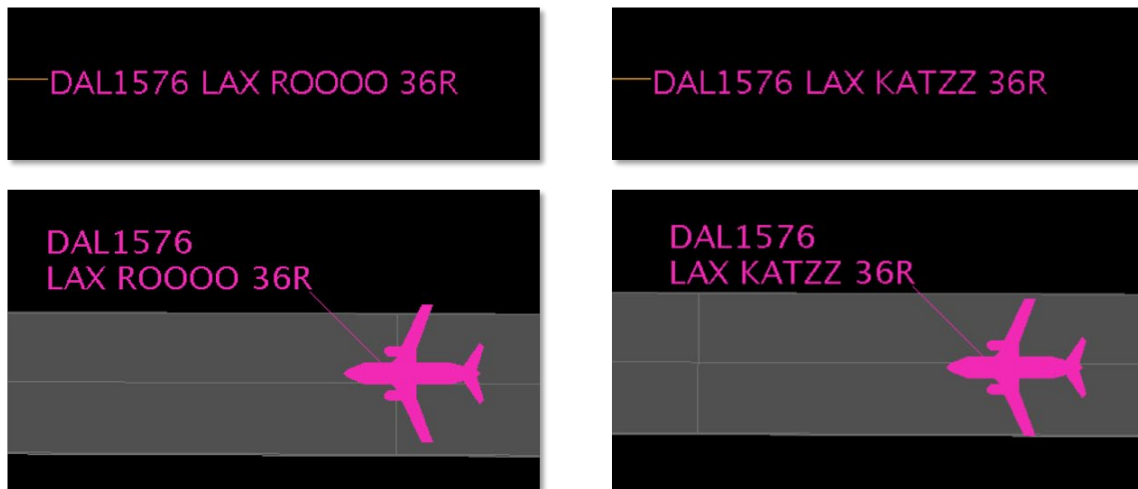


Figure 3.227. Departure Fix Display: Departure Fix name (left) and Procedure name (right). In this example, “ROOOO” (left) and “KATZZ” (right).



Figure 3.228. Departure Fix Display: Fix name (left) and Procedure name (right).

#### 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 (Figure 3.223).

**Step 2:** Select the “Global Flights Settings” tab (Figure 3.229).

**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 3.230, top).
- “**Timeline Datatag Left to Right**” to order data elements from left to right (Figure 3.230, bottom).

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

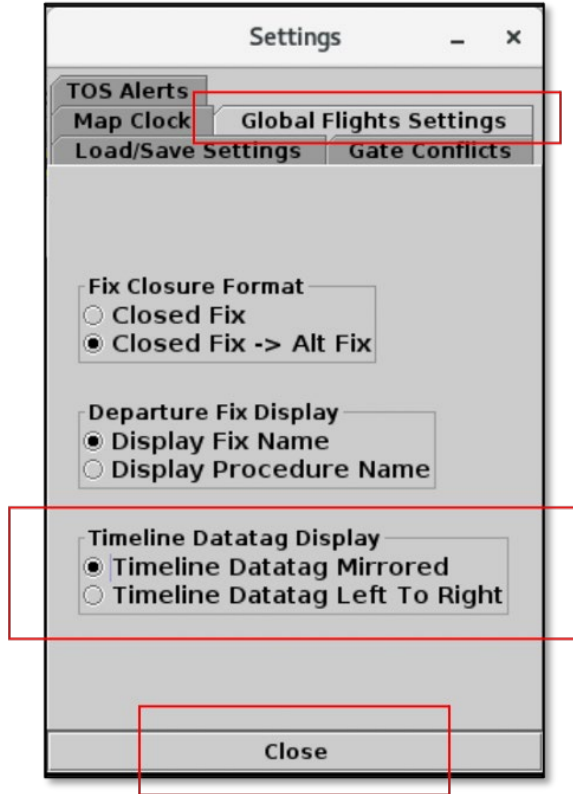


Figure 3.229. Global Flights Settings: Timeline Datatag Display.

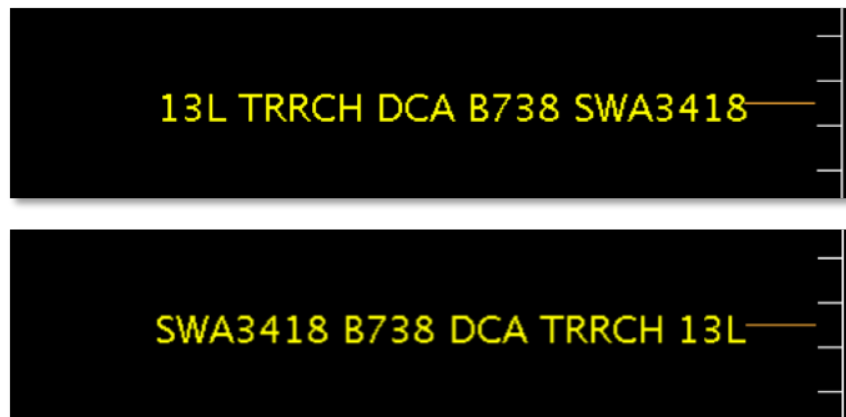


Figure 3.230. Timeline Datatag Display: Mirrored (top) and Left to Right (bottom).

## 3.6.2 TOS Alerts

Use the “TOS Alerts” tab to enable/disable TOS alerts for submissions and approvals.

### To enable/disable TOS Submission Alerts (ATC versions):

**Step 1:** Select “Settings” on the Toolbar (Figure 3.223).

**Step 2:** Select the “TOS Alerts” tab (Figure 3.231).

**Step 3:** Under “TOS Route is Submitted” (Figure 3.231):

- Check “**Visual Alerts**” to display a pop-up window when a Flight Operator **submits** a TOS reroute. For example, in Figure 3.232, the Flight Operator has submitted one or more TOS reroutes for flight SWA1767 to the DAL Tower.
- Check “**Audible Alerts**” to play an audio alert when a Flight Operator **submits** a TOS reroute.

**Alternatively:** Uncheck either box to disable the alert.

**Step 4:** Select “Close” to close the Settings window (Figure 3.231).

**Note:** *TOS Alerts are enabled by default.*

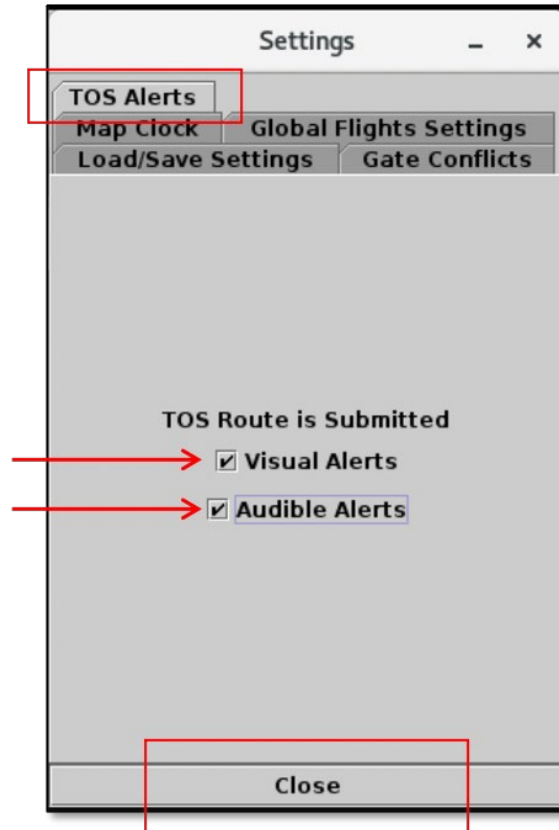


Figure 3.231. TOS Alerts tab in ATC versions of the Metroplex Planner.



Figure 3.232. TOS Visual Alert in ATC versions of the Metroplex Planner: Flight Operator has submitted a flight for TOS rerouting.

**To enable/disable TOS Approval Alerts (in Flight Operator versions):**

**Step 1:** Select “Settings” on the Toolbar (Figure 3.223).

**Step 2:** Select the “TOS Alerts” tab (Figure 3.233).

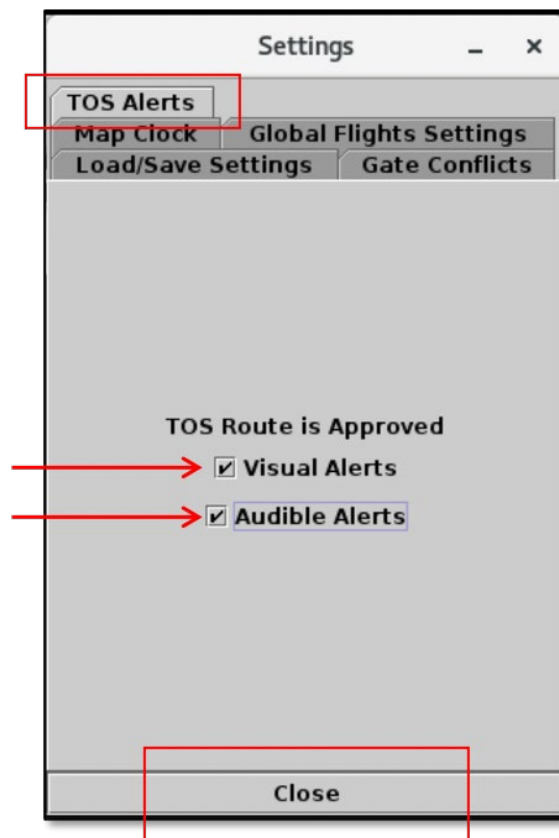
**Step 3:** Under “TOS Route is Approved” (Figure 3.233):

- Check “**Visual Alerts**” to display a pop-up window when ATC **approves** a TOS reroute. For example, in Figure 3.234, the Flight Operator is alerted when ATC approves a TOS reroute for flight SWA1767.
- Check “**Audible Alerts**” to play an audio alert when ATC **approves** a TOS reroute.

**Alternatively:** Uncheck either box to disable the alert.

**Step 4:** Select “Close” to close the Settings window (Figure 3.233).

**Note:** *TOS Alerts are enabled by default.*



**Figure 3.233. TOS Alerts tab in Flight Operator versions of the Metroplex Planner.**



Figure 3.234. TOS Visual Alert in Flight Operator versions of the Metroplex Planner: ATC has approved a TOS reroute.

### 3.6.3 Gate Conflicts

Use the “**Gate Conflicts**” tab to set the time, prior to landing, at which gate conflicts will be indicated on the timeline and map. If, for example, the time is set to 10 minutes prior to landing, the gate conflict is not displayed until the inbound arrival is within 10 minutes of its predicted touchdown time. Enter zero (0) minutes so that a gate conflict is not displayed until the arrival has landed.

Conflicts are also indicated when a gate is impacted by an *adjacent* gate with limited spacing. For example, a ‘heavy’ aircraft may trigger a gate conflict alert for an adjacent gate that is currently empty.

#### To set the Gate Conflict display time:

**Step 1:** Select “Settings” on the Toolbar (Figure 3.223).

**Step 2:** Select the “Gate Conflicts” tab (Figure 3.235).

**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 (e.g., “0” minutes in Figure 3.235).

**Note:** *The minimum/maximum allowable values in this field are 0 and 120 minutes, respectively. Zero minutes represents landing time.*

**Step 4:** Select “Apply” (Figure 3.235).

**Step 5:** Select “Close” to exit the Settings window (Figure 3.235).

**Note:** *When a gate conflict is detected, the gate number is displayed in magenta in flight datablocks on the timeline and map (for example, gate E25B in Figure 3.236).*



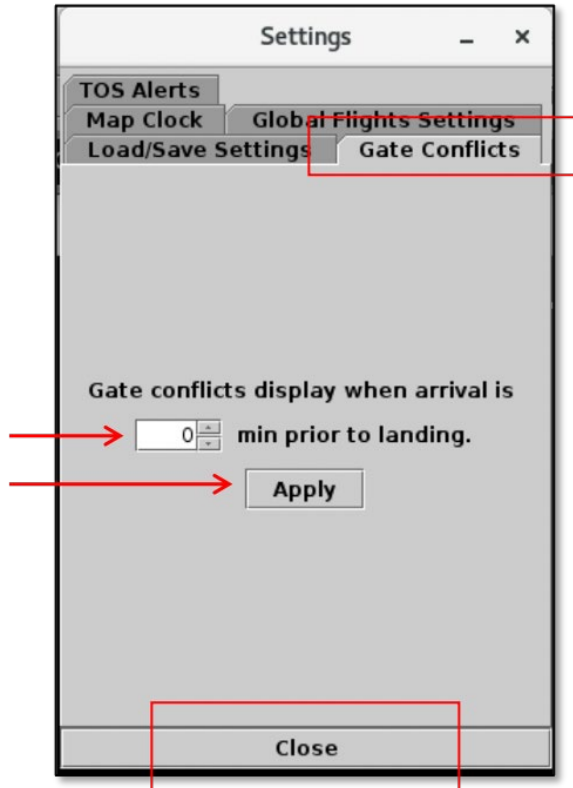


Figure 3.235. Settings: Gate Conflicts.



Figure 3.236. 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

Use the “Map Clock” tab to display local UTC time at the bottom of map windows.

#### To show/hide the Map clock:

**Step 1:** Select “Settings” on the Toolbar (Figure 3.223).

**Step 2:** Select the “Map Clock” tab (Figure 3.237).

**Step 3:** Select the “Show Map Clock” checkbox (Figure 3.237).

**Alternatively:** Uncheck the “Show Map Clock” checkbox to hide the clock.

**Step 4:** Select “Apply”

**Note:** The clock is displayed on all open maps (Figure 3.238).

**Step 5:** Select “Close” to exit the Settings window.

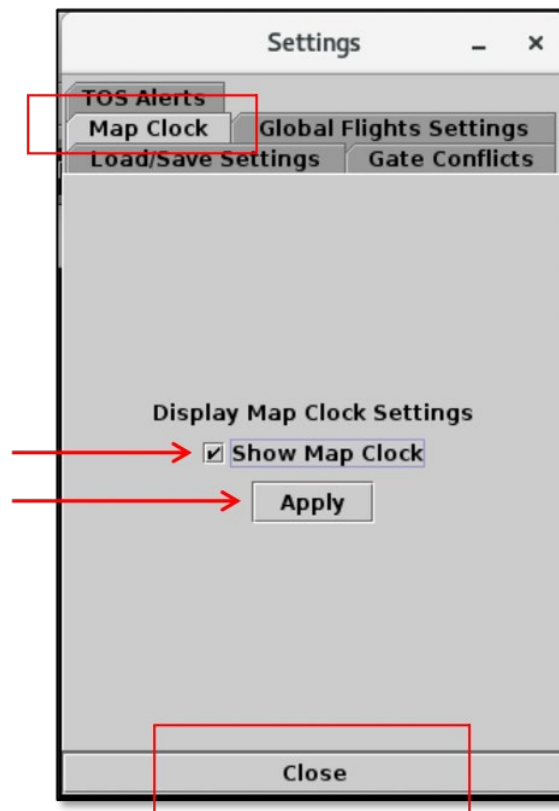
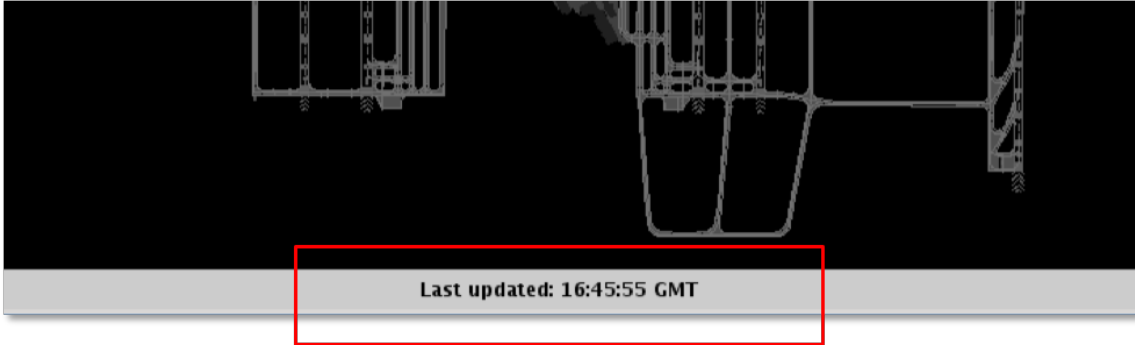


Figure 3.237. Settings: Map Clock.



**Figure 3.238. 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.

### 3.6.5.1 Save a New Setting

To save a display configuration:

**Step 1:** Select “Settings” on the Toolbar (Figure 3.223).

**Step 2:** Select the “Load/Save Settings” tab (Figure 3.239).

**Step 3:** Type a name for the display configuration in the “File Name” text box (e.g., “Tower\_DFW” in Figure 3.239).

**Step 4:** Select “Save” (Figure 3.239).

**Step 5:** Select “OK” in the confirmation window (Figure 3.239). The display configuration file name is added to the list of saved configurations.

**Step 6:** Select “Close” to exit the Settings window (Figure 3.239).

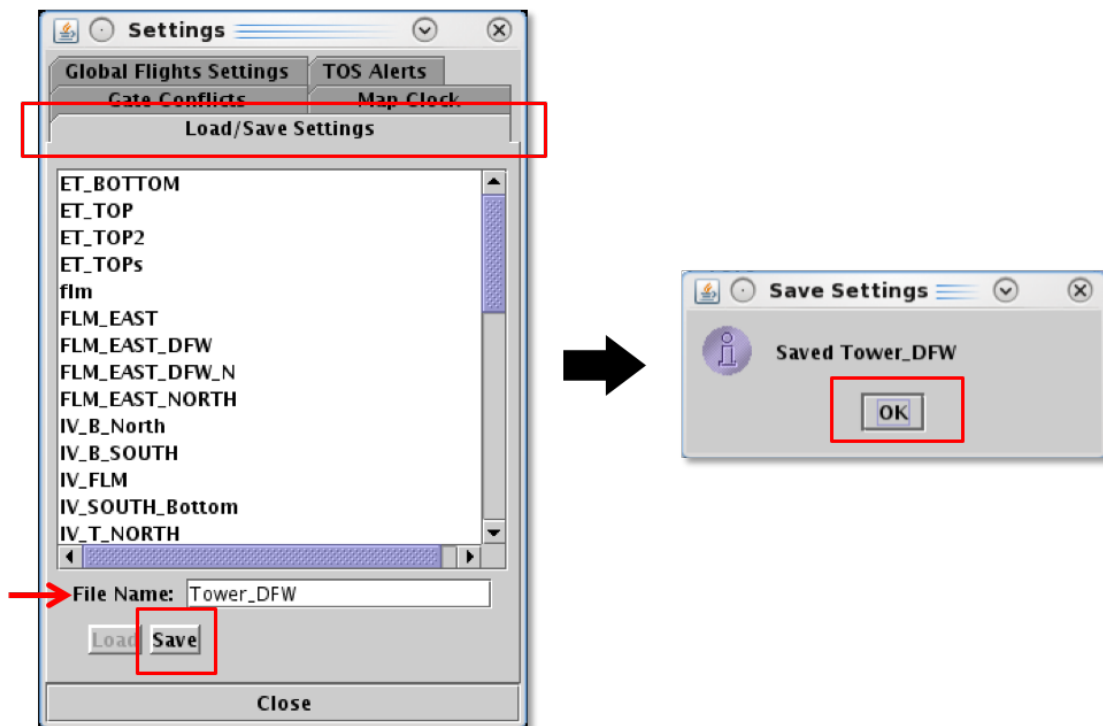


Figure 3.239. Settings: Save a new display configuration.

### 3.6.5.2 Load a Saved Setting

To load a saved display configuration:

**Step 1:** Select “Settings” on the Toolbar (Figure 3.223).

**Step 2:** Select the “Load/Save Settings” tab (Figure 3.240).

**Step 3:** Select a file name from the list of saved configurations (e.g., “MetroplexPlanner\_DAL” in Figure 3.240). If necessary, scroll to view the entire list.

**Step 4:** Select the “Load” button (Figure 3.240).

**Step 5:** Select “Close” to exit the Settings window (Figure 3.240).

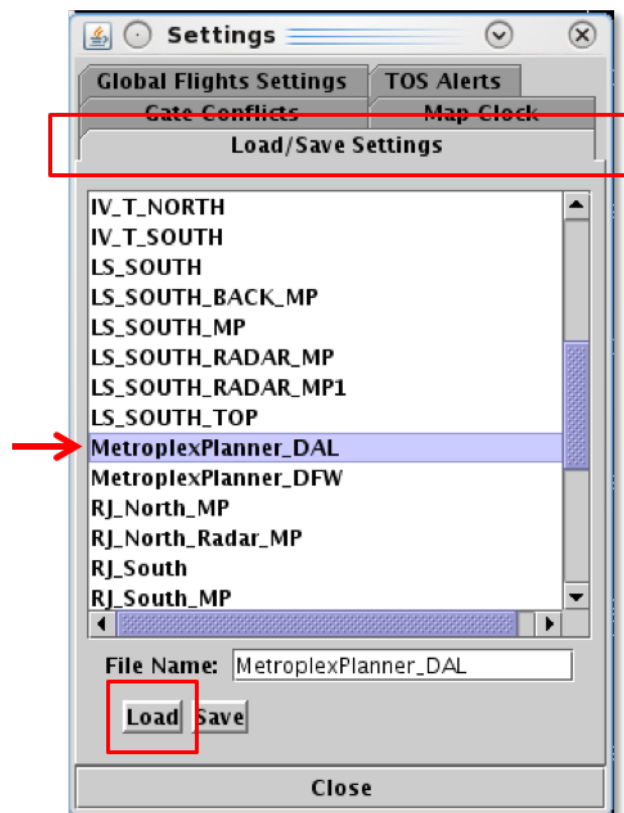


Figure 3.240. Settings: Load a saved display configuration.

### 3.6.5.3 Update a Saved Setting

To update a saved display configuration:

**Step 1:** Select “Settings” on the Toolbar (Figure 3.223).

**Step 2:** Select the “Load/Save Settings” tab (Figure 3.241)

**Step 3:** Select a file name from the list of saved configurations (e.g., “North\_DAL\_Tower” in Figure 3.241). If necessary, scroll to view the entire list.

**Step 4:** Select “Save” (Figure 3.241).

**Step 5:** Select “Yes” in the “Confirm Overwrite” window to overwrite the previous version of the file (Figure 3.241).

**Step 6:** Select “Close” to exit the Settings window (Figure 3.241).

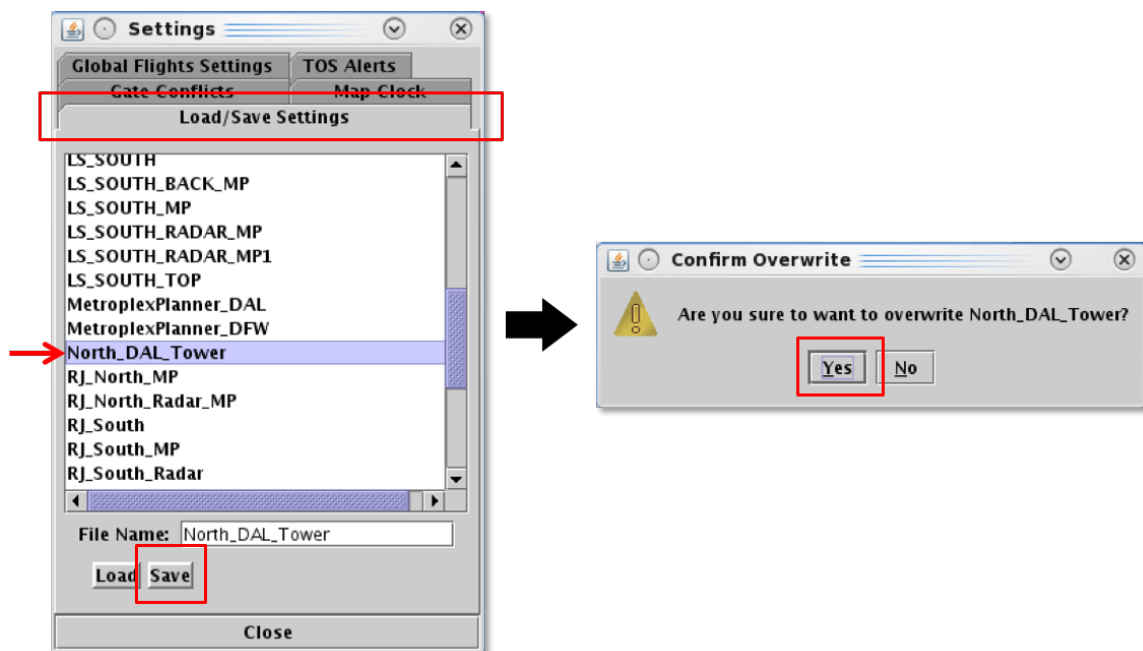


Figure 3.241. Settings: Updated a saved display configuration.

### 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 with flight numbers that contain “53”, independent of airline.

Search criteria are listed in Table 3.14.

**Table 3.14. Toolbar: Search Criteria**

<b>Search Criteria</b>	<b>Example</b>
<b>Departure and Arrival Flights</b>	
Flight number	1456
Air Carrier	AAL
Call Sign	AAL1456
Tail Number	N123AB
“GA” for General Aviation flights	GA
<b>Departure Flights</b>	
Destination Airport (3- or 4-character airport code)	BOS
Departure Fix <i>*Procedure Names are not recognized in Search.</i>	TRRCH
Departure Gate	EAST
<b>Arrival Flights</b>	
Arrival Fix	SEEVN
Arrival Airport (3-character airport code)	DFW

**To search for flights in the Metroplex Planner interface:**

**Step 1:** Enter search criteria in the “Search” field on the Toolbar (e.g., “BOS” in Figure 3.242). Flights matching the search criteria are highlighted on the:

- Timeline (Figure 3.243)
- Map (Figure 3.244)
- Flights Table (Figure 3.245)
- TOS Departure Table (if applicable) (not pictured here)

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.

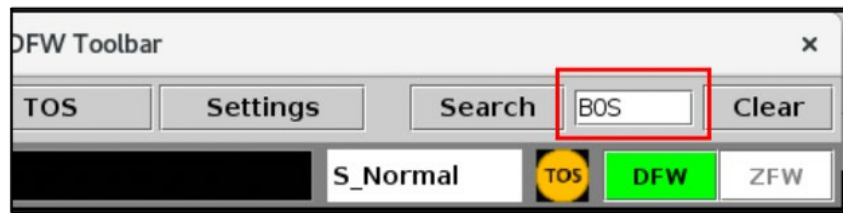


Figure 3.242. Toolbar: Search field (in this example, Destination “BOS” is entered).

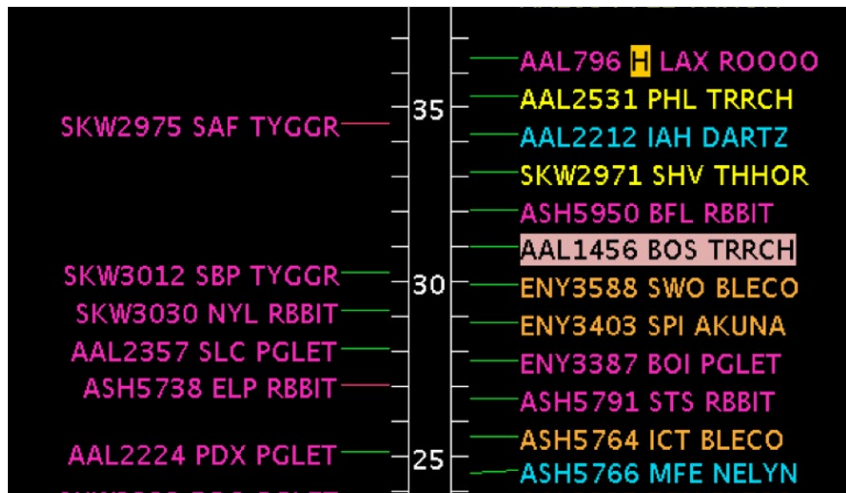


Figure 3.243. Matching search result (“BOS” flight, AAL1456) is highlighted in Timeline.



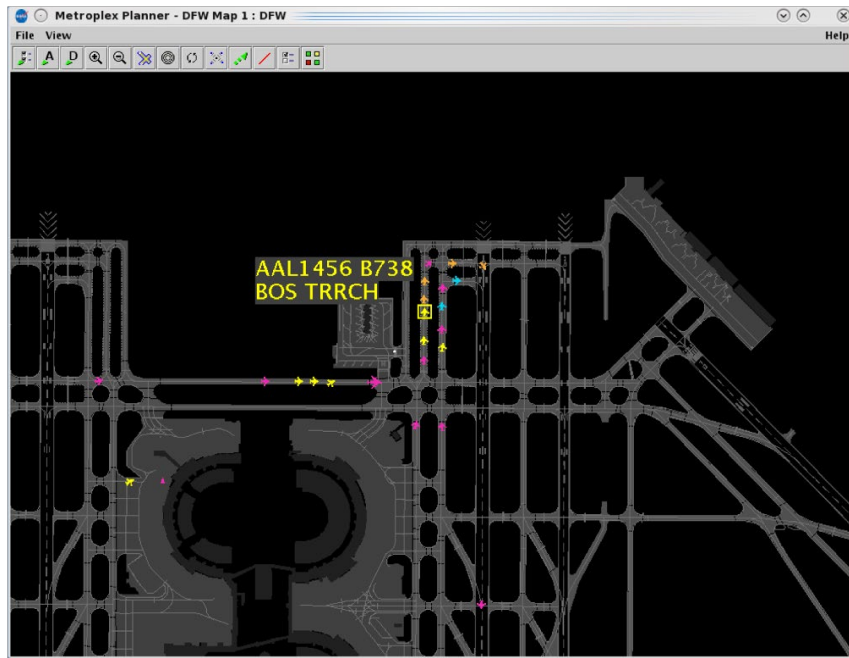


Figure 3.244. Matching search result (“BOS” flight, AAL1456) is highlighted on the Map.

Flight ID	Arr/De	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	B738	C29	17C			UKW	In
SKW3267	A	KSHV./WAIT BE...	SHV	DFW	5255	CRJ7	E22A	17L			BEREE	In
AAL1927	A	KMCO./NITTS1...	MCO	DFW	1030	B738	C30	17L			BEREE	In
<b>AAL1456</b>	<b>D</b>	<b>KDFW.TRYTN3...</b>	<b>DFW</b>	<b>BOS</b>	<b>0504</b>	<b>B738</b>	<b>C12</b>	<b>17R</b>	<b>TRRCH</b>	<b>EAST</b>	<b>GDM</b>	<b>In_Queue</b>
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./JSICA Q1...	SMF	DFW	6041	B738	A13	17C	RALEY		UKW	In
SCM12	A	KSAT./3059N/...	SAT	DAL	2455	C56X	DAL_B	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./MEI038...	ATL	DFW	7177	A319	E15	E17C	KAJIN		BEREE	Enroute_Arr
N608G	A	KGKY./COY193...	GKY	GKY	UNK	P28A	GA1	E16	JASPA	SOUTH	DODJE	In
SWA1529	D	KDAL.KKITYS CI...	DAL	ELP	2263	B737	6	E13L	RBBIT	WEST		Scheduled_Out
SWA795	A	KPNS*/.AEX09...	PNS	DAL	0766	B737	12	13R			SEEVR	In
JIA5017	D	KDFW./TXK27...	DFW	DAY	2350	CRJ9	B27	17R	ZERLU	EAST		Departed
ENY9806	A	KABI./SNGGL BO...	ABI	DFW	5267	E135	E39C	17C			FEVER	In
SWA43	D	KDAL./TTT140...	DAL	HOU	2315	B738	20	E13R	DARTZ	SOUTH	KIDDZ	Departed
ENY3768	A	KSGF./RZC156...	SGF	DFW	1136	E145	E248	17L			SEEVR	In
SKW3246	A	KSNB./COWES3...	SNB	DFW	5657	CRJ7	E238	17L			SEEVR	In
ENY3422	A	KBHM./JGB085...	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	MMSP./DLE327...	MSP	DFW	3152	B738	D26	17C			JEN	In

Figure 3.245. 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 (Figure 3.246).
- **Notification Banner** to cycle through new notifications (Figure 3.246).
- **Notification Panel** to display a list of all notifications (Figure 3.247).

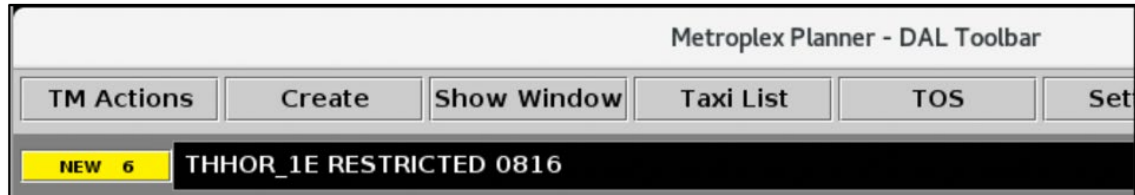


Figure 3.246. Notification Icon (yellow box) and Notification Banner (black box with white text).

Notifications						
Reported	Event Type	Description	Event Start	Event End	Details	
3/25/21 1903	CDR	THHOR WC RESTRICTED	3/25/21 0816	3/25/21 1903	Cancelled	
3/25/21 1903	CDR	THHOR WC RESTRICTED	3/25/21 0816		FMC INCL: KIAD KDCA KBWI ...	
3/25/21 1903	CDR	DARTZ_1S RESTRICTED	3/25/21 0816	3/25/21 1903	Cancelled	
3/25/21 1903	CDR	DARTZ_1S RESTRICTED	3/25/21 0816		FMC INCL: KIAD KDCA KBWI ...	
3/25/21 1854	Fix	THHOR 20MIT	3/25/21 1900	3/25/21 2100	TFM/ZFW EXCL: PROP TURBO	
3/25/21 1820	Fix	THHOR 20MIT	3/25/21 1800	3/25/21 1820	Cancelled	
3/25/21 1810	CDR	THHOR_1E RESTRICTED	3/25/21 0816	3/25/21 1810	Cancelled	
3/25/21 1810	CDR	THHOR_1E RESTRICTED	3/25/21 0816		FMC INCL: FCAMX2 FCAMX6 ...	
3/25/21 1810	CDR	DARTZ_1S RESTRICTED	3/25/21 0816	3/25/21 1810	Cancelled	
3/25/21 1630	CDR	AKUNA_1N RESTRICTED	3/25/21 0816	3/25/21 1630	Cancelled	
3/25/21 1630	CDR	AKUNA_1N RESTRICTED	3/25/21 0816		FMC INCL: KIAD KDCA KBWI ...	

Figure 3.247. Notification Panel.

### 3.8.1 About Notifications

Notifications are generated when new information is populated in the system. Notifications can be related to events that impact multiple flights (e.g., a Miles-in-Trail restriction) or the airport (e.g., airport configuration change), but are never issued for a single flight.

This new information may originate from an input made by an ATD-2 user or from an outside source, such as the System-Wide Information Management (SWIM) or the FAA Operational Information System (OIS).

## 3.8.2 Examples of Notifications

Examples of ATC-related Notifications:

- **EWR GDP** (Ground Delay Program at Newark)
- **TPA STOP** (Ground Stop at Tampa)
- **APREQ to ORD** (APREQ to Chicago)
- **AKUNA CLOSED** (AKUNA Departure Fix closed)
- **DARTZ 15MIT** (15 Miles-in-Trail on the DARTZ Departure Fix)

Example of Airport-related Notifications:

- **DAL: N\_31L\_31R** (Dallas Love Field configuration and runway utilization)
- **DAL: 31L CLOSED** (Dallas Love Field Runway 31L closed)

Examples of TOS-related Notifications:

- **TOS ACTIVE** (TOS Submissions and Approvals enabled)
- **AKUNA\_J3 RESTRICTED** (AKUNA\_J3 CDR restricted from TOS reroutes)
- **TOS Approver CENTER** (TOS Approval Mode is set to ZFW Center)

## 3.8.3 Notification Panel

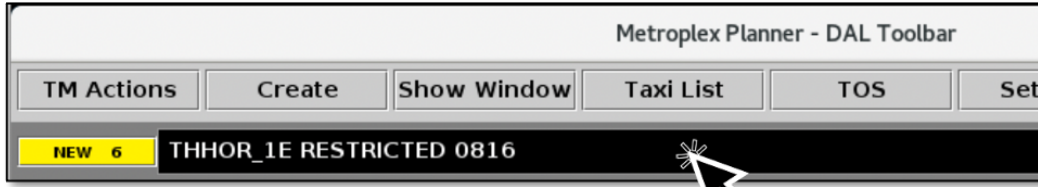
The **Notification Panel** includes all notifications for that day and is automatically cleared each day at 0800 UTC.

- New, unacknowledged, notifications are highlighted in **yellow** (Figure 3.248).
- Existing notifications that have been *cancelled* from an *outside* source (e.g., TFM or OIS) are highlighted in **blue** (Figure 3.248).
- Once acknowledged, notifications are shown in **white** (Figure 3.248).

**To open the Notification Panel:**

**Step 1:** Click once in the Notification Banner (black box with white text) to view the full list of notifications in the Notification Panel (Figure 3.248).

**Alternatively:** To close the Notification Panel, click on the “X” in the upper right corner of the Notification Panel window or click again in the Notification Banner (black box with white text).



Notifications						
Reported	Event Type	Description	Event Start	Event End	Details	
3/25/21 1903	CDR	THHOR WC RESTRICTED	3/25/21 0816	3/25/21 1903	Cancelled	
3/25/21 1903	CDR	THHOR WC RESTRICTED	3/25/21 0816		FMC INCL: KIAD KDCA KBWI ...	
3/25/21 1903	CDR	DARTZ_1S RESTRICTED	3/25/21 0816	3/25/21 1903	Cancelled	
3/25/21 1903	CDR	DARTZ_1S RESTRICTED	3/25/21 0816		FMC INCL: KIAD KDCA KBWI ...	
3/25/21 1854	Fix	THHOR 20MIT	3/25/21 1900	3/25/21 2100	TFM/ZFW EXCL: PROP TURBO	
3/25/21 1820	Fix	THHOR 20MIT	3/25/21 1800	3/25/21 1820	Cancelled	
3/25/21 1810	CDR	THHOR_1E RESTRICTED	3/25/21 0816	3/25/21 1810	Cancelled	
3/25/21 1810	CDR	THHOR_1E RESTRICTED	3/25/21 0816		FMC INCL: FCAMX2 FCAMX6 ...	
3/25/21 1810	CDR	DARTZ_1S RESTRICTED	3/25/21 0816	3/25/21 1810	Cancelled	
3/25/21 1630	CDR	AKUNA_1N RESTRICTED	3/25/21 0816	3/25/21 1630	Cancelled	
3/25/21 1630	CDR	AKUNA_1N RESTRICTED	3/25/21 0816		FMC INCL: KIAD KDCA KBWI ...	

Figure 3.248. Click on the Notification Banner to open the Notification Panel.

### 3.8.4 Acknowledge New Notifications

To acknowledge new Notifications (Method #1):

**Step 1:** Click *anywhere* in the Notification Panel to acknowledge all new (yellow and blue) notifications (Figure 3.249, top).

**Note:** *Once acknowledged, all rows are shown in white (Figure 3.249, bottom).*

Notifications				
Reported	Event Type	Description	Event Start	Event End
3/25/21 1903	CDR	THHOR WC RESTRICTED	3/25/21 0816	3/25/21 1903
3/25/21 1903	CDR	THHOR WC RESTRICTED	3/25/21 0816	3/25/21 1903
3/25/21 1903	CDR	DARTZ_1S RESTRICTED	3/25/21 0816	3/25/21 1903
3/25/21 1903	CDR	DARTZ_1S RESTRICTED	3/25/21 0816	3/25/21 1903
3/25/21 1854	Fix	THHOR 20MIT	3/25/21 1900	3/25/21 2100
3/25/21 1820	Fix	THHOR 20MIT	3/25/21 1800	3/25/21 1820
3/25/21 1810	CDR	THHOR_1E RESTRICTED	3/25/21 0816	3/25/21 1810
3/25/21 1810	CDR	THHOR_1E RESTRICTED	3/25/21 0816	3/25/21 1810
3/25/21 1810	CDR	DARTZ_1S RESTRICTED	3/25/21 0816	3/25/21 1810
3/25/21 1630	CDR	AKUNA_1N RESTRICTED	3/25/21 0816	3/25/21 1630
3/25/21 1630	CDR	AKUNA_1N RESTRICTED	3/25/21 0816	3/25/21 1630



Notifications				
Reported	Event Type	Description	Event Start	Event End
3/25/21 1903	CDR	THHOR WC RESTRICTED	3/25/21 0816	3/25/21 1903
3/25/21 1903	CDR	THHOR WC RESTRICTED	3/25/21 0816	3/25/21 1903
3/25/21 1903	CDR	DARTZ_1S RESTRICTED	3/25/21 0816	3/25/21 1903
3/25/21 1903	CDR	DARTZ_1S RESTRICTED	3/25/21 0816	3/25/21 1903
3/25/21 1854	Fix	THHOR 20MIT	3/25/21 1900	3/25/21 2100
3/25/21 1820	Fix	THHOR 20MIT	3/25/21 1800	3/25/21 1820
3/25/21 1810	CDR	THHOR_1E RESTRICTED	3/25/21 0816	3/25/21 1810
3/25/21 1810	CDR	THHOR_1E RESTRICTED	3/25/21 0816	3/25/21 1810
3/25/21 1810	CDR	DARTZ_1S RESTRICTED	3/25/21 0816	3/25/21 1810
3/25/21 1630	CDR	AKUNA_1N RESTRICTED	3/25/21 0816	3/25/21 1630
3/25/21 1630	CDR	AKUNA_1N RESTRICTED	3/25/21 0816	3/25/21 1630

Figure 3.249. Click anywhere in the Notification Panel to acknowledge all new notifications.

**To acknowledge new Notifications (Method #2):**

**Step 1:** Click on the Notification Icon (yellow box) on the Toolbar to acknowledge all new notifications (Figure 3.250, top).

**Note:** When there are no new notifications, the Notification Icon is displayed in gray with the word “NONE” and the Notification Banner is blank (Figure 3.250, bottom).

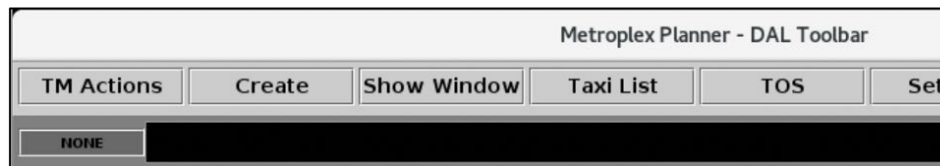
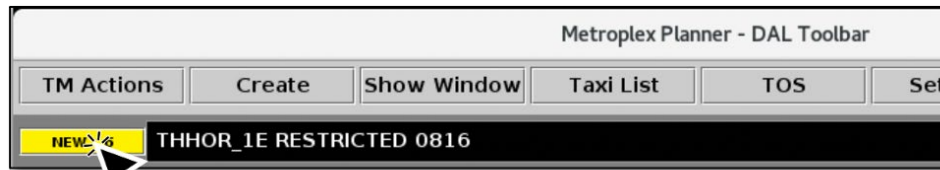


Figure 3.250. Click on the Notification Icon (yellow box) to acknowledge all new notifications.

### 3.9 Toolbar: Runway Utilization

The current runway utilization is displayed on the Toolbar (Figure 3.251).



Figure 3.251. Runway Utilization field on the Toolbar.

See Section 3.1.8 for a description of how to change the Airport Configuration and Runway Utilization on the Runway Utilization tab.

### 3.10 Toolbar: TOS Icon

The Trajectory Option Set (TOS) icon is displayed on the Toolbar (Figure 3.252).

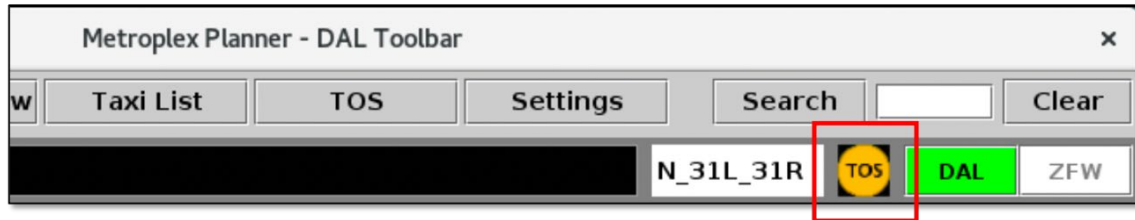


Figure 3.252. TOS icon on the Toolbar.

When TOS Submissions are active, the TOS icon is displayed in yellow (Figure 3.253, top); when inactive, the icon is displayed in gray (Figure 3.253, bottom).

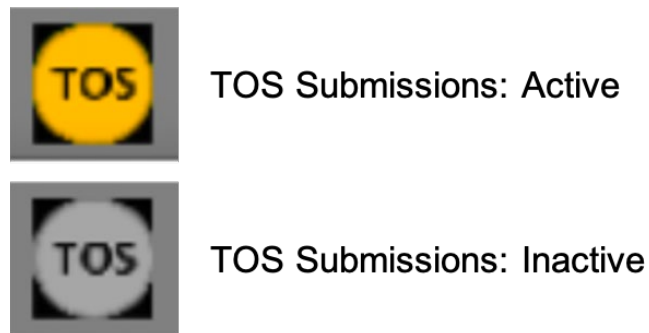


Figure 3.253. When TOS Submissions are active, the icon is displayed in yellow.

See Section 3.1.11.1 for a description of how to activate/inactivate TOS Submissions using the TOS Operation tab.



## 3.11 Toolbar: TOS Approval Mode

The **TOS Approval Mode** toggle switch is displayed on the Toolbar. The toggle switch is used to indicate which facility — the airport Tower or the Air Route Traffic Control Center (ARTCC) — currently receives and approves TOS submissions.

The selected facility is highlighted in green (for example, in Figure 3.254, the DFW Tower is selected). The toggle switch is only selectable in *ATC versions* of the software; in *Flight Operator versions*, it serves as a mode indicator.



Figure 3.254. TOS Approval Mode toggle switch.

When a Flight Operator submits a flight for TOS rerouting, the TOS Submission alert (yellow pop-up box, Figure 3.232) is displayed only at the selected facility. Likewise, only the selected facility can approve a TOS submission (see Section 5.4.8.4 for a description of how to approve TOS submissions).

### 3.11.1 TOS Approval Mode: Time to Expiration

**Time to Expiration** is used in Center (ZFW) Approval Mode. At x minutes prior to the POBT (p-time), the flight's Eligibility State changes from "Candidate" to "Expired."

For example, if the time limit is set to 35 min, the timer counts down to and expires at **p-time + 35 min**. After expiration, the TOS route can no longer be submitted.

Time to Expiration does not apply in Tower Approval Mode.



## 4 Metroplex Planner: Maps

Live positional flight data are used to create a visual representation of flights on the airport surface (at airports where surface surveillance is available) and in the airspace. Each flight on the map is accompanied by a datablock which can be configured with flight-specific information.

At closer zoom levels, use the map to view flights on the surface of the airport, in the Ramp and AMA areas (Figure 4.1).

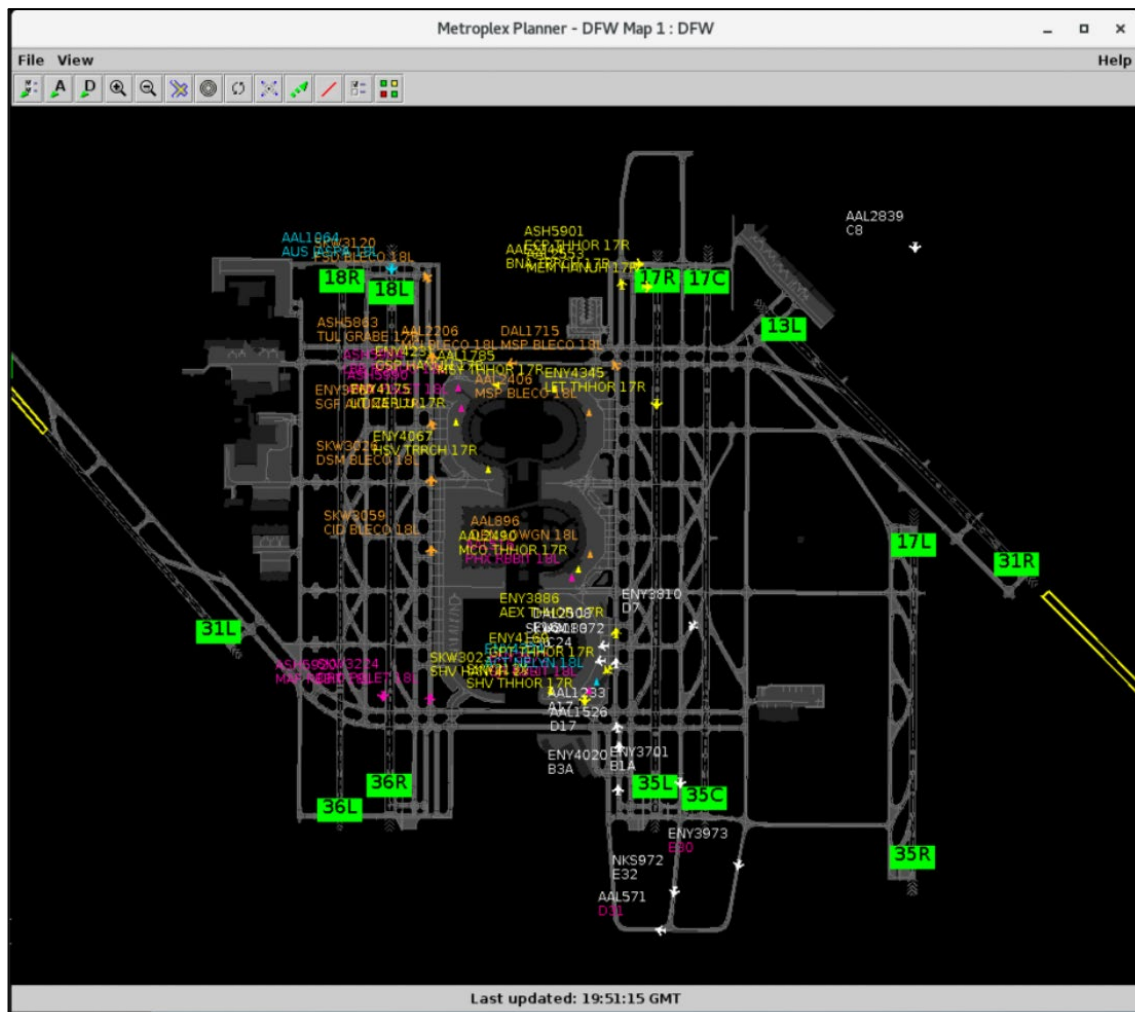


Figure 4.1. Map: Airport surface.

At higher zoom levels, use the map to view flights in the airspace (Figure 4.2).

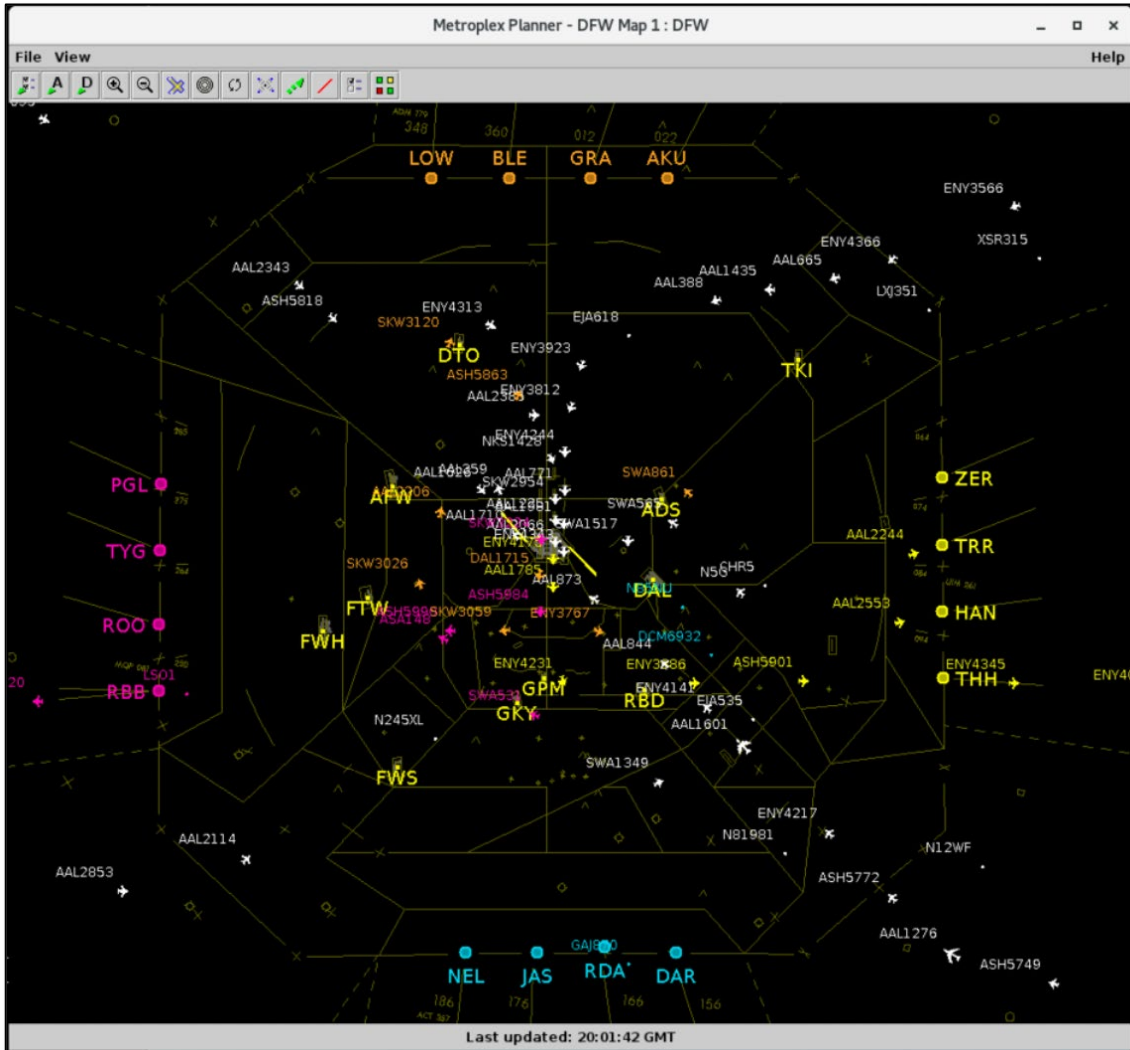


Figure 4.2. Map: Airspace.

See Section 3.2.1 for a description of how to open a new map window using the Create function on the Toolbar. See Section 3.6.4 for a description of how to display the clock at the bottom of the map window.

Use the map Menu Bar (Section 4.5) and map Toolbar (Section 4.6) 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.

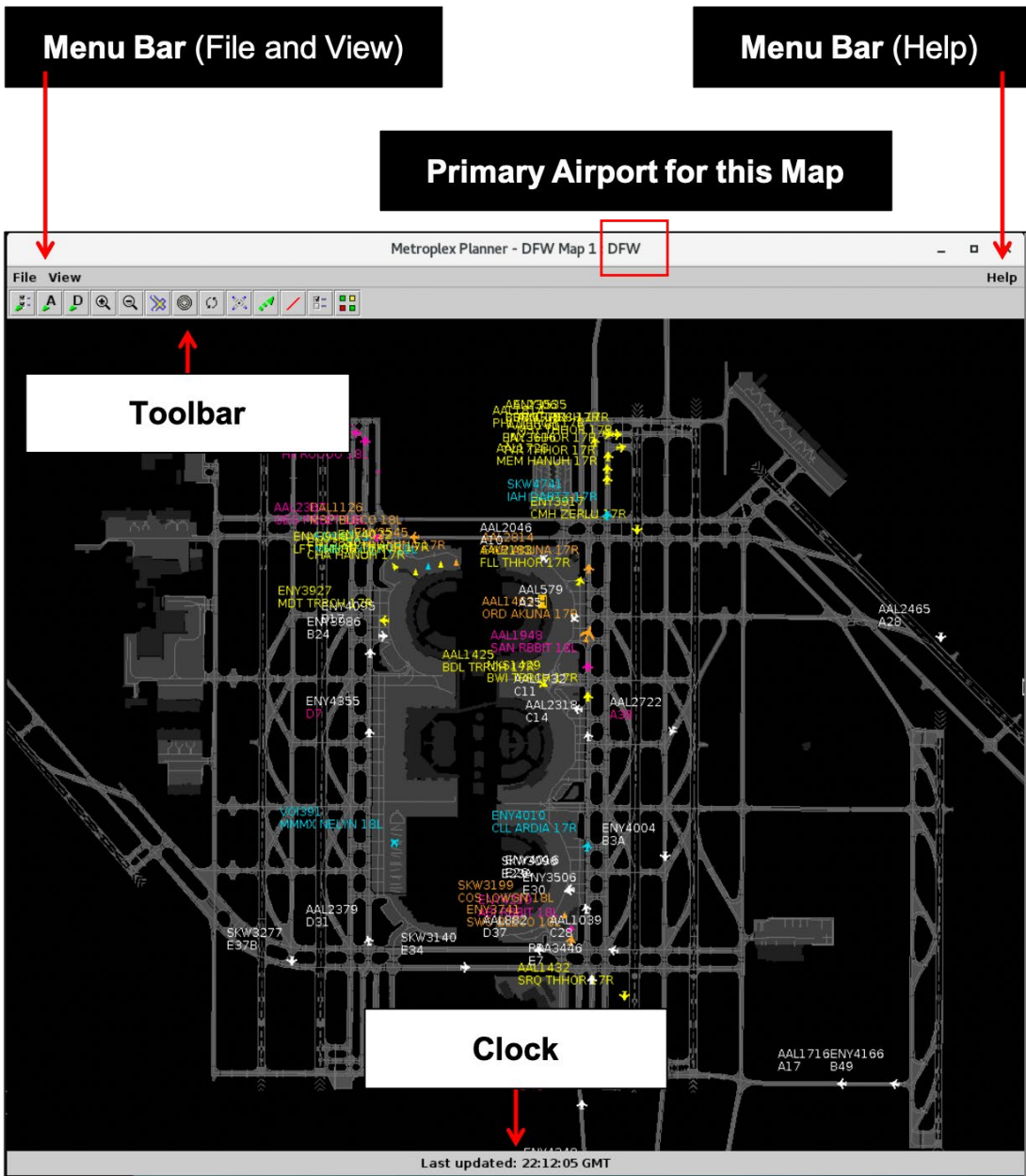


Figure 4.3. Map overview.

## 4.1 Map: Moving the Map

Pan and zoom to adjust the map display.

### To adjust the map display:

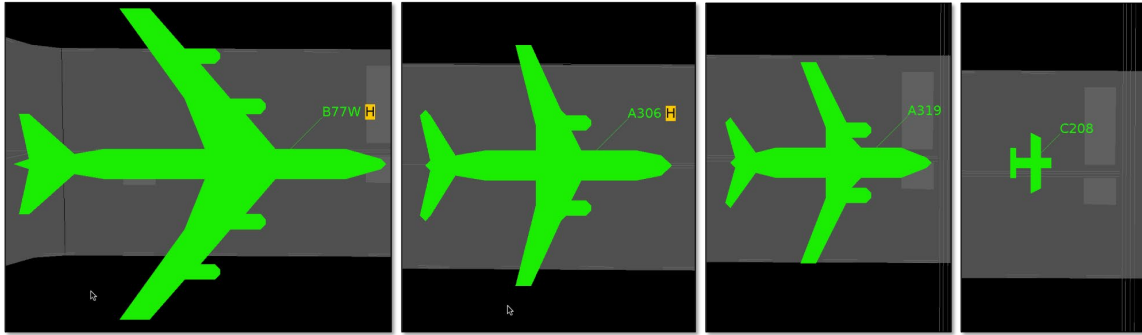
**Step 1:** To pan the map, use the mouse to left-click and drag the map in any direction.

**Step 2:** To zoom the map in or out:

1. Use the Zoom In and Zoom Out buttons on the map toolbar (see Section 4.6.3).
2. Move the mouse wheel **up** to zoom in, or **down** to zoom out (see *mouse* shortcuts for the map in Section 4.5.3.3).
3. Use keyboard shortcuts (see *keyboard* shortcuts for the map in Section 4.5.3.3).
  - Zoom In: **Alt + z**
  - Zoom Out: **Alt + u**

## 4.2 Map: Flight Icons

While taxiing or in the airspace, flights are represented by an aircraft icon. Several different aircraft icons are used to represent a range of aircraft sizes (Figure 4.4).



**Figure 4.4. Aircraft icons: In this example (from left to right), B77W (Heavy), A306 (Heavy), A319, and C208.**

While parked at the gate or during pushback, flights are depicted by a triangle symbol (Figure 4.5).



**Figure 4.5. Flight parked at the gate or during pushback.**

For a description of how to include the aircraft type (e.g., A306) or the “heavy” indicator (“H” highlighted in yellow) in flight datablocks on the map, see Section 4.6.1.5.

## 4.3 Map: Select a Flight

Select a flight on the map to highlight the flight throughout the Metroplex Planner user interface.

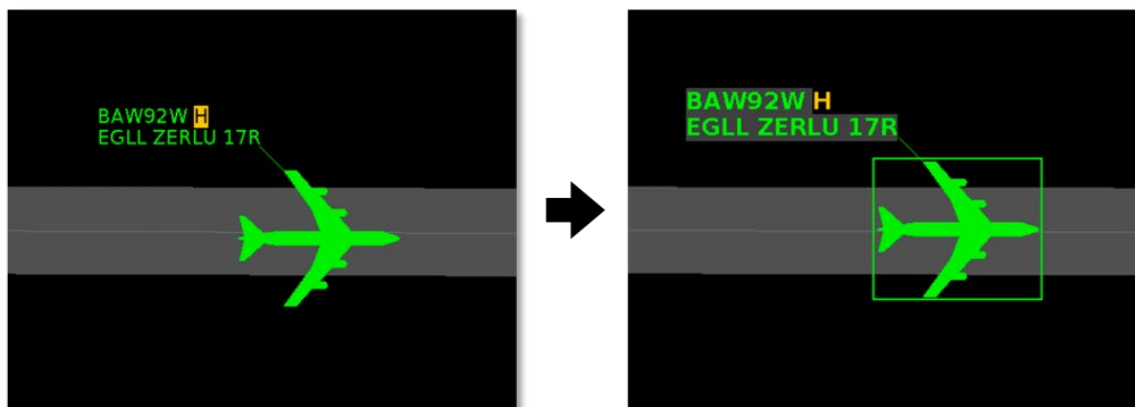
**To select a flight on the map:**

*Step 1:* Click on a flight to select it.

*Note:* Once selected, the datablock is highlighted and a border is drawn around the flight icon (Figure 4.6, right).

*Note:* When a flight is selected on the map, it is highlighted throughout the Metroplex Planner user interface: 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 4.6. Unselected flight (left) and selected flight (right).**

More than one flight on the map can be selected at the same time.

**To select multiple flights on the map:**

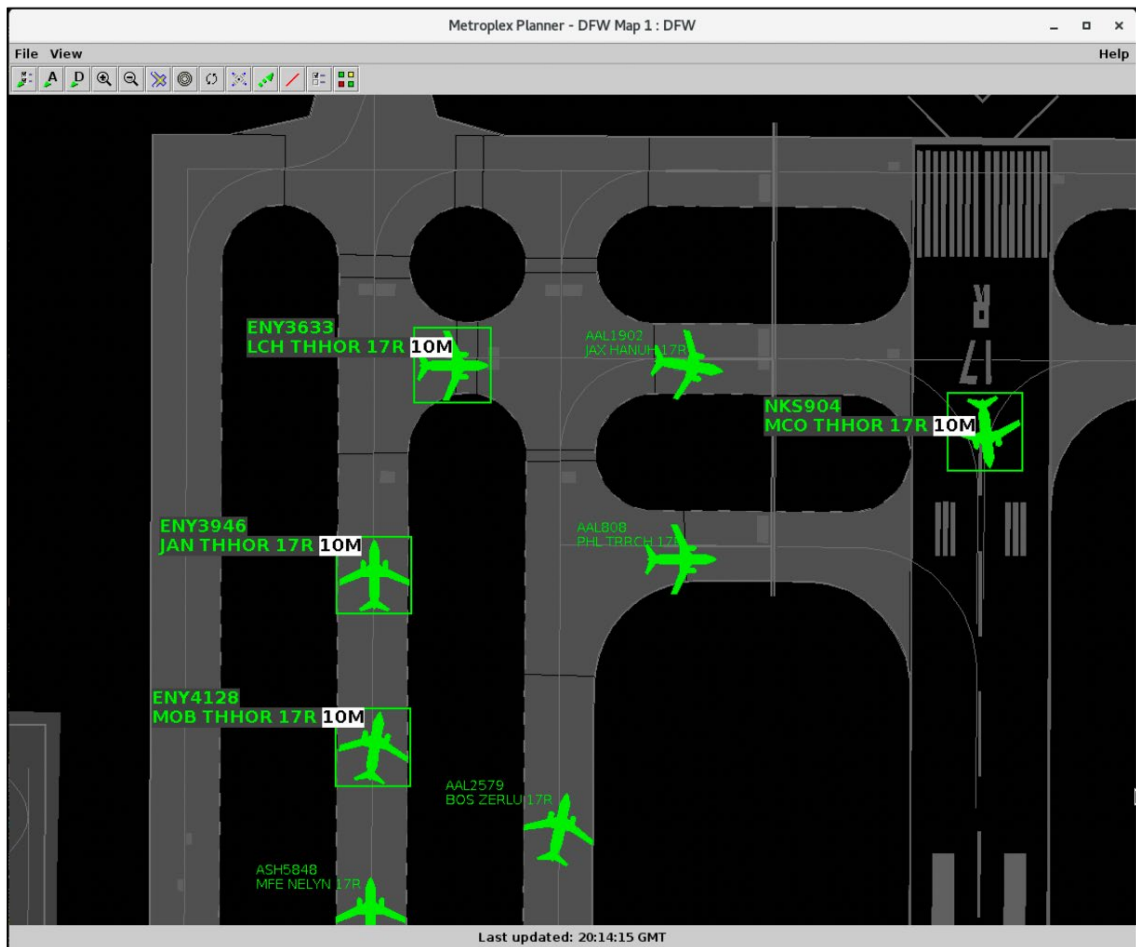
**Step 1:** Select multiple flights by holding the Shift key on the keyboard while clicking on the flights to select them (Figure 4.7).

**Note:** Once selected, the datablock is highlighted and a border is drawn around the flight icon (Figure 4.7).

**Note:** When flights are selected on the map, they are highlighted throughout the Metroplex Planner user interface: On the timeline, in the Flights Table, and in the TOS Departure Table (if applicable).

**Alternatively:** Click elsewhere on the map to deselect all flights.

**Or:** On the map Menu Bar, select “View” and “Clear Highlighted Flights” to deselect all flights (see Section 4.5.2.2).



**Figure 4.7. Multiple flights selected on the map. In this example, four flights assigned to the THHOR Departure Fix are selected.**

## 4.4 Map: Flight Datablocks

Each flight on the map is accompanied by a datablock which can be configured with flight-specific information. See Section 4.6.1 for a description of how to select and configure the data elements displayed in datablocks.

While a flight's location is based on live positional data and cannot be moved, the attached datablock can be repositioned.

### To reposition the datablock of a single flight:

**Step 1:** Click on a flight to select it.

**Note:** *Once selected, the datablock is highlighted and a border is drawn around the flight icon (Figure 4.8, left).*

**Step 2:** Click and drag the datablock to reposition it (Figure 4.8, middle).

**Step 3:** Drop the datablock at its new location (Figure 4.8, right).

**Alternatively:** Use keyboard shortcuts to reposition the datablock. While the flight is selected:

- On the keyboard, select a number — **1, 2, 3, 4, 6, 7, 8, or 9** — to reposition the datablock of the selected flight.
- On the keyboard, select the number **5** to reset the datablock of the selected flight to its default position.

**Step 4:** Click elsewhere on the map to deselect the flight.

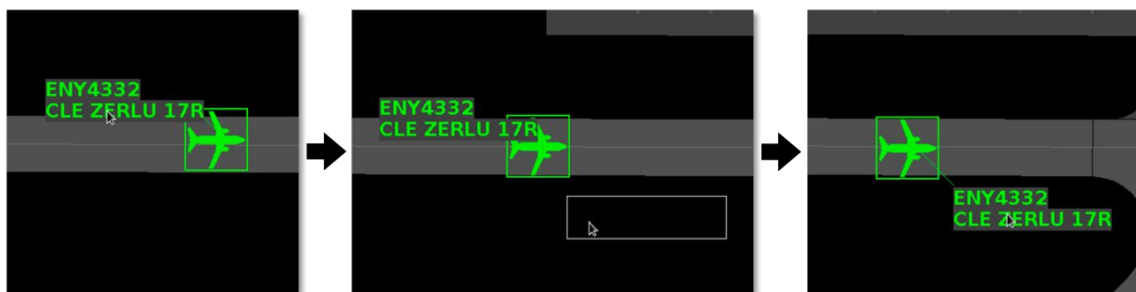


Figure 4.8. Use the mouse to reposition the flight datablock of a single flight.



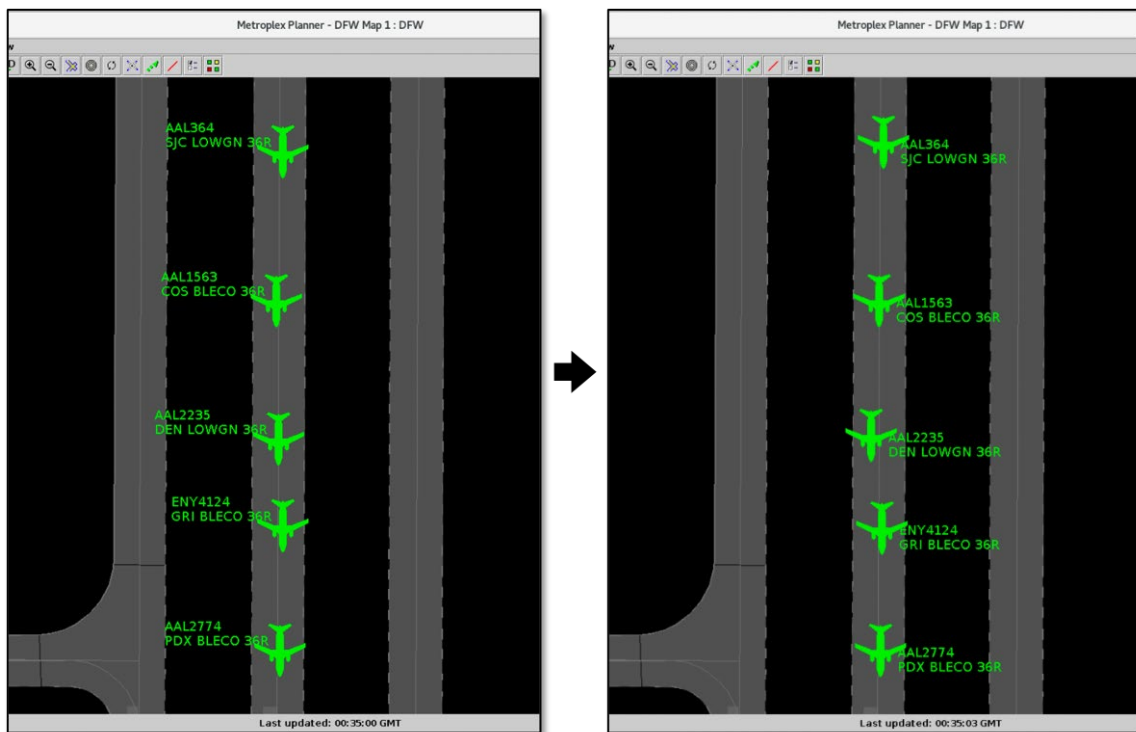
## To reposition the flight datablock of multiple flights or all flights:

**Step 1:** Select multiple flights by holding the Shift key on the keyboard while clicking on flights to select them. Or, to apply the change to *all* flights on the map, do not select any flights.

**Step 2:** Use keyboard shortcuts to reposition the datablock for *selected* flights. When no flights are selected, the new datablock position is applied to *all* flights on the map:

- On the keyboard, select a number — **1, 2, 3, 4, 6, 7, 8, or 9** — to reposition the datablocks. In Figure 4.9, a change is applied to *all* flights on the map. When the number 6 is selected on the keyboard, *all* datablocks move from their default position on the left of the flight icon (Figure 4.9, left) to the right of the flight icon (Figure 4.9, right).
- On the keyboard, select the number **5** to reset the datablocks to their default position.

**Step 3 (if applicable):** If any flights are selected, click elsewhere on the map to deselect the flights.



**Figure 4.9.** Use keyboard shortcuts to reposition the flight datablock of multiple flights or all flights. In this example, all flight datablocks are repositioned from the left to the right of the flight icon (keyboard shortcut: 6).

A datablock is connected to the flight icon by a leader line.

**To show/hide leader lines on the map:**

**Step 1:** Use a keyboard shortcut to toggle the leader line display for one or more *selected* flights. When no flights are selected, the setting applies to *all* flights on the map:

- On the keyboard, select **0 (zero)** to toggle the display of leader lines. See an example in Figure 4.10 (right).

**Note:** *If the map is in Declutter mode (Section 4.6.1.4), some leader lines may continue to be displayed when leader lines are hidden.*



Figure 4.10. Use a keyboard shortcut to toggle between leader lines hidden (left) and leader lines displayed (right).

Use keyboard shortcuts to increase or decrease the length of leader lines.

**To increase/decrease the length of leader lines for one or more selected flights:**

**Step 1:** Click on a flight to select it. Or, select multiple flights by holding the Shift key on the keyboard while clicking on flights to select them.

**Note:** *Once selected, the datablock is highlighted and a border is drawn around the flight icon (for example, three flights are selected in Figure 4.11).*

**Step 2:** Use keyboard shortcuts to increase/decrease the length of leader lines for one or more *selected* flights. While the flight(s) is selected:

- On the keyboard, select **Alt + [** to decrease leader line length.
- On the keyboard, select **Alt + ]** to increase leader line length. See an example in Figure 4.11.

**Step 3:** Click elsewhere on the map to deselect the flight(s).

**Alternatively:** When leader line length has been changed for one or more *selected* flights, use a keyboard shortcut to reset those leader lines to the default length:

- On the keyboard, select **Alt + /** to reset leader line length to the default length. See an example in Figure 4.12.

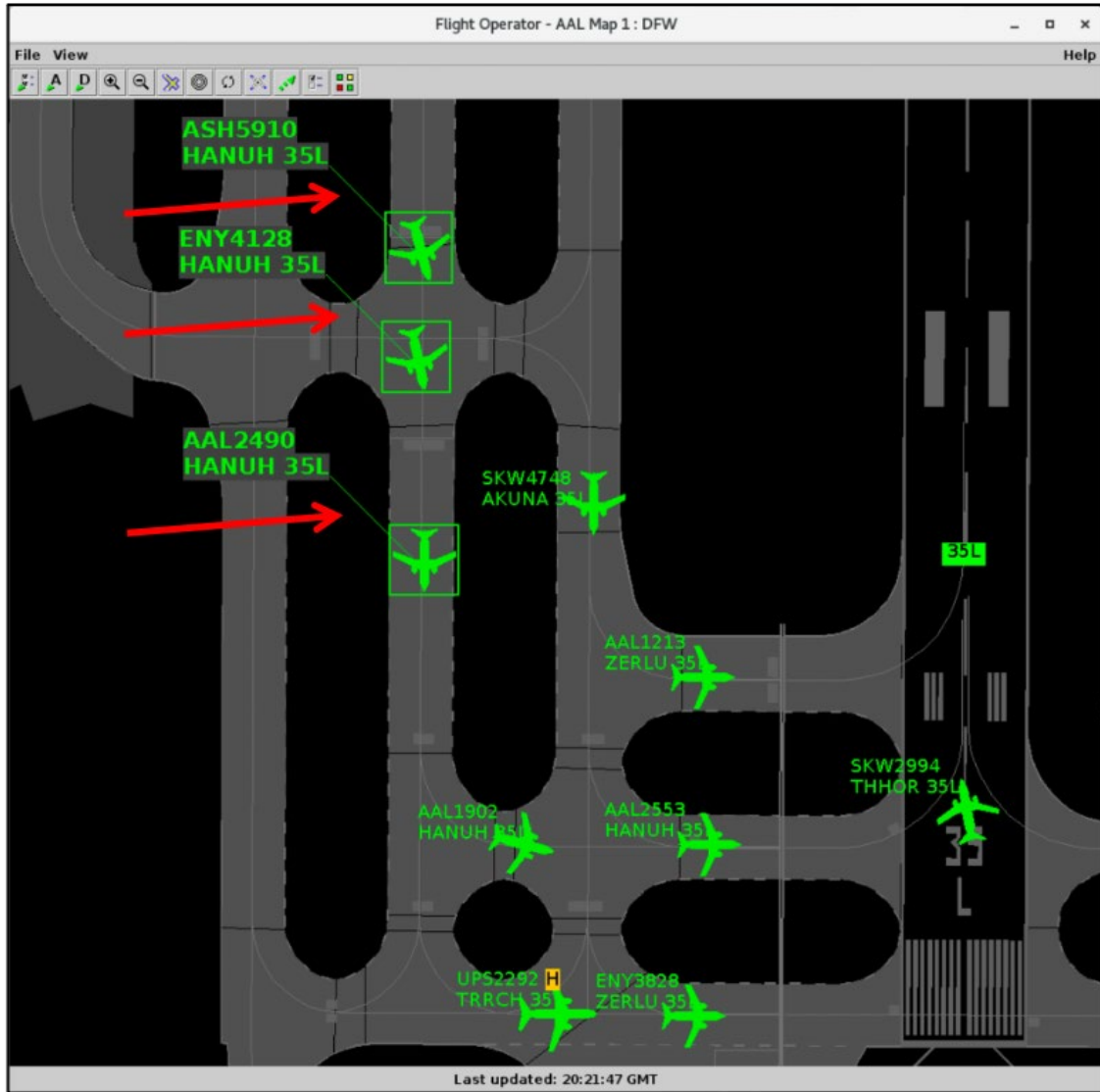
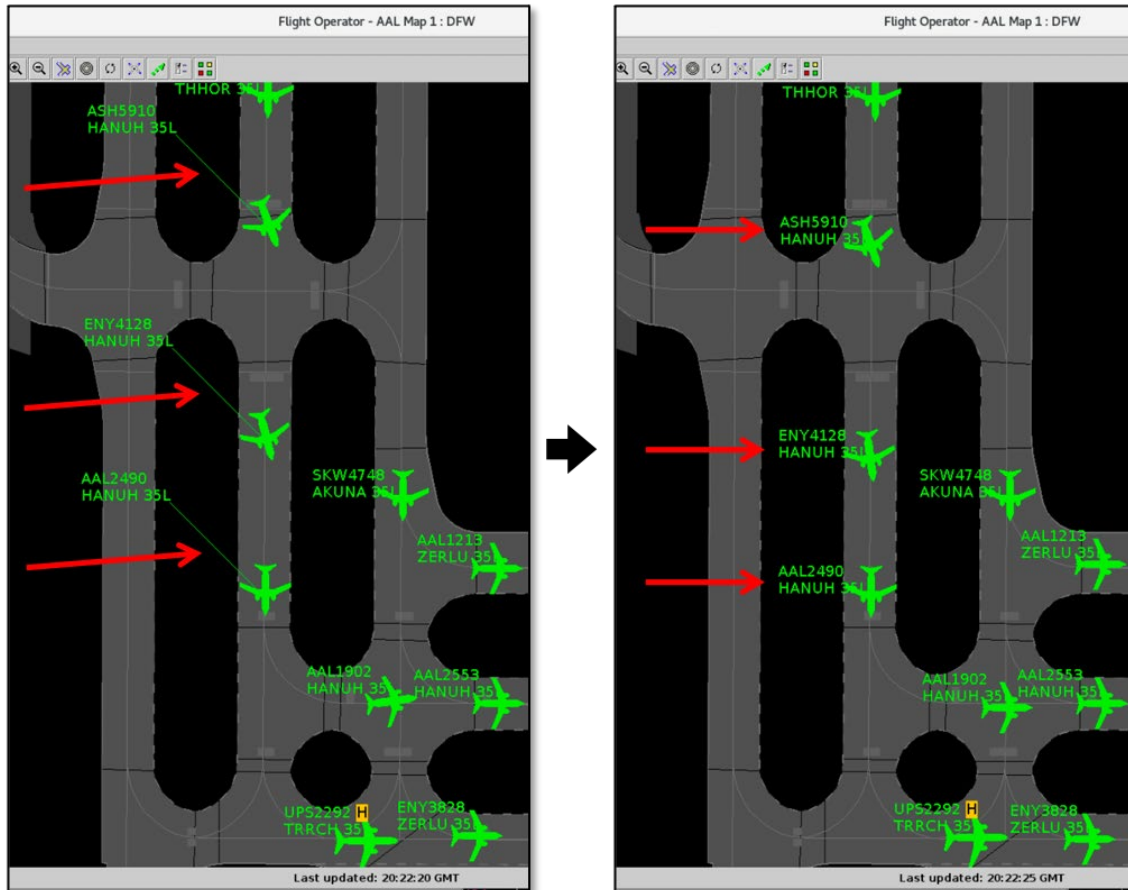


Figure 4.11. Use keyboard shortcuts to change the length of leader lines for one or more selected flights. In this example, three flights were selected and the length of their leader lines was increased.



**Figure 4.12.** When leader line length has been changed for one or more *selected* flights, use a keyboard shortcut (Alt + /) to reset those leader lines to the default length. In this example, leader line length was reset for the three flights described in the previous step (Figure 4.11).

**To increase/decrease the length of leader lines for all flights:**

**Step 1:** Use keyboard shortcuts to increase/decrease the length of leader lines for *all* flights. When no flights are selected, the setting applies to *all* flights on the map:

- On the keyboard, select **Alt + [** to decrease leader line length.
- On the keyboard, select **Alt + ]** to increase leader line length. See an example in Figure 4.13.

**Note:** *The new leader line length is the new default length.*

**Step 2:** To make further adjustments to the leader line length of *all* flights, repeat Step 1.

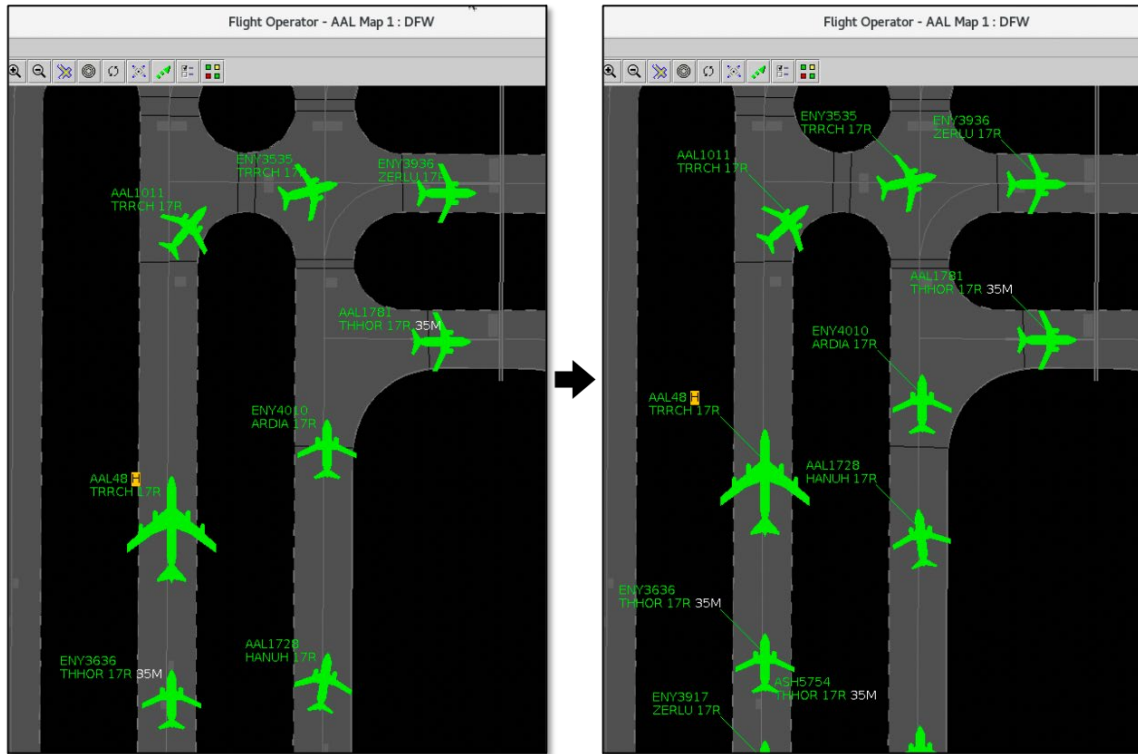


Figure 4.13. Use keyboard shortcuts to increase/decrease the length of leader lines for *all* flights. In this example, leader lines are increased for *all* flights (right).

## 4.5 Map: Menu Bar

Three dropdown menus are available on the map Menu Bar: File, View, and Help.



Figure 4.14. Map: File menu.

### 4.5.1 File Menu

Use the “File” menu to refresh flight data or shut down the Metroplex Planner (Figure 4.15).

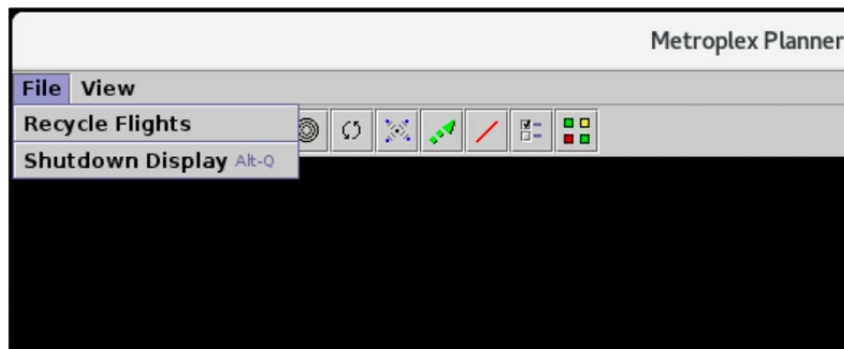


Figure 4.15. Map: File menu.

#### 4.5.1.1 Recycle Flights

Select “Recycle Flights” to reinitialize flight data and refresh flights displayed on the map (Figure 4.16).

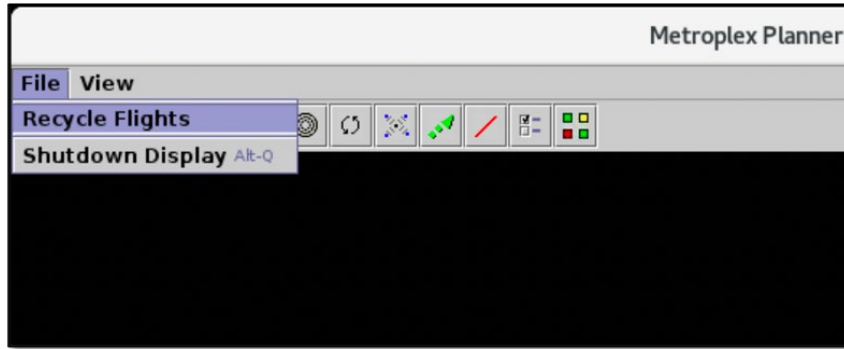


Figure 4.16. File menu: Recycle Flights.

### 4.5.1.2 Shutdown Display

Use “Shutdown Display” to shut down the Metroplex Planner.

#### To shut down the Metroplex Planner:

**Step 1:** Select “File” on the map Menu Bar (Figure 4.17).

**Step 2:** Select “Shutdown Display” from the dropdown menu (Figure 4.17).

**Alternatively:** Use the keyboard shortcut Alt + Q.

**Step 3:** At the prompt, select “Yes” to shut down the Metroplex Planner or “No” to keep the Metroplex Planner open (Figure 4.18).

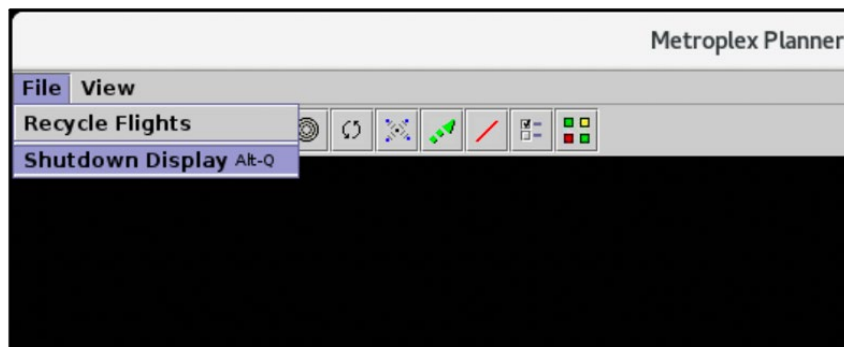


Figure 4.17. File menu: Shutdown Display.





Figure 4.18. Shutdown confirmation prompt.

## 4.5.2 View Menu

Use the “View” menu to configure the display (Figure 4.19).

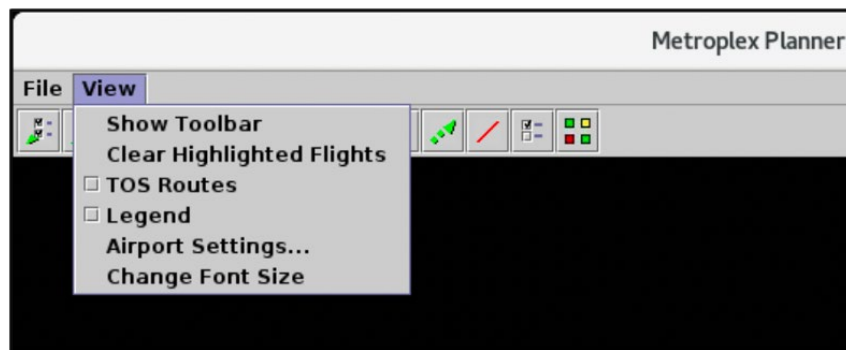


Figure 4.19. Map: View menu.

### 4.5.2.1 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 map Menu Bar (Figure 4.20).

**Step 2:** If the Metroplex Planner Toolbar window is obscured by other windows (Figure 4.21, top), select “Show Toolbar” from the dropdown menu to bring the Toolbar to the front of other windows (Figure 4.21, bottom).

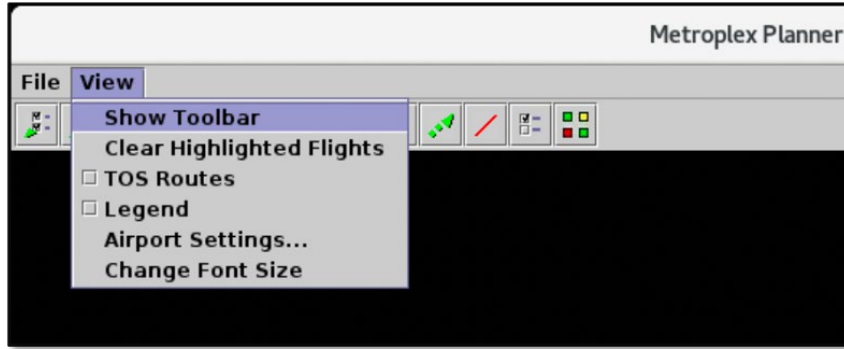


Figure 4.20. View menu: Show Toolbar.

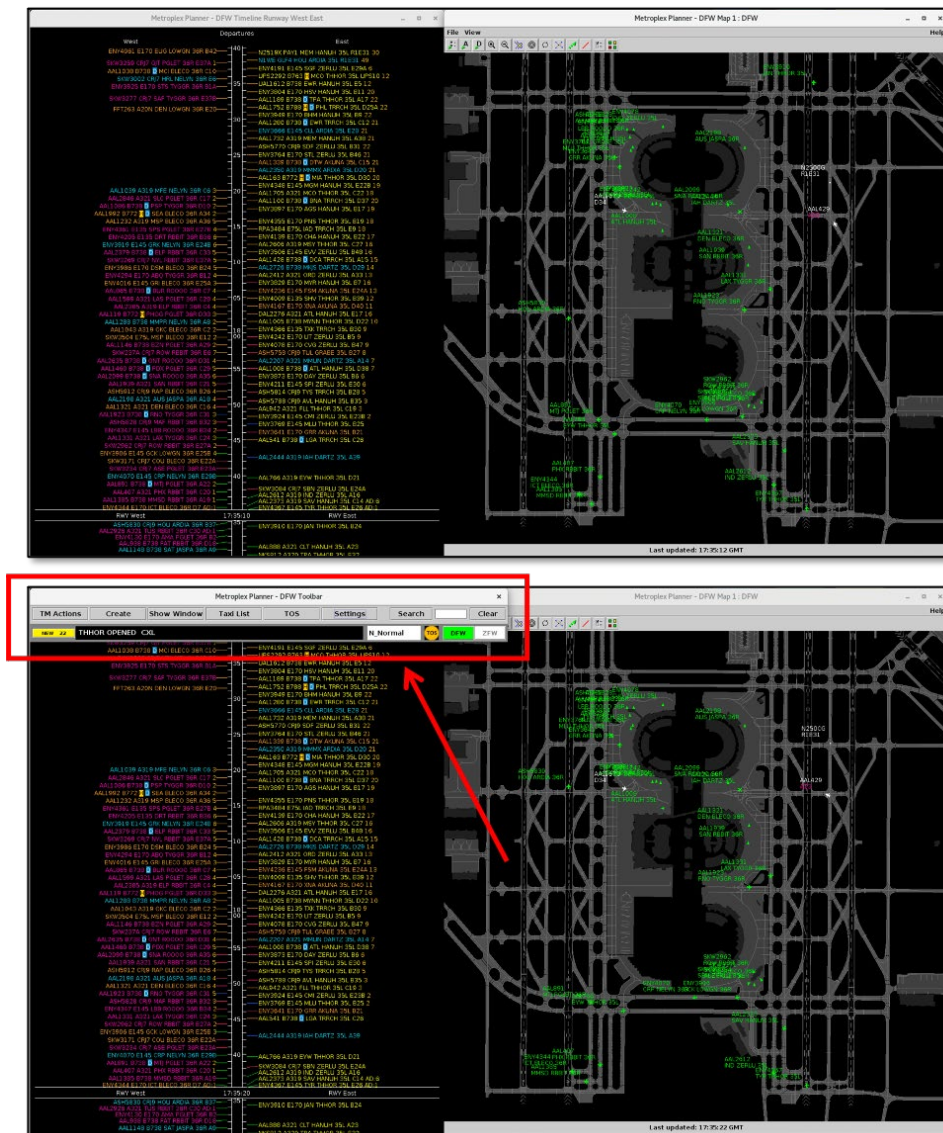


Figure 4.21. Metroplex Planner Toolbar obscured by other windows (top) and displayed in front of other windows (bottom).

## 4.5.2.2 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 map Menu Bar (Figure 4.22).

*Step 2:* When one or more flights are selected on the map (Figure 4.23, left), select “Clear Highlighted Flights” from the dropdown menu to deselect them (Figure 4.23, right).

*Alternatively:* Click elsewhere on the map to deselect all flights.

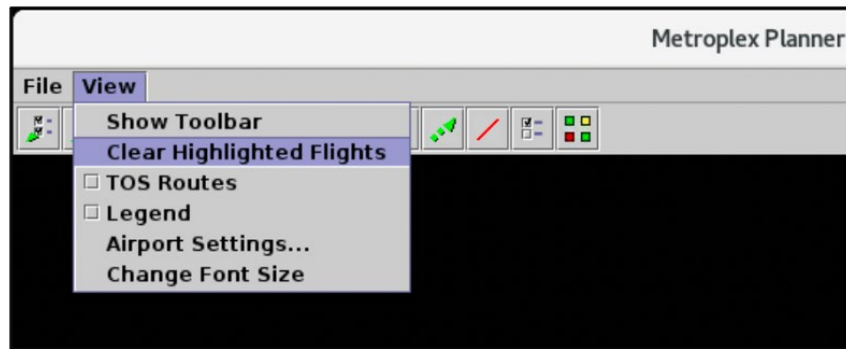


Figure 4.22. View menu: Clear Highlighted Flights.

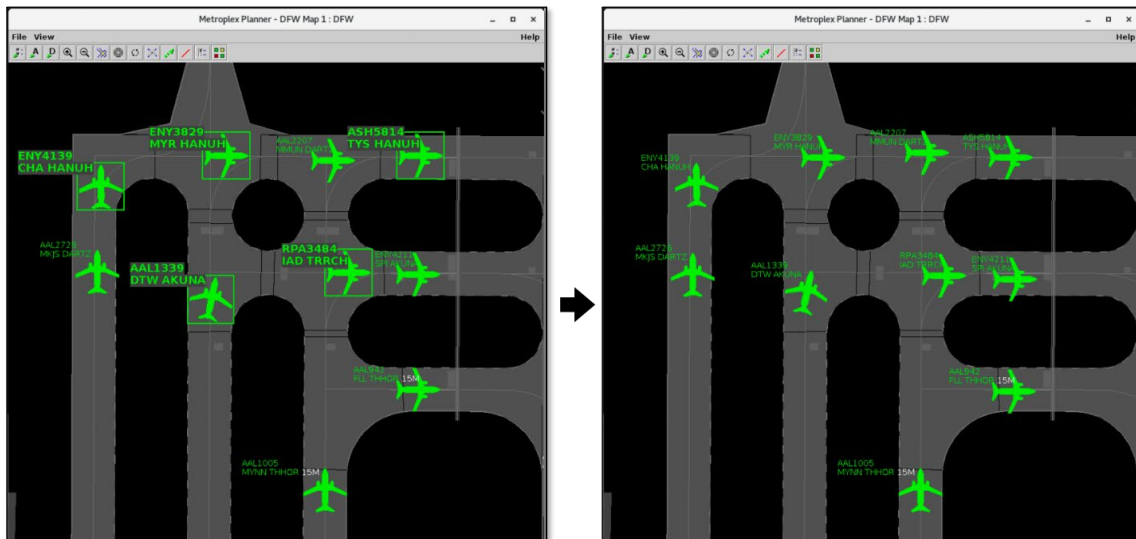


Figure 4.23. Clear Highlighted Flights: Any selected flights (left) are deselected (right).

### 4.5.2.3 TOS Routes

Select “TOS Routes” to display TOS routes graphically on the map.

#### To enable the display of TOS routes on the Map:

*Step 1:* Select “View” on the map Menu Bar (Figure 4.24).

*Step 2:* Select “TOS Routes” from the dropdown menu (Figure 4.24).

*Alternatively:* Click on “TOS Routes” again to hide TOS routes.

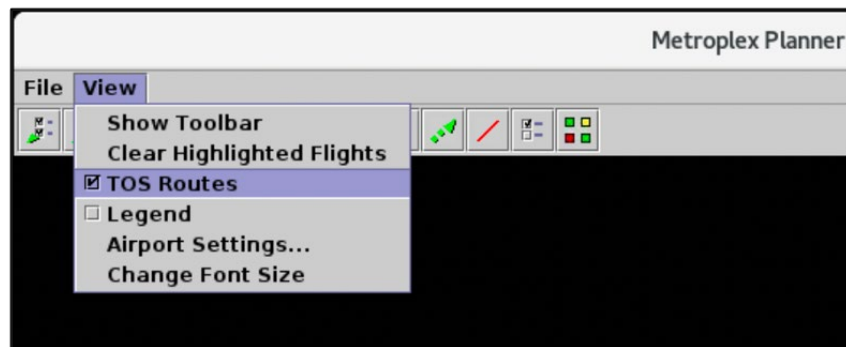
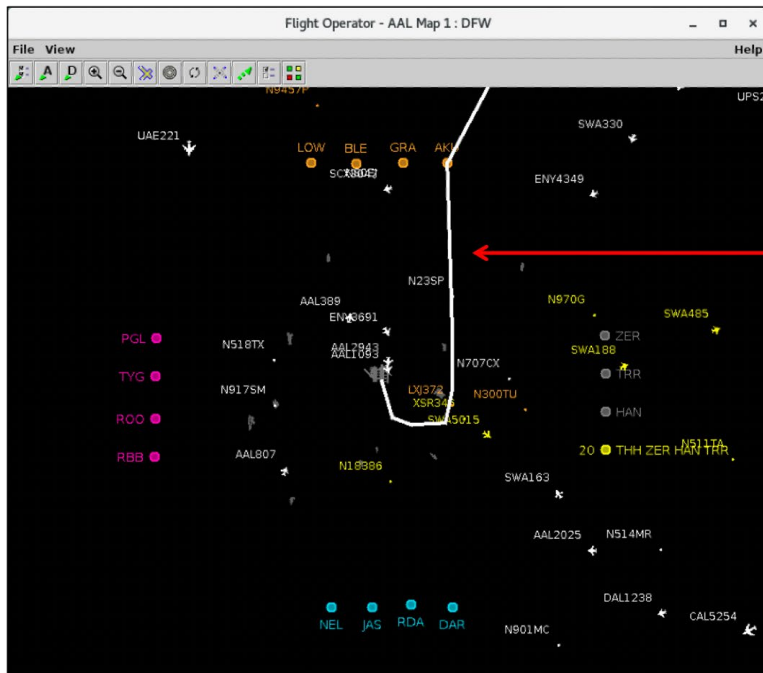


Figure 4.24. View Menu: TOS Routes.

When a **flight** is selected in the **TOS Departure Table**, its “top” TOS route is displayed on the map (Figure 4.25). Note that the Top TOS route is identified approximately 60 minutes prior to takeoff. See Section 5.4.4 for a description of “top” TOS routes.

Flight Operator -											
TOS Departure - Airline != ENY AND Eligibility State = Candidate AND Coord Sta											
Flight ID	Rwy	Dest	Route of Flight	Dep Gate	Dep Fix	EObt	Top Dep Gate	Top Dep Fix	Top CDR ▲	Top Rwy	Eligibility State
AAL2814	E17R	EWR	KDFW.FORC...	EAST	HANUH	08/22:05	NORTH	AKUNA	DFWEWRJ3	17R	Candidate
AAL1160	E17R	JAX	KDFW.MRS...	EAST	THHOR	08/22:00	SOUTH	DARTZ	DFWAX1S	17R	Candidate
AAL1011	E17R	LGA	KDFW.FORC...	EAST	HANUH	08/21:27	NORTH	AKUNA	DFWLGJ3	17R	Candidate
AAL2791	E17R	MCO	KDFW.MRS...	EAST	THHOR	08/21:39	SOUTH	DARTZ	DFWMCO1S	17R	Candidate
AAL595	E17R	PBI	KDFW.MRS...	EAST	THHOR	08/21:45	SOUTH	DARTZ	DFWPB1S	17R	Candidate
AAL1814	E17R	PHL	KDFW.TRYT...	EAST	TRRCH	08/22:00	NORTH	AKUNA	DFWPHJ3	17R	Candidate



Top TOS route for this flight: DFWLGJ3

Figure 4.25. When a flight is selected in the TOS Departure Table, its Top TOS route is displayed on the map (in this example, TOS CDR DFWLGJ3).

When a **route** is selected in a **TOS Flight Menu**, it is displayed on the map (Figure 4.26). The route may be the current filed route or a TOS route.

TOS Flight Menu - AAL1814											
Flight ID	Route	CDR	Dep Gate	Rwy	Dist nm	Add nm	OFF Delay	OFF Del Sav	ETOT	Eligibility State	Coord State
AAL1814	KDFW.TRYTN3.TR...		EAST	17R	1218		+98		00:31		
AAL1814	KDFW.AKUNA9.M...	DFWPHL1N	NORTH	17R	1248	+30	+1	-97	22:54	Candidate	Not Submitted
AAL1814	KDFW.DARTZ8.T...	DFWPHL1S	SOUTH	17R	1450	+231	+1	-97	22:54	Candidate	Not Submitted
AAL1814	KDFW.AKUNA9.M...	DFWPHL1S	NORTH	17R	1227	+9	+1	-97	22:54	Candidate	Not Submitted
AAL1814	KDFW.DARTZ8.T...	DFWPHLVS	SOUTH	17R	1435	+216	+1	-97	22:54	Candidate	Not Submitted

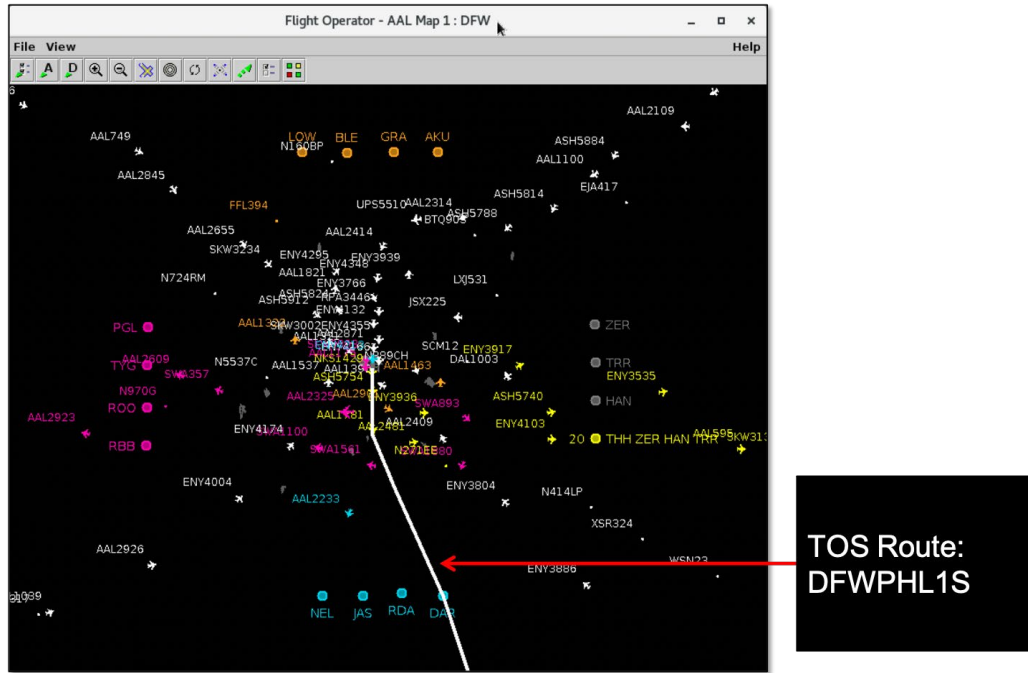


Figure 4.26. When a route is selected in a TOS Flight Menu, it is displayed on the map (in this example, TOS CDR DFWPHL1S).

Note that when a CDR is selected in the **CDR List** (see Section 3.1.11.3.2), it is displayed on the map regardless of whether “TOS Routes” is checked or unchecked in the map View menu.

#### 4.5.2.4 Legend

Use the map legend to display color-coding for the selected arrival and departure color schemes. (See Section 4.6.1.1 for a description of how to select color schemes on the map.) Unlike the timeline legend, categories cannot be deselected for exclusion from the map.

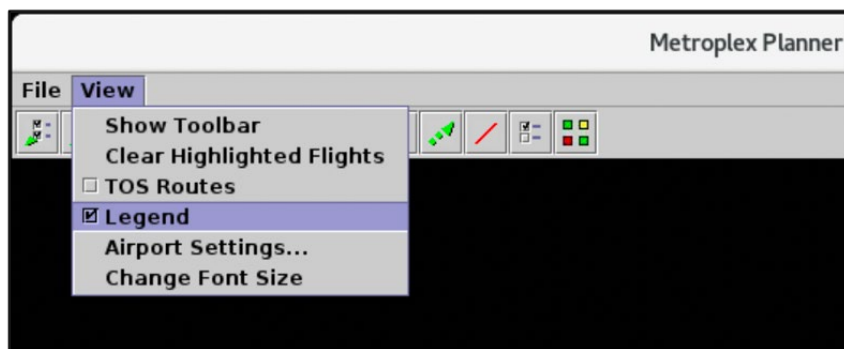
**To show/hide the map Legend:**

*Step 1:* Select “View” on the map Menu Bar (Figure 4.27).

*Step 2:* Select “Legend” from the dropdown menu (Figure 4.27).

*Note:* Colors displayed in the legend are based on the selected arrival/departure color schemes, see an example in Figure 4.28. (See Section 4.6.1.1 for a description of how to select color schemes on the map.)

*Alternatively:* Click on “Legend” again to hide the legend.



**Figure 4.27. View menu: Map Legend.**



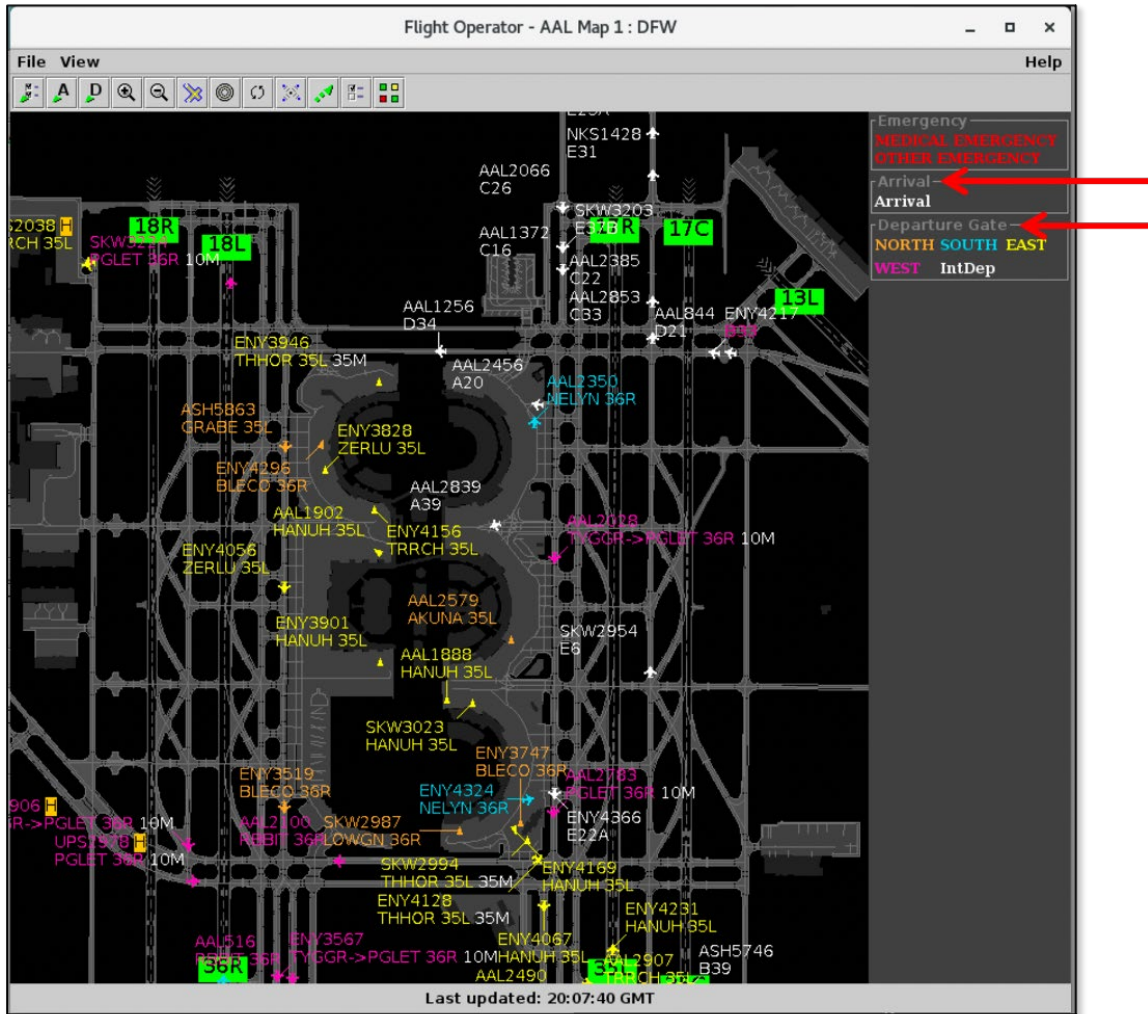


Figure 4.28. Map Legend: The selected arrival and departure color schemes are defined in the legend. In this example, the selected color schemes are “Arrival” and “Departure Gate.”



### 4.5.2.5 Airport Settings

Use “Airport Settings” to configure which flights are displayed on the map.

#### To configure map Airport Settings:

**Step 1:** Select “View” on the map Menu Bar (Figure 4.29).

**Step 2:** Select “Airport Settings” from the dropdown menu (Figure 4.29).

**Step 3:** Select an airport tab (for example, “DFW” in Figure 4.30).

**Step 4:** Select from seven types of flight options, each of which will be further explained, to view on the map (Figure 4.30):

- Departures
- Arrivals
- Flights at Gates
- Aircraft at Gates
- Flights by Line-of-Flight
- Suspended Flights
- AMA Only Datablocks

**Note:** *Not all options are available at all airports.*

**Step 5:** Select “Preview” to view the pending changes on the map before closing the Airport Settings menu or “Apply” to apply the changes and close the menu (Figure 4.30).

**Alternatively:** Select “Cancel” to close the Airport Settings menu without saving the changes (Figure 4.30).

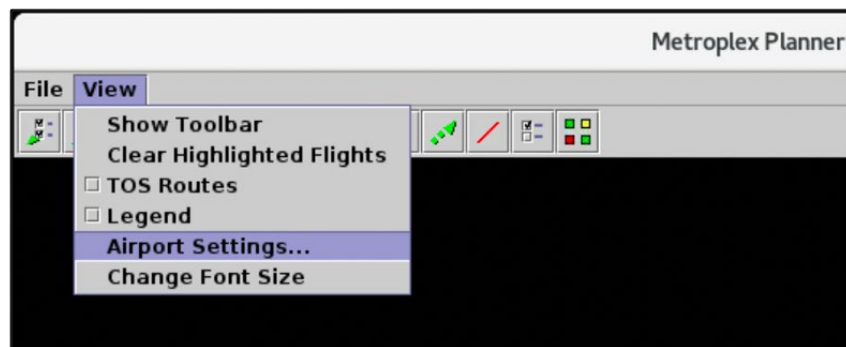


Figure 4.29. View menu: Airport Settings.

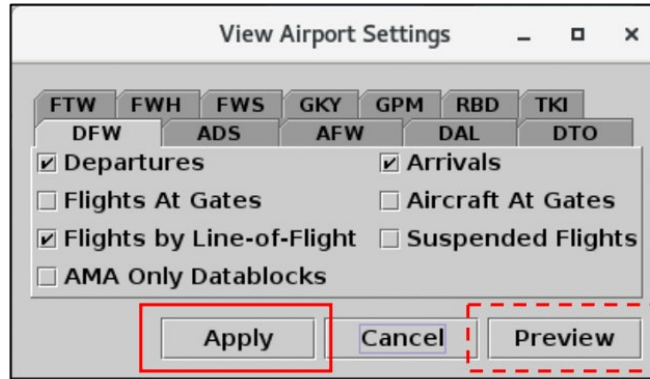


Figure 4.30. Airport Settings menu.

#### 4.5.2.5.1 Airport Settings: Departures

Select “**Departures**” to view departure flights from this airport on the airport surface (at airports where surface surveillance is available) and in the airspace.

#### 4.5.2.5.2 Airport Settings: Arrivals

Select “**Arrivals**” to view arrival flights to this airport on the airport surface (at airports where surface surveillance is available) and in the airspace.

#### 4.5.2.5.3 Airport Settings: Flights at Gates

When “**Flights at Gates**” is selected, flights currently parked at the gate are displayed on the map (Figure 4.31, right). When *not* selected, departure flights are not displayed until they start to pushback and arrival flights are not displayed after reaching their gate (Figure 4.31, left).

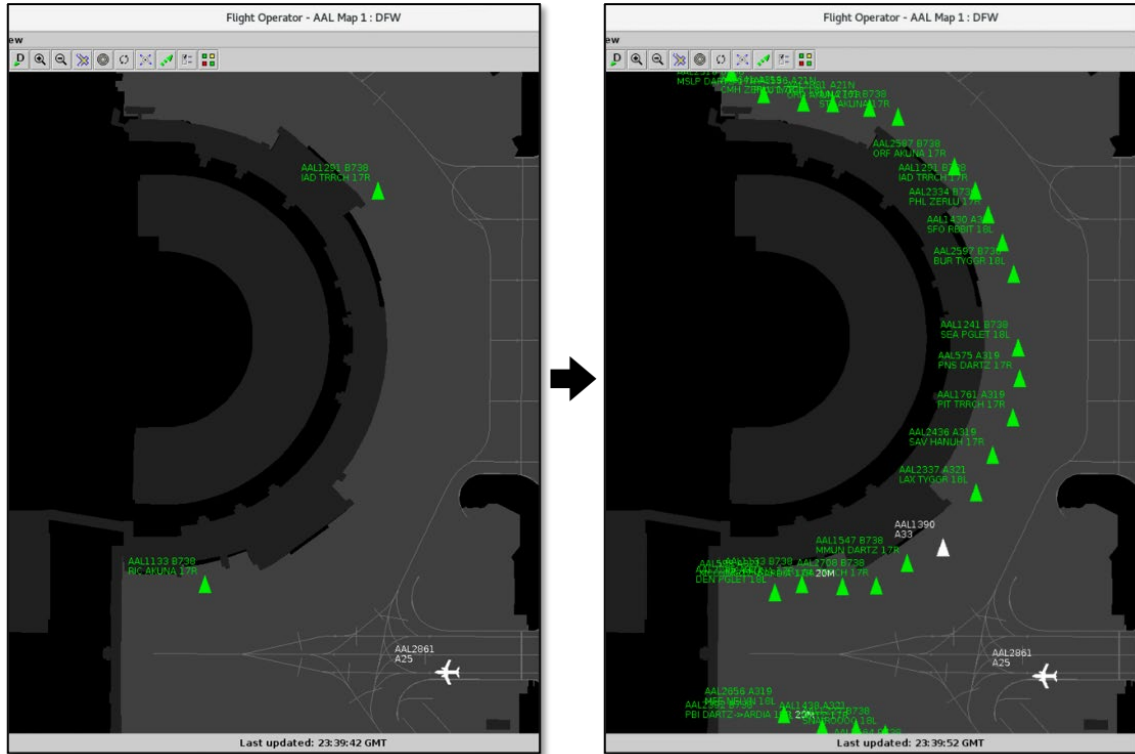


Figure 4.31. Airport Settings: When “Flights at Gates” is selected (right), flights currently parked at the gate are included on the map display.

#### 4.5.2.5.4 Airport Settings: Aircraft at Gates

When “Aircraft at Gates” is selected, aircraft parked at the gate are displayed on the map, identified by their tail number and aircraft type (Figure 4.32, right).

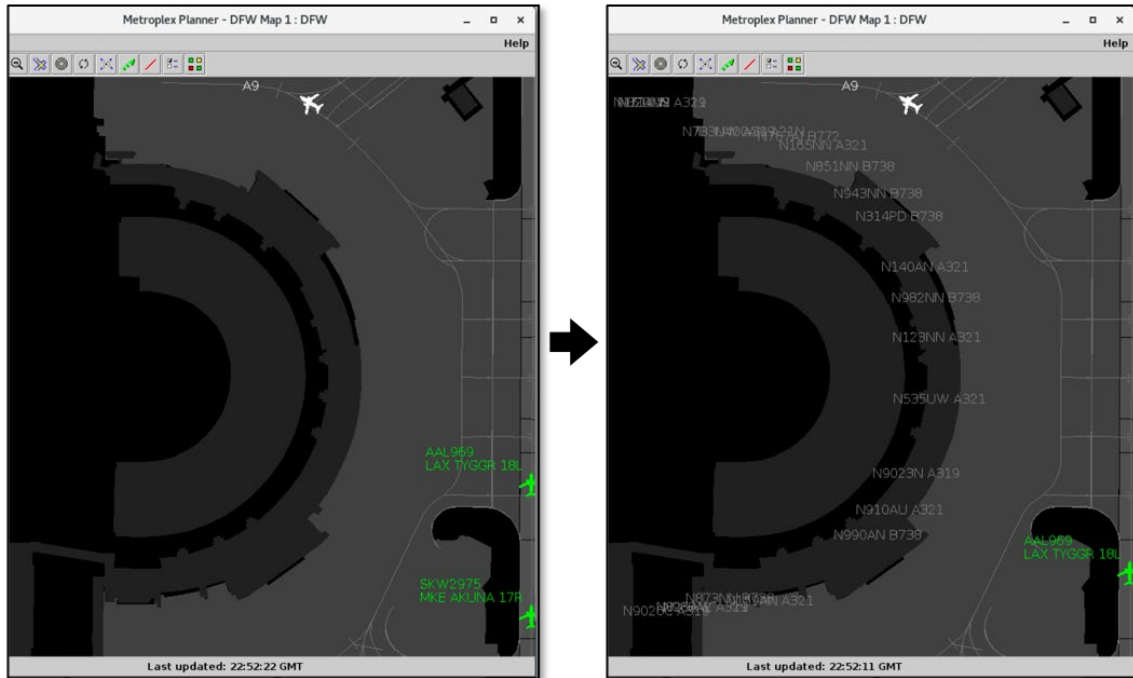


Figure 4.32. Airport Settings: When “Aircraft at Gates” is selected (right), aircraft parked at the gate are displayed on the map.

#### 4.5.2.5.5 Airport Settings: 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 “**Flights by Line-of-Flight**” is *unselected* (Figure 4.33, left), the current flight, and future flights that will use the same aircraft, are displayed (e.g., Flight A and Flight B).
- When “**Flights by Line-of-Flight**” is *selected* (Figure 4.33, right), only the current flight (e.g., Flight A) is displayed.

*Expired Flights.* After parking at the 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 4.33. Airport Settings: Flights by Line-of-Flight. *Unselected* to show current and future flights (left) and *selected* to show only the current flight (right).

#### 4.5.2.5.6 Airport Settings: Suspended Flights

Select “**Suspended Flights**” to display departure flights that have been designated as “suspended” in the ATD-2 system (Figure 4.34). A flight is designated as suspended when it is temporarily delayed (e.g., mechanical issue), but not permanently cancelled. On the map, the word “Suspended” is displayed in flight datablock.

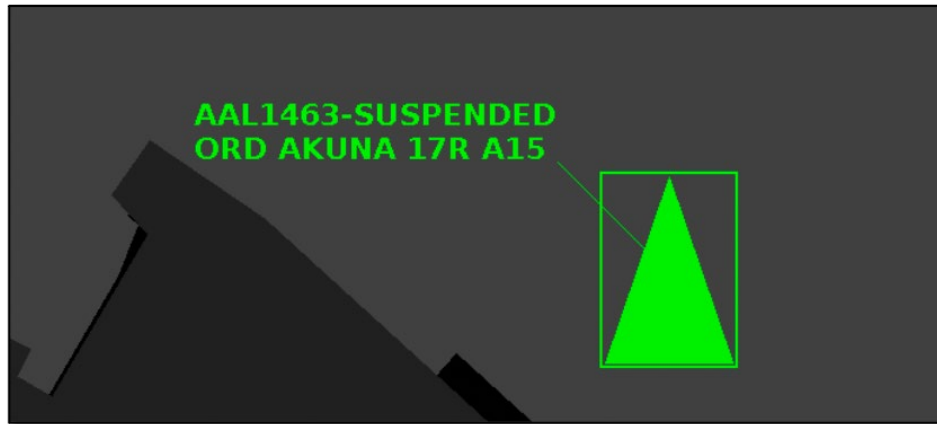
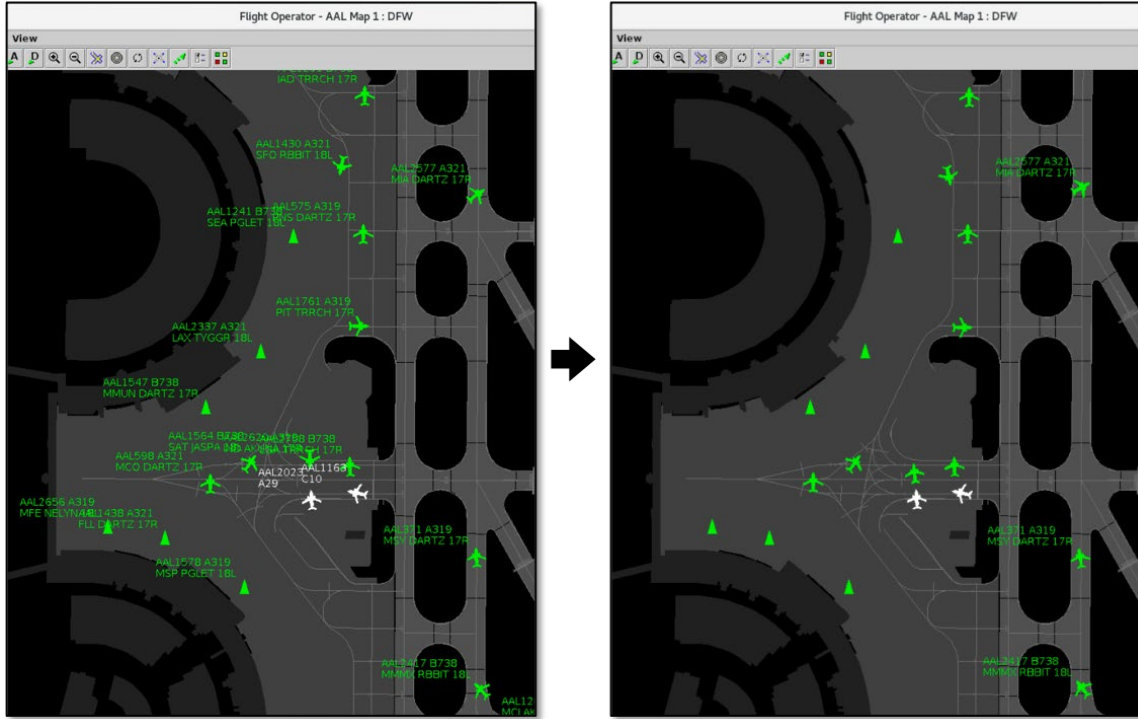


Figure 4.34. Airport Settings: Suspended flight displayed on the map.

See Section 7.1.10 for a description of how ATC can assign/remove suspended status.

#### 4.5.2.5.7 Airport Settings: AMA Only Datablocks

Select “**AMA Only Datablocks**” to hide datablocks in the ramp area. In Figure 4.35 (left), datablocks are displayed for all flights, including those at the gate and in the ramp area. When “AMA Only Datablocks” is selected, datablocks are only displayed for flights in the AMA (Figure 4.35, right).



**Figure 4.35. Airport Settings:** When “AMA Only Datablocks” is selected (right), datablocks are hidden while the flight is in the ramp area.

### 4.5.2.6 Change Font Size

Use “Change Font Size” to change the text size of flight datablocks (data tags) and map labels.

#### To change the size of text on the map:

**Step 1:** Select “View” on the map Menu Bar (Figure 4.36).

**Step 2:** Select “Change Font Size” from the dropdown menu (Figure 4.36).

**Step 3:** Use the “Decrease”, “Increase”, and “Reset” buttons to change the font size of flight datablocks (data tags) (Figure 4.37).

**Alternatively:** Use keyboard shortcuts (described in Section 4.5.3.3) to change the font size of datablocks:

- Increase font size of datablocks: **Alt + .**
- Decrease font size of datablocks: **Alt + ,**

**Step 4:** Use the “Decrease”, “Increase”, and “Reset” buttons to change the font size of map labels (Figure 4.37).

**Alternatively:** Use keyboard shortcuts (described in Section 4.5.3.3) to change the font size of map labels:

- Increase font size of map labels: **Alt + >**
- Decrease font size of map labels: **Alt + <**

**Note:** Map labels include *Departure Fix names (Section 4.6.7.2)*, *Airport names (Section 4.6.7.3)*, *TOS Route Availability labels (Section 4.6.11)*, *Runway, Taxiway, and Parking Gate labels (Section 4.6.10)*, and *Range Ring Distance labels (Section 4.6.5)*.

**Step 5:** Select “OK” to apply the changes and close the window (Figure 4.37).

**Alternatively:** Select “Cancel” to close the window without saving the changes (Figure 4.37).

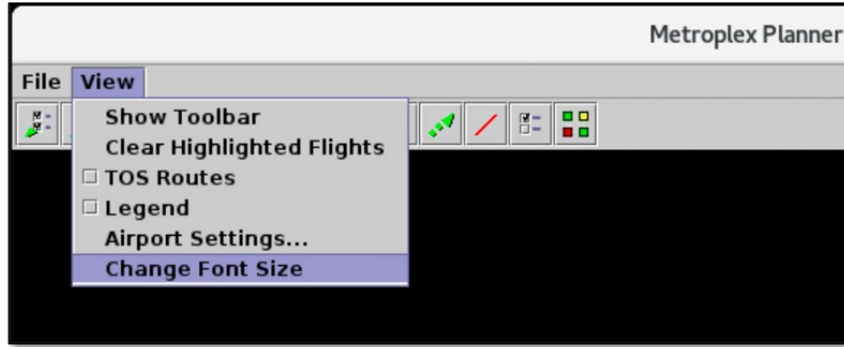


Figure 4.36. View menu: Change Font Size.

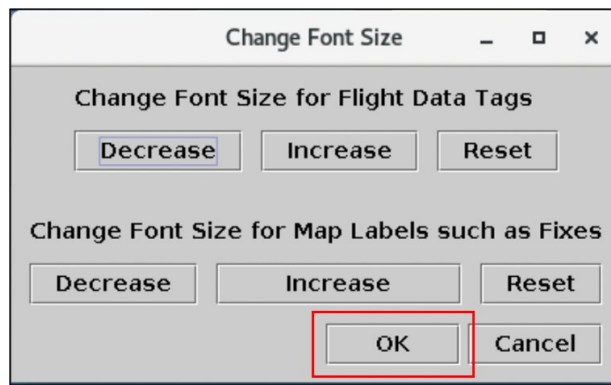


Figure 4.37. Change the font size of datablocks and labels on the map.

### 4.5.3 Help Menu

Use the “Help” menu to view the software version number and shortcuts for the Flights Table, map, and timeline (Figure 4.38).

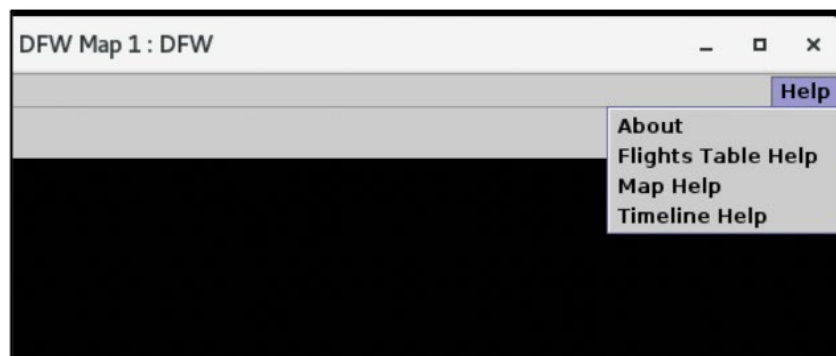


Figure 4.38. Map: Help menu.



### 4.5.3.1 About

Use “About” to view the Metroplex Planner software version number.

#### To view software version number:

*Step 1:* Select “Help” on the map Menu Bar.

*Step 2:* Select “About” from the dropdown menu (Figure 4.39).

*Step 3:* Select “OK” to close the window (Figure 4.40).

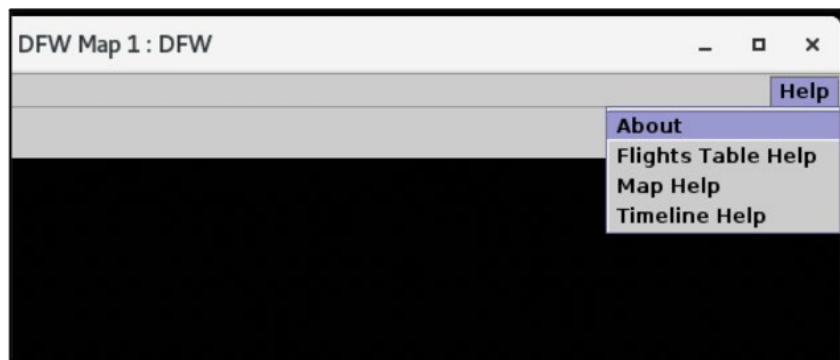


Figure 4.39. Help menu: About.

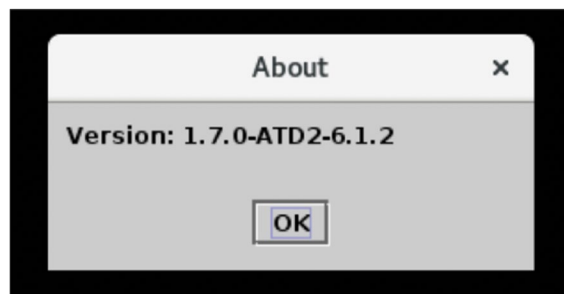


Figure 4.40. About: Software version number.

### 4.5.3.2 Flights Table Help

Some users prefer to use keyboard and mouse shortcuts to navigate and configure the Metroplex Planner interface. Shortcuts are available for the Flights Table.

**To open the list of shortcuts for the Flights Table:**

*Step 1:* Select “Help” on the map Menu Bar.

*Step 2:* Select “Flights Table Help” from the dropdown menu (Figure 4.41).

*Step 3:* Select “Close” to close the window (Figure 4.42).



Figure 4.41. Help menu: Flights Table Help.

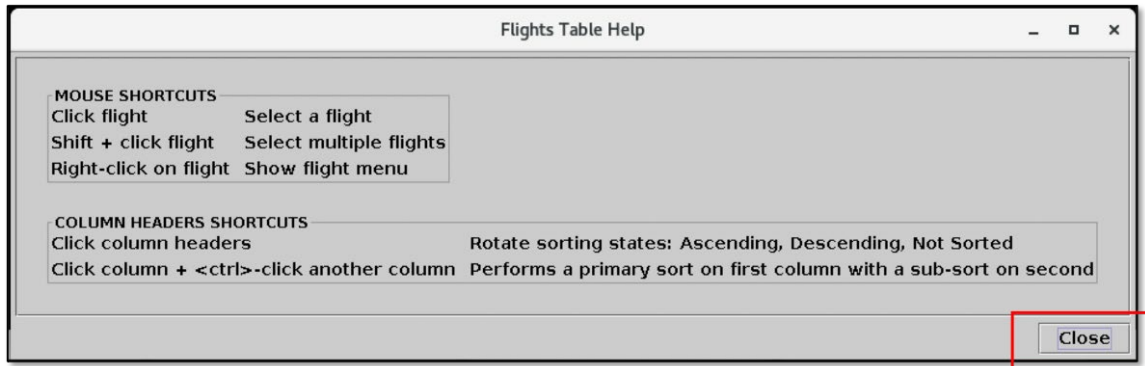


Figure 4.42. Flights Table shortcuts.

### 4.5.3.3 Map Help

Shortcuts are available for the map.

#### To open the list of shortcuts for the map:

*Step 1:* Select “Help” on the map Menu Bar.

*Step 2:* Select “Map Help” from the dropdown menu (Figure 4.43).

*Step 3:* Select “Close” to close the window (Figure 4.44).

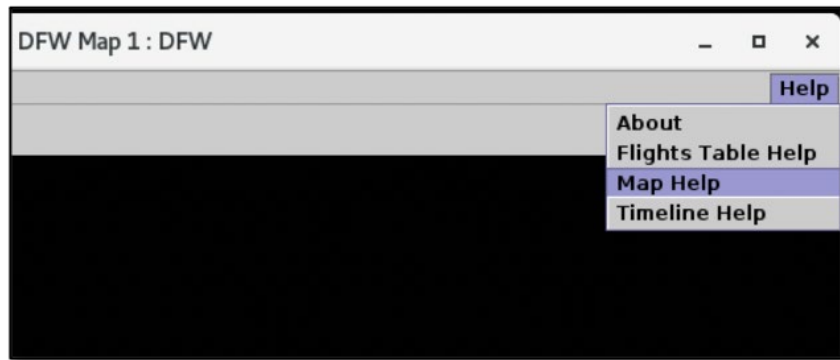


Figure 4.43. Help menu: Map Help.

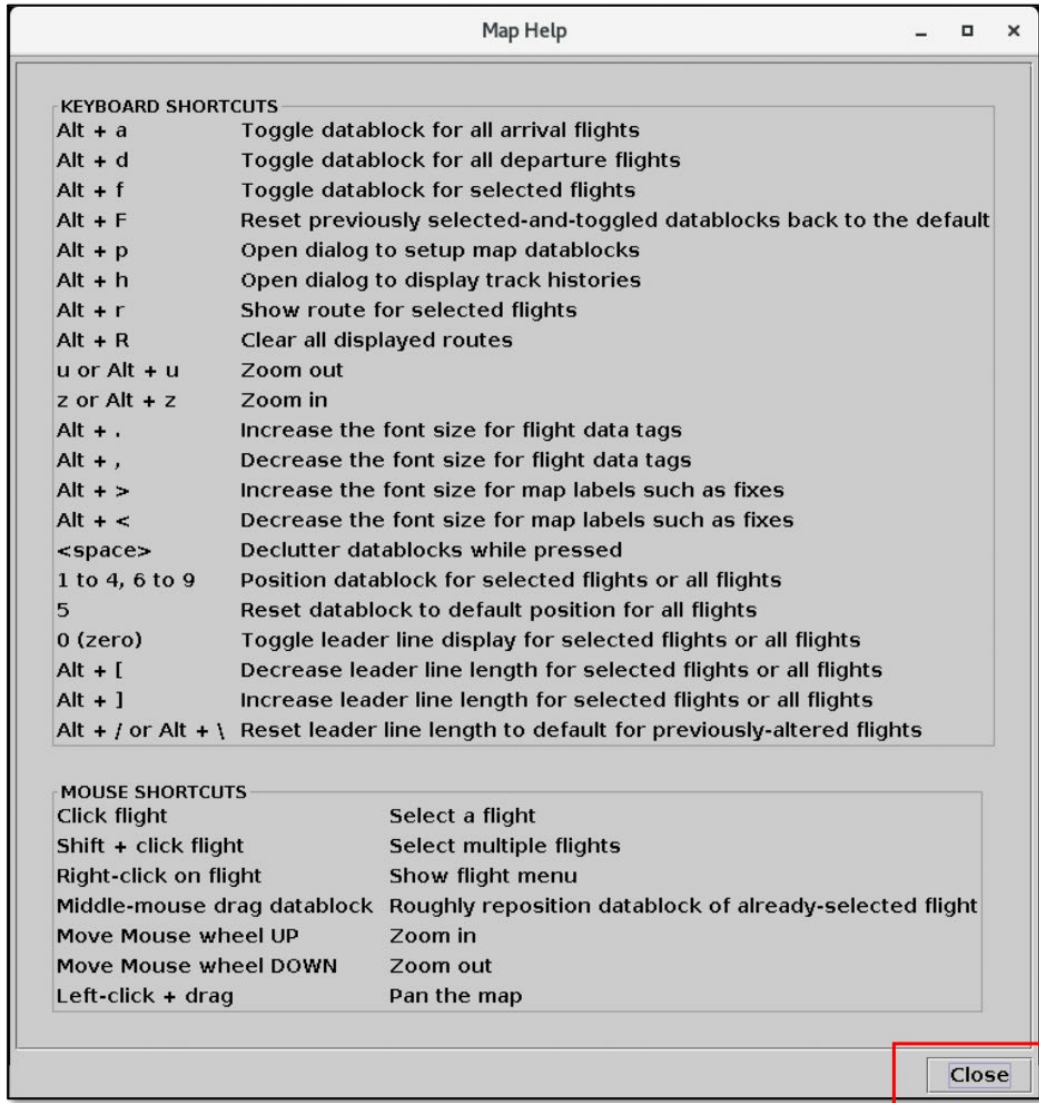


Figure 4.44. Map shortcuts.

### 4.5.3.4 Timeline Help

Shortcuts are available for the timeline.

**To open the list of shortcuts for the timeline:**

*Step 1:* Select “Help” on the map Menu Bar.

*Step 2:* Select “Timeline Help” from the dropdown menu (Figure 4.45).

*Step 3:* Select “Close” to close the window (Figure 4.46).

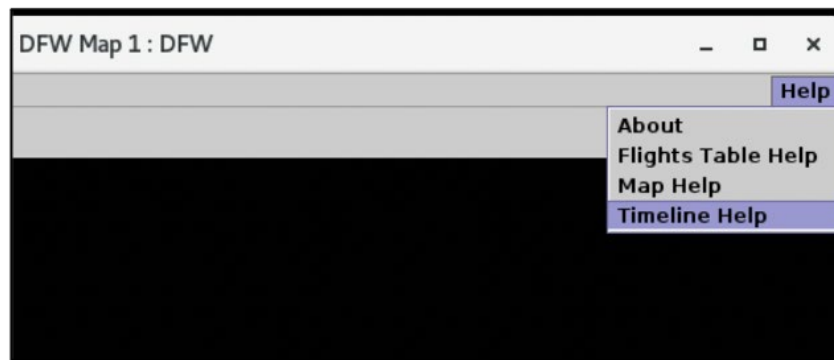


Figure 4.45. Help menu: Timeline Help.

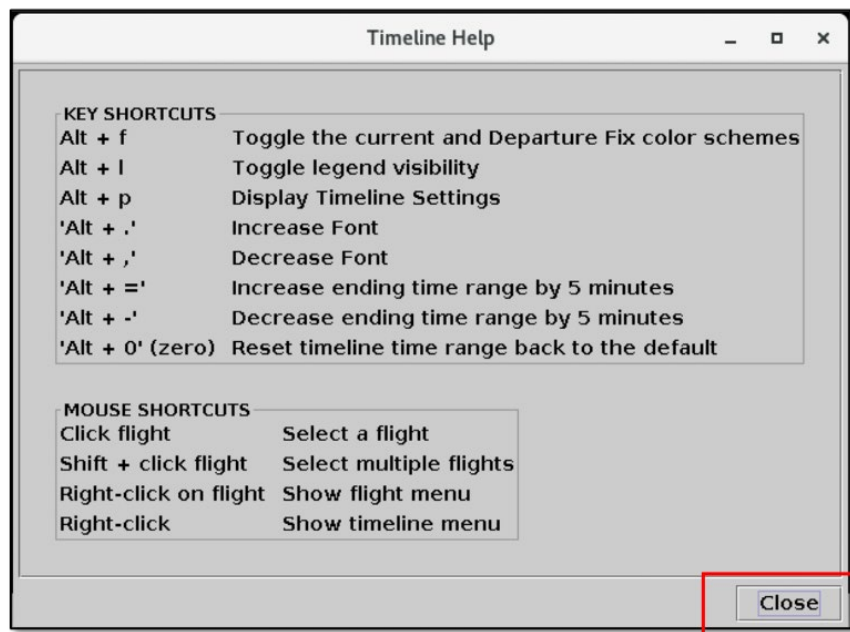


Figure 4.46. Timeline shortcuts.

## 4.6 Map: Toolbar

Use the map toolbar to configure the map display (Figure 4.47).

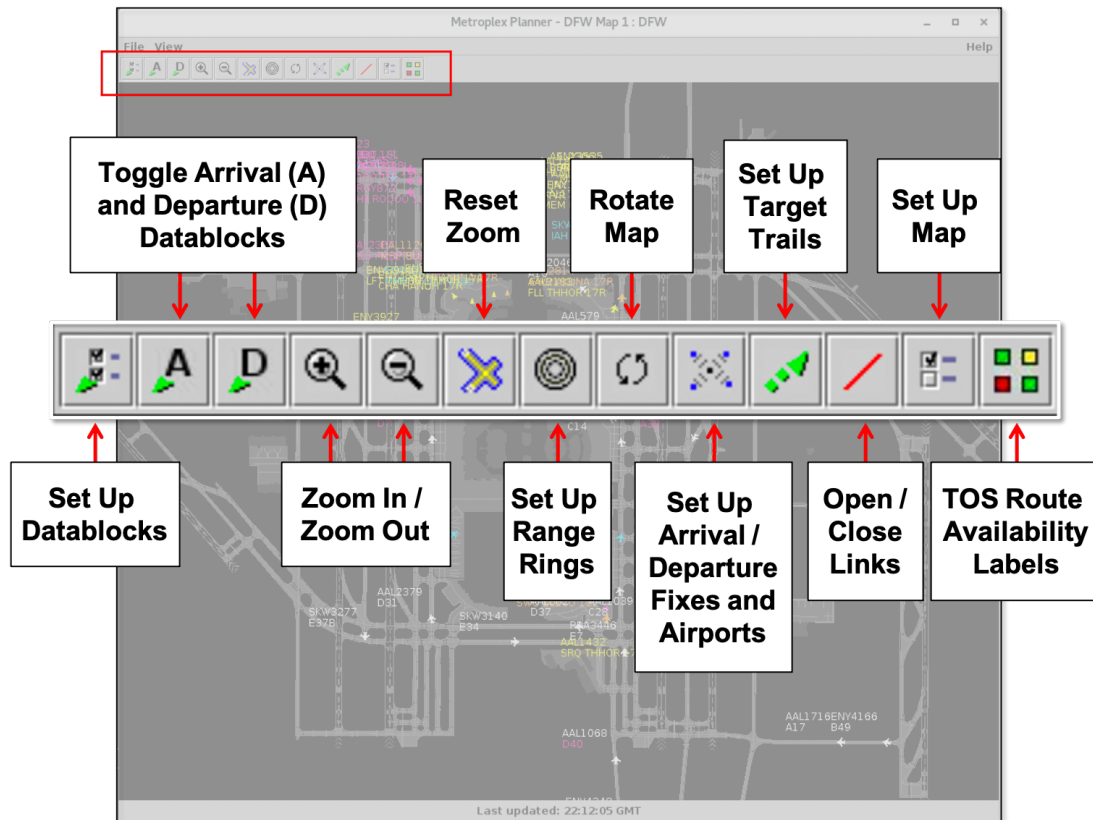


Figure 4.47. Map: Toolbar.

### 4.6.1 Set Up Datablocks

Select the “Set Up Datablocks” icon on the map toolbar (Figure 4.48) to configure information displayed in flight datablocks on the map (Figure 4.49).

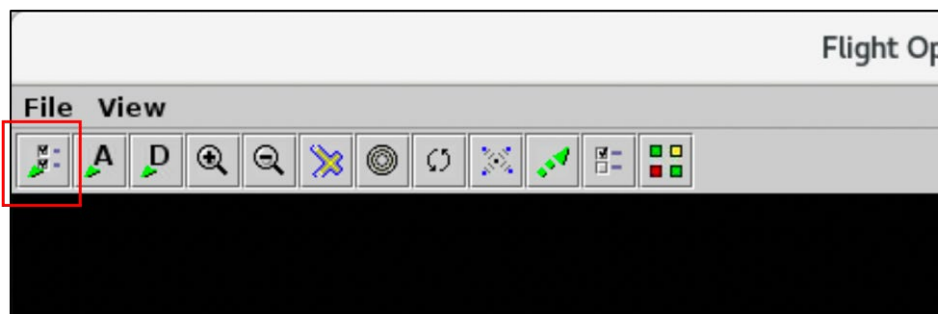


Figure 4.48. Map Toolbar: Set Up Datablocks.

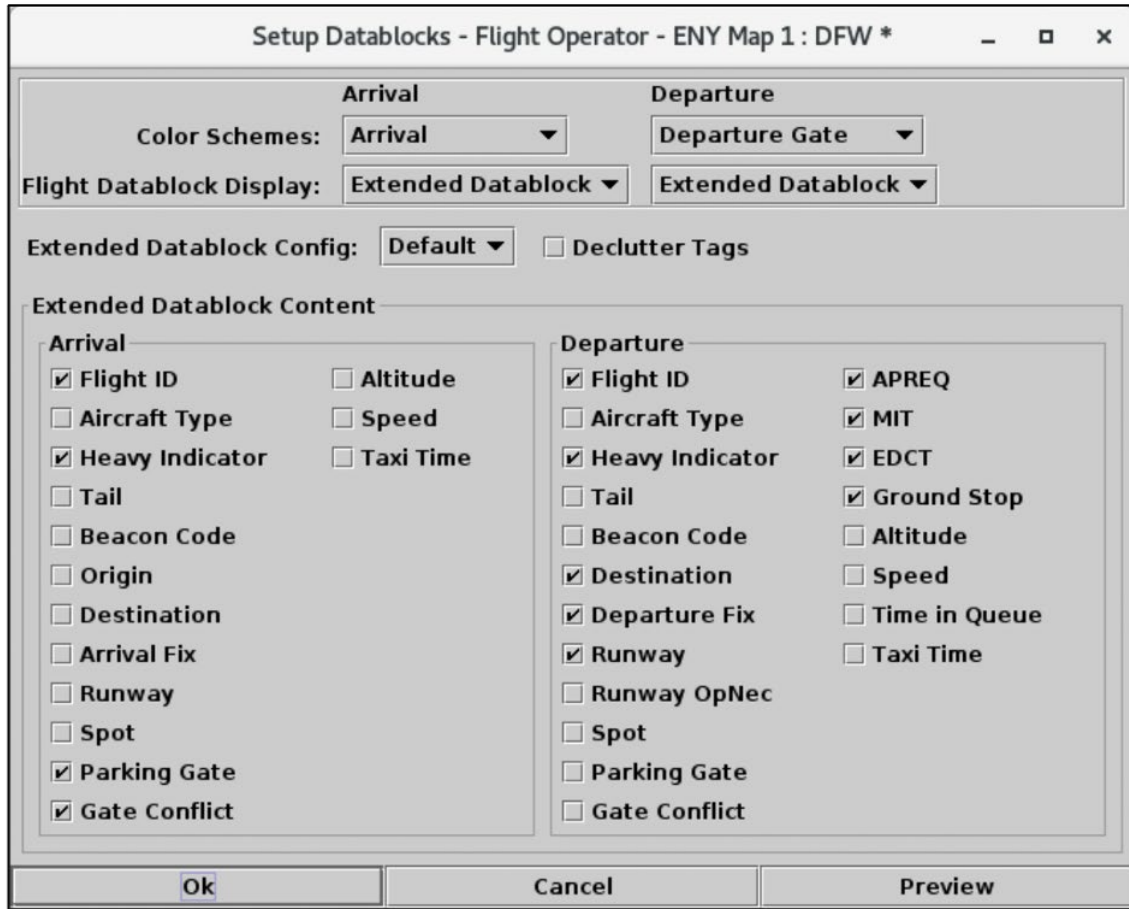


Figure 4.49. Map: Set Up Datablocks.

#### 4.6.1.1 Color Schemes

Use “Color Schemes” to format flight icons and datablock text for arrival and departure flights.

## To change arrival and departure color schemes on the map:

**Step 1:** Select the “Set Up Datablocks” icon on the map toolbar (Figure 4.50).

**Step 2:** Select the Arrival Color Scheme dropdown menu to select a color scheme for *arrival* flights (e.g., the “*Arrival*” color scheme is selected in Figure 4.51):

- Arrival (example shown in Figure 4.52)
- Arrival Fix
- Arrival Runway
- Weight

**Step 3:** Select the Departure Color Scheme dropdown menu to select a color scheme for *departure* flights (e.g., the “*Departure Gate*” color scheme is selected in Figure 4.51):

- Departure
- Departure Fix
- Departure Gate (example shown in Figure 4.52)
- Departure Runway
- Weight

**Step 4:** Select “Preview” to view the pending changes on the map before closing the Set Up Datablocks window or select “Ok” to apply the changes and close the window (Figure 4.51).

**Alternatively:** Select “Cancel” to close the window without saving the changes (Figure 4.51).

**Note:** *Flights designated as emergency status (Section 7.1.9) are always shown in red (Figure 4.53).*

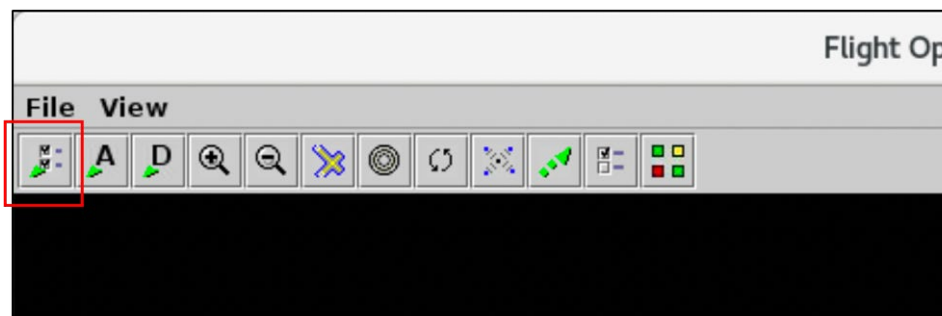


Figure 4.50. Map Toolbar: Set Up Datablocks.



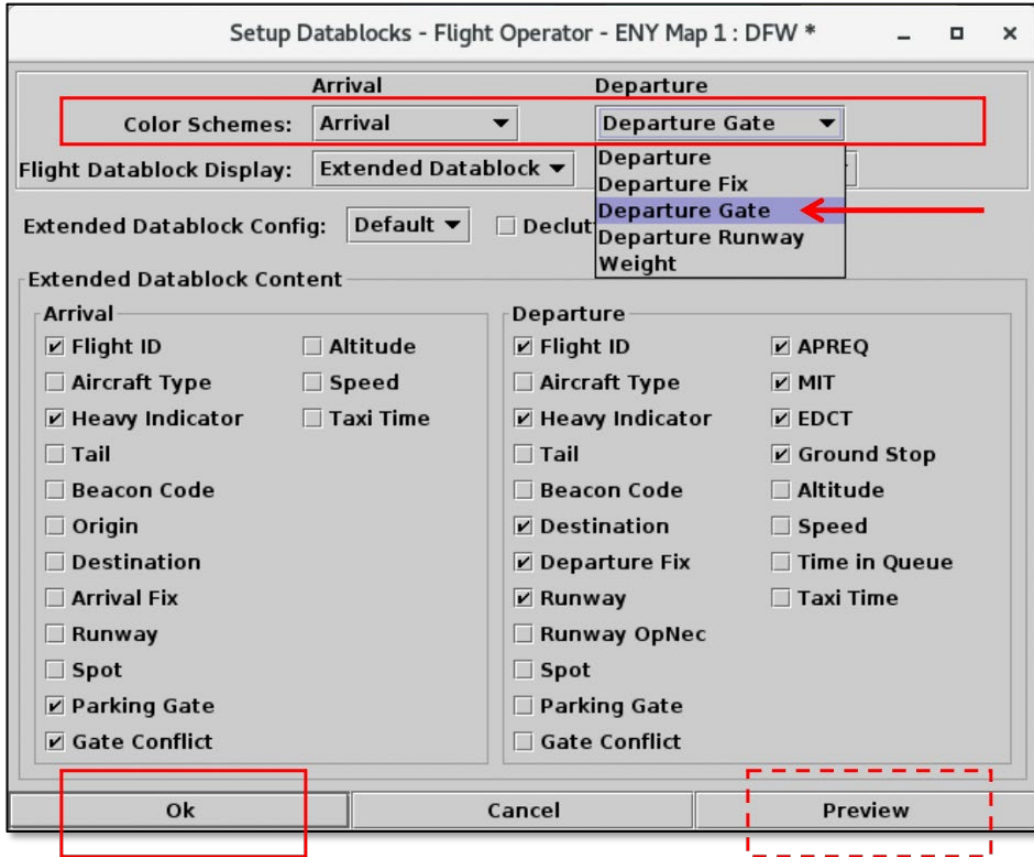


Figure 4.51. Set Up Datablocks: Arrival and departure color schemes.

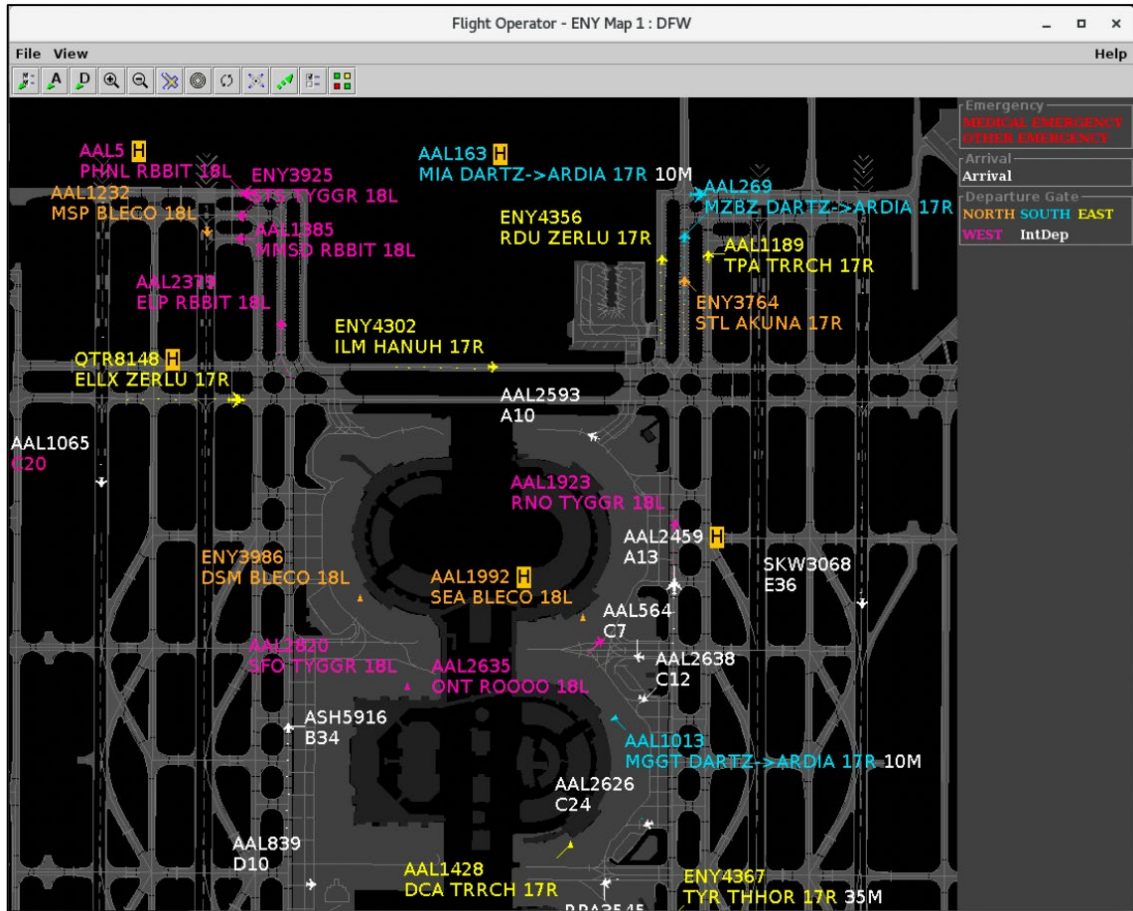


Figure 4.52. Selected color schemes are defined in the map legend: In this example, the “Arrival” and “Departure Gate” color schemes are selected.

See Section 4.5.2.4 for description of how to display the Legend.

Note that regardless of color scheme, flights with emergency status are displayed in red. See Section 7.1.9 for a description of how to apply emergency status.



Figure 4.53. Map: Flights with emergency status are displayed in red.

### 4.6.1.2 Flight Datablock Display

Use “Flight Datablock Display” to select a configuration for flight datablocks. Arrivals and departures can be configured differently.

#### To change the datablock display for arrival and departure flights:

**Step 1:** Select the “Set Up Datablocks” icon on the map toolbar (Figure 4.54).

**Step 2:** Select the Arrival Flight Datablock Display dropdown menu to select from one of three datablock configurations for *arrival* flights (e.g., “*ID Only Datablock*” is selected in Figure 4.55):

- No Datablock (see an example in Figure 4.56, left).
- ID Only Datablock (see an example in Figure 4.56, middle).
- Extended Datablock (see an example in Figure 4.56, right).

**Step 3:** Select the Departure Flight Datablock Display dropdown menu to select from one of three datablock configurations for *departure* flights (e.g., “*Extended Datablock*” is selected in Figure 4.55):

- No Datablock (see an example in Figure 4.56, left).
- ID Only Datablock (see an example in Figure 4.56, middle).
- Extended Datablock (see an example in Figure 4.56, right).

**Note:** See Section 4.6.1.5 for a description of how to select the data elements that are displayed in the extended datablock.

**Step 4:** Select “Preview” to view the pending changes on the map before closing the Set Up Datablocks window or select “Ok” to apply the changes and close the window (Figure 4.55).

**Alternatively:** Select “Cancel” to close the window without saving the changes (Figure 4.55).

**Note:** See Section 4.6.2 for a description of how to toggle the three different datablock configurations using icons on the map toolbar.

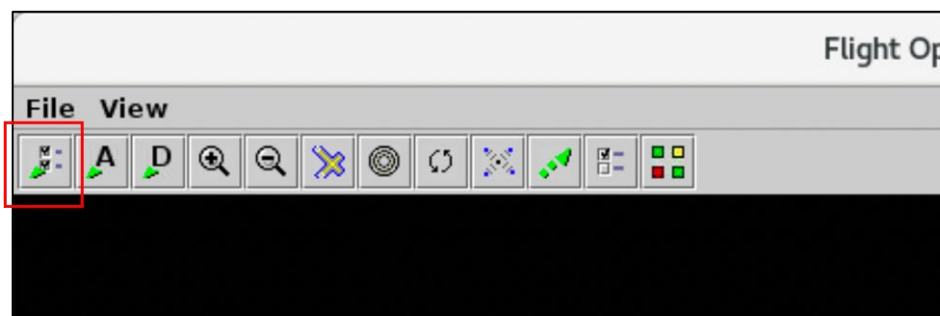


Figure 4.54. Map Toolbar: Set Up Datablocks.

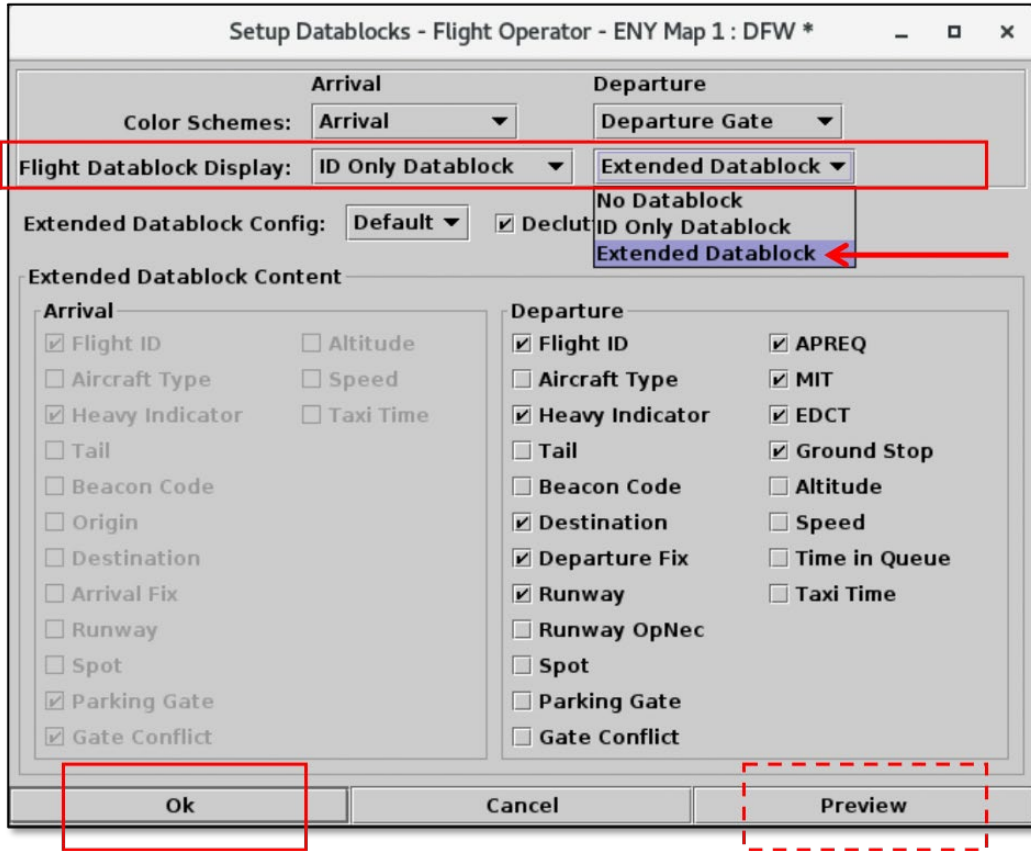


Figure 4.55. Set Up Datablocks: Flight Datablock Display.

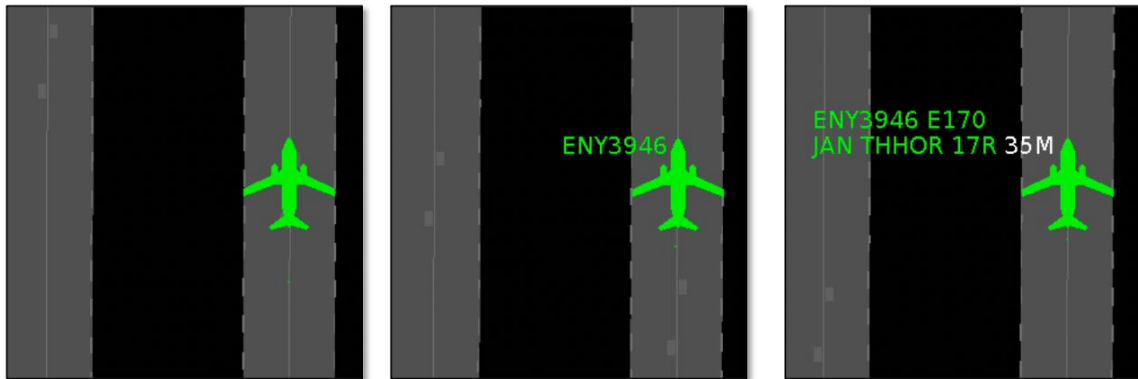


Figure 4.56. Flight Datablock Display: No Datablock (left), ID Only Datablock (middle), Extended Datablock (right; data elements in the Extended Datablock are selectable).

### 4.6.1.3 Extended Datablock Config

Use “Extended Datablock Config” to format the display of extended datablocks. Select from one of two options:

- **Default:** No background color in the datablock (Figure 4.59, top).
- **Ramp:** Datablock color-coding (Figure 4.59, bottom):
  - **Blue** for departures assigned to an east-side runway.
  - **Brown** for departures assigned to a west-side runway.
  - **Green** for arrivals with the runway highlighted in blue or brown.

#### To change the Extended Datablock Configuration:

**Step 1:** Select the “Set Up Datablocks” icon on the map toolbar (Figure 4.57).

**Step 2:** Select the Extended Datablock Config dropdown menu to select a datablock format (e.g., “Default” is selected in Figure 4.58):

- Default (see examples in Figure 4.59, top).
- Ramp (see examples in Figure 4.59, bottom).

**Note:** *This color-coding applies only to Extended Datablocks.*

**Step 3:** Select “Preview” to view the pending changes on the map before closing the Set Up Datablocks window or select “Ok” to apply the changes and close the window (Figure 4.58).

**Alternatively:** Select “Cancel” to close the window without saving the changes (Figure 4.58).

**Note:** *See Section 4.6.1.2 or Section 4.6.2 for a description of how to select the Extended Datablock configuration.*

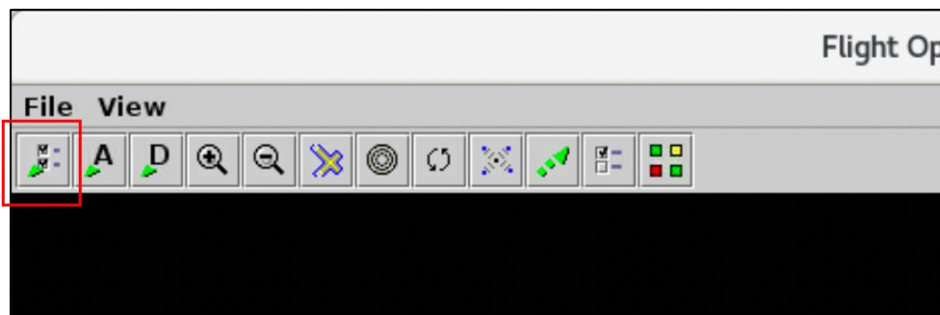


Figure 4.57. Map Toolbar: Set Up Datablocks.

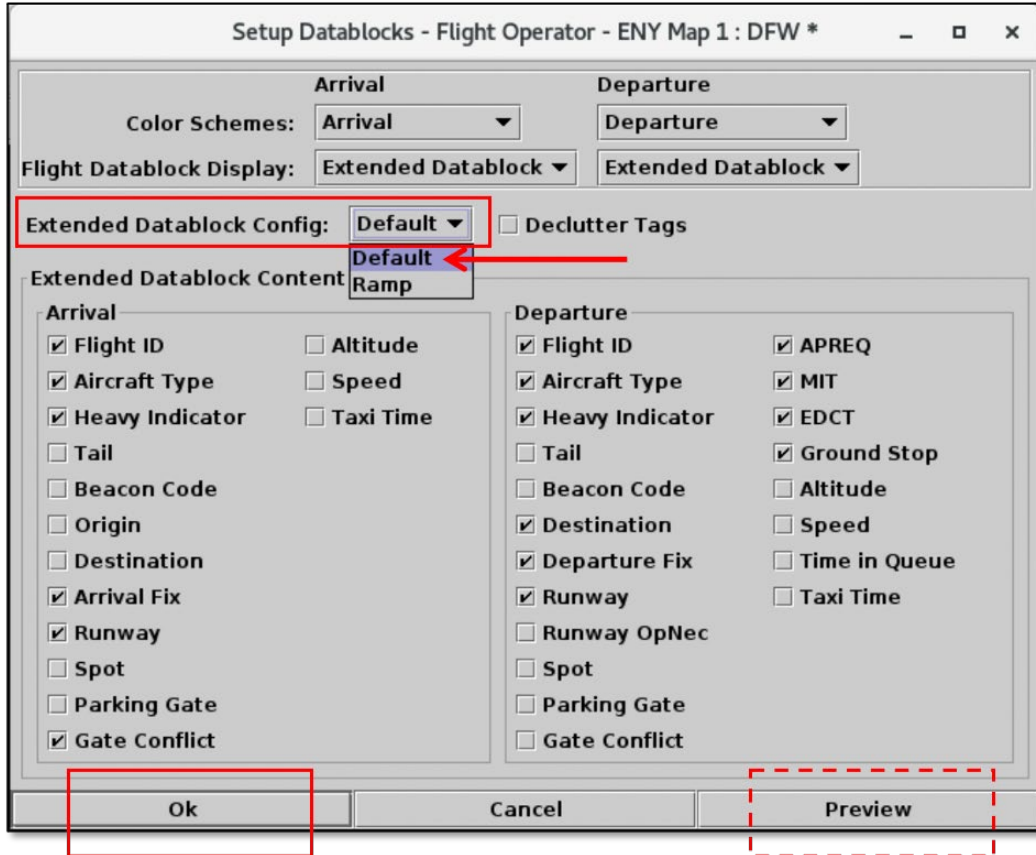


Figure 4.58. Set Up Datablocks: Extended Datablock Config.



Figure 4.59. Extended Datablock Configuration: Default (top) and Ramp (bottom). Left: Departure assigned to an east-side runway. Middle: Departure assigned to a west-side runway. Right: Arrival that landed on an east-side runway.

#### 4.6.1.4 Declutter Tags

By default, the map allows flight datablocks in close proximity to overlap with one another. When “Declutter Tags” is selected, datablocks are re-positioned using leader lines so that they do not overlap.

##### To declutter datablocks:

**Step 1:** Select the “Set Up Datablocks” icon on the map toolbar (Figure 4.60).

**Step 2:** Select the “Declutter Tags” checkbox to prevent datablocks from overlapping (Figure 4.61).

**Note:** When “Declutter Tags” is selected, datablocks are repositioned (see an example in Figure 4.62, right). The flight icons themselves, however, are not repositioned.

**Step 3:** Select “Preview” to view the pending changes on the map before closing the Set Up Datablocks window or select “Ok” to apply the changes and close the window (Figure 4.61).

**Alternatively:** Select “Cancel” to close the window without saving the changes (Figure 4.61).

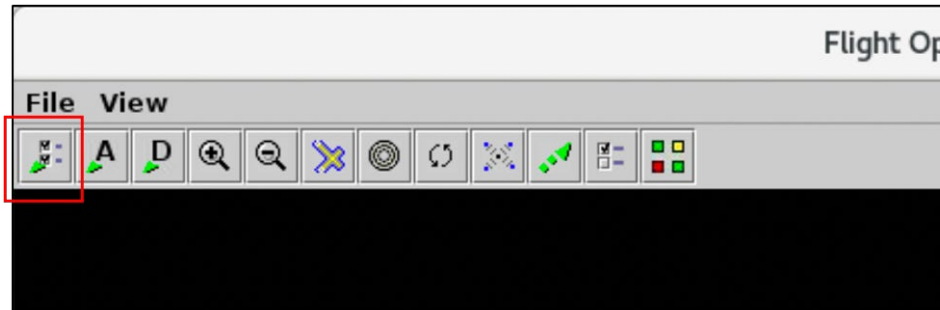


Figure 4.60. Map Toolbar: Set Up Datablocks.



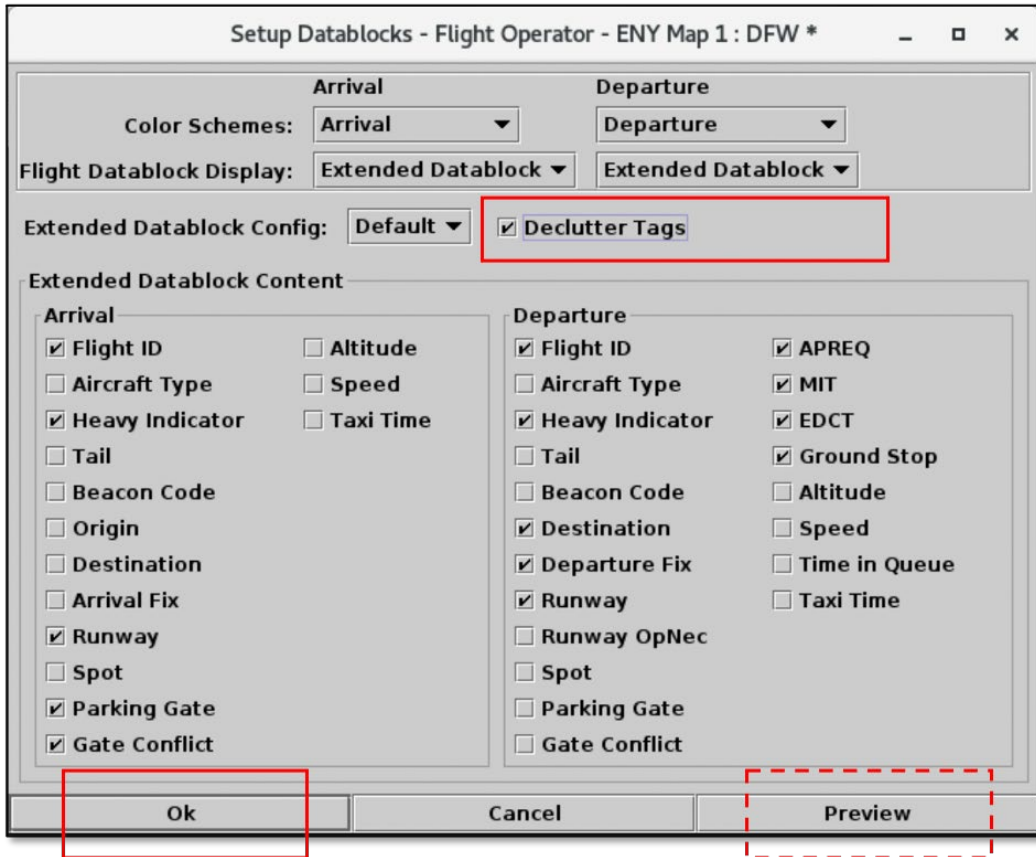


Figure 4.61. Set Up Datablocks: Declutter Tags.

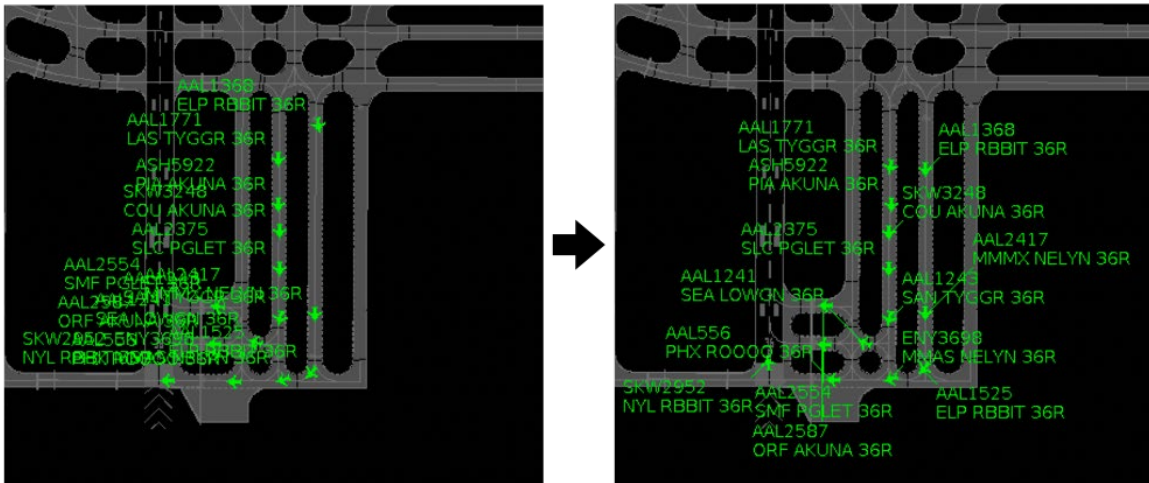


Figure 4.62. Declutter Tags: Unselected (left) and selected (right).



### 4.6.1.5 Map Datablock Content

Use “Extended Datablock Content” to select which data elements are displayed in the “Extended Datablock” configuration for arrival and departure flights.

#### To change the content of extended datablocks on the map:

**Step 1:** Select the “Set Up Datablocks” icon on the map toolbar (Figure 4.63).

**Step 2:** Select which data elements to include/exclude in *extended* datablocks for *arrival* flights (Figure 4.64).

**Step 3:** Select which data elements to include/exclude in *extended* datablocks for *departure* flights (Figure 4.64).

**Note:** *The selected data elements are displayed only in “Extended Datablock” configuration (Section 4.6.1.2 and Section 4.6.2).*

**Step 4:** Select “Preview” to view the pending changes on the map before closing the Set Up Datablocks window or select “Ok” to apply the changes and close the window (Figure 4.64).

**Alternatively:** Select “Cancel” to close the window without saving the changes (Figure 4.64).

**Note:** *See Table 4.1 for a description of each data element.*

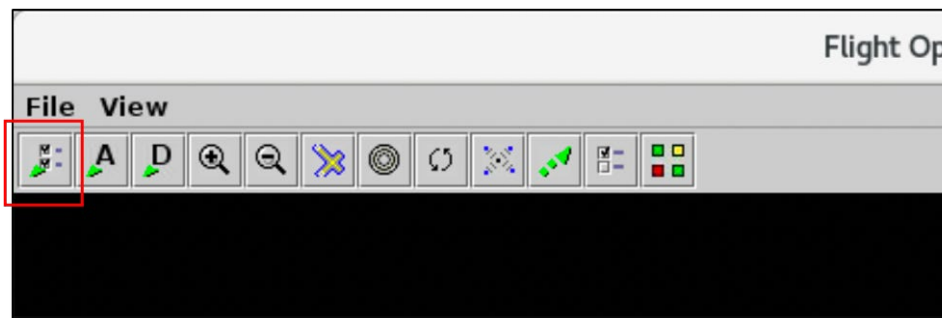


Figure 4.63. Map Toolbar: Set Up Datablocks.

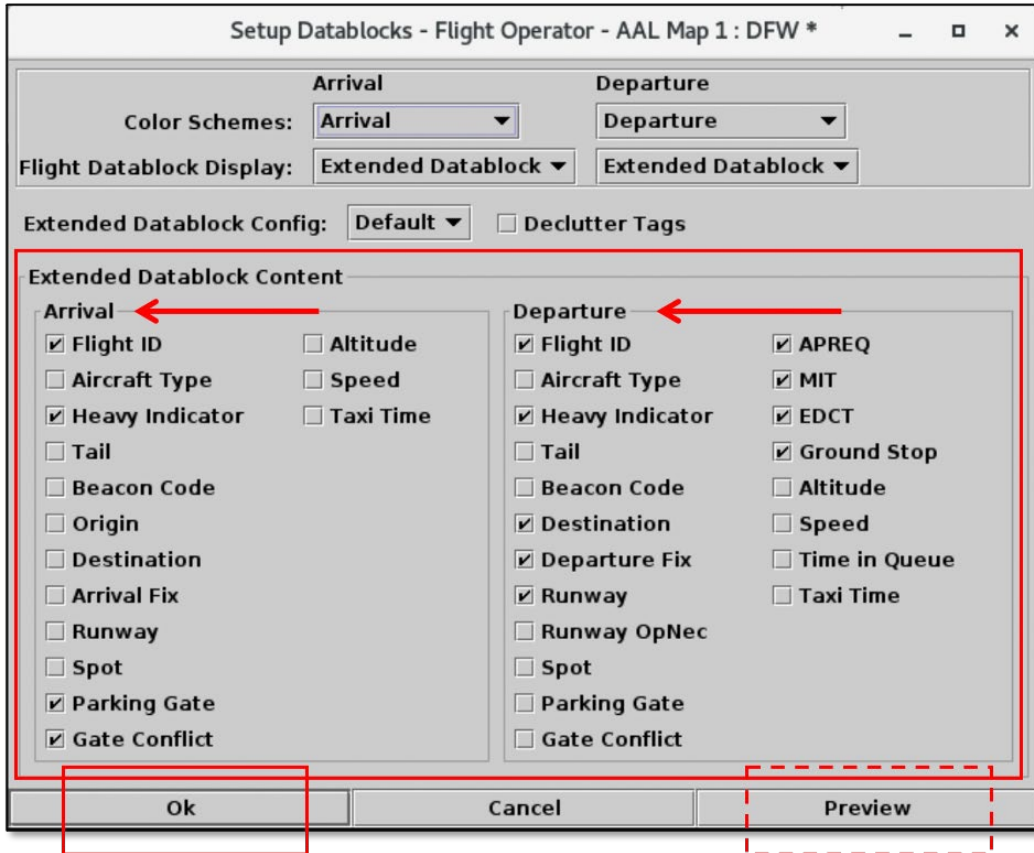




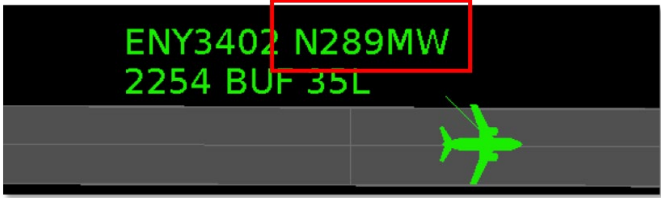
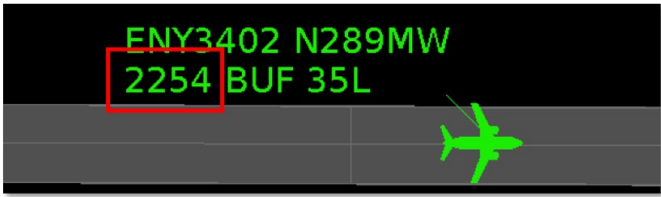

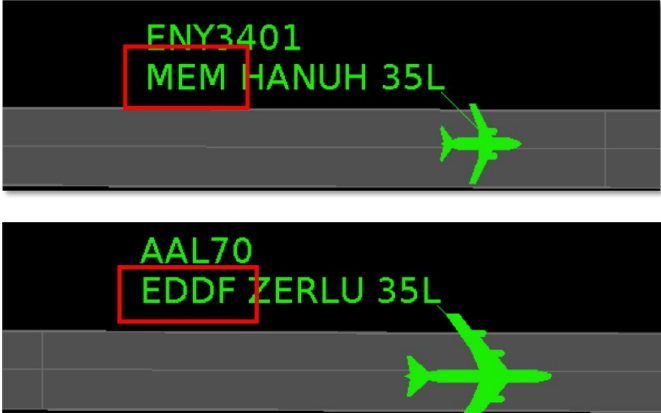


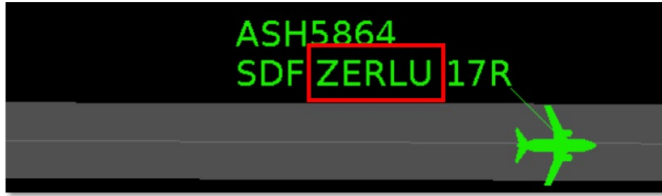
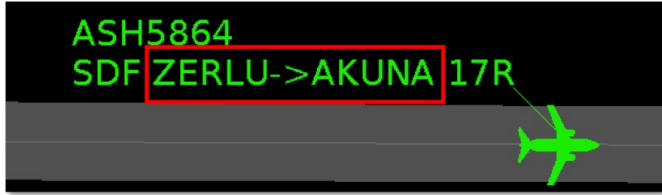
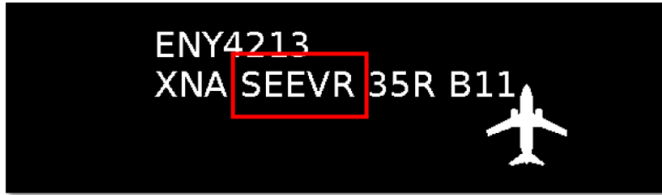
Figure 4.64. Map: Extended Datablock Content for arrivals and departures.

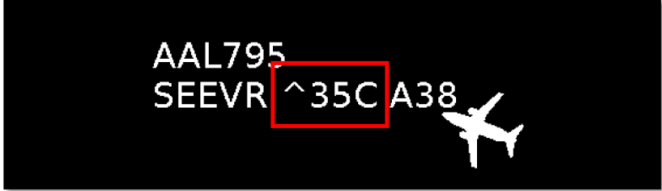
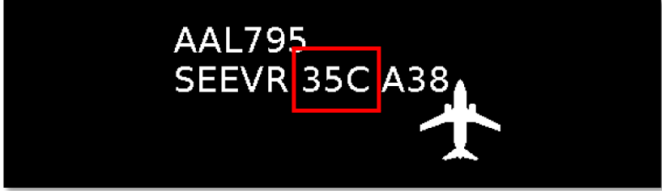

Data elements that can be displayed in extended datablocks are described in Table 4.1.






Table 4.1. Map Extended Datablock Content



Datablock Content	Description
Flight ID	<p>Call sign.</p>  <p>For General Aviation (GA) flights, the tail number may be used.</p> 
Aircraft Type	<p>Aircraft type.</p> 
Heavy Indicator	<p>Heavy aircraft (e.g., B777) are indicated by an “H” in black text, highlighted in yellow.</p>  <p>Super Heavy aircraft (e.g., A380) are indicated by an “S” in black text, highlighted in white (<i>not pictured</i>).</p>

Tail	<p>Aircraft tail number.</p>  <p>When unknown, “N-” is displayed (<i>not pictured</i>).</p>
Beacon Code	<p>Aircraft beacon code.</p>  <p>When unknown, “UNK” is displayed (<i>not pictured</i>).</p>
Origin (Arrival)	<p>3- or 4-character airport code.</p> 
Destination (Departure)	<p>3- or 4-character airport code.</p> 

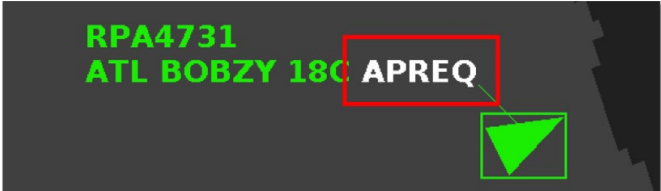


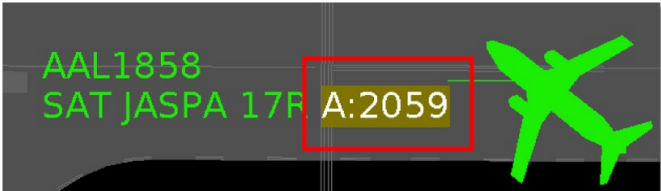
<p>Departure Fix</p>	<p>Departure fix.</p>  <p>Departure fix closed and rerouted to a different fix (<i>Closed Fix &gt; Alternate Fix</i>).</p>  <p>See Section 3.6.1 for a description of how to configure the display of closed/alternate fixes on the timeline and map, Section 3.1.5 for a description of the <i>Departure Fix Closures</i> tab on the <i>TM Actions</i> panel, and Section 4.6.7.2 for a description of closed fix labels on the map.</p>
<p>Arrival Fix</p>	<p>Arrival fix.</p>  <p>When unknown, “UNK” is displayed (<i>not pictured</i>).</p>


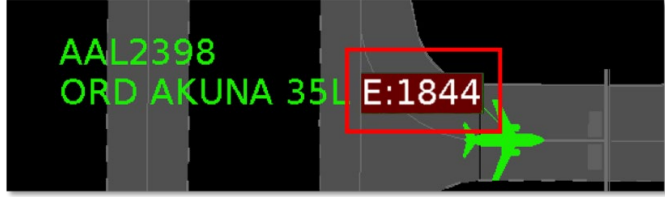
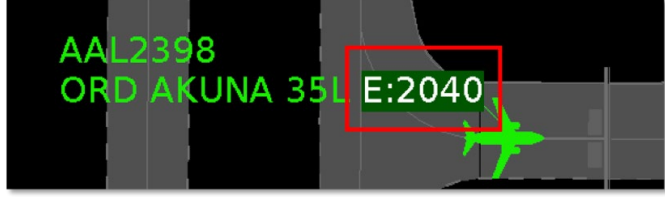
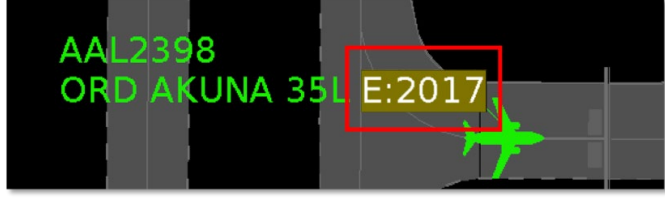
<p>Runway (Arrival)</p>	<p><b><i>Prior to Landing:</i></b></p> <p>An up-arrow symbol “^” displayed next to the arrival runway indicates one of two things: The runway prediction is supplied by TBFM. Or, the runway prediction supplied by TBFM has been changed by the TRACON in the scratch pad.</p>  <p>When no up-arrow is shown, the ATD-2 system is using actual flight track data to determine that the aircraft is lined up on final for a specific runway (usually about 8–10 miles out).</p>  <p><b><i>After Landing:</i></b></p> <p>The actual arrival runway is displayed.</p> 
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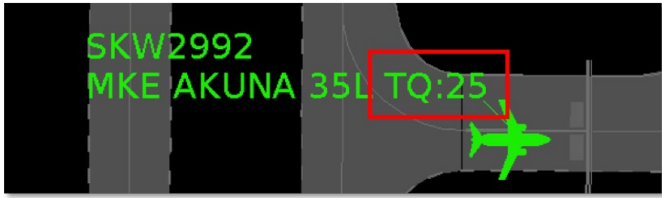
<p>Runway (Departure)</p>	<p><b>Prior to Takeoff:</b> The expected departure runway is displayed.</p>  <p>If an ATC user changes the runway assignment, an up-arrow symbol “^” is displayed before the new runway assignment.</p>  <p><b>After Takeoff:</b> The <i>actual</i> departure runway is displayed.</p> 
<p>Runway OpNec</p>	<p>“OpNec” is displayed in light green when the departure runway has been changed for Operational Necessity.</p>  <p><i>*Not available at all airports.</i></p>
<p>Spot</p>	<p>Expected ramp spot.</p>  <p><i>*The spot is displayed until a departure enters the AMA or an arrival enters the ramp.</i></p>

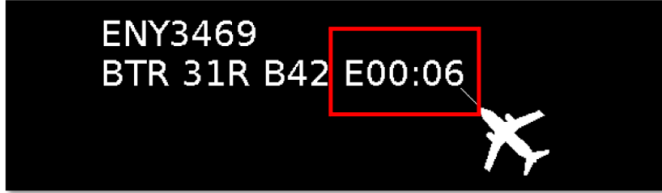
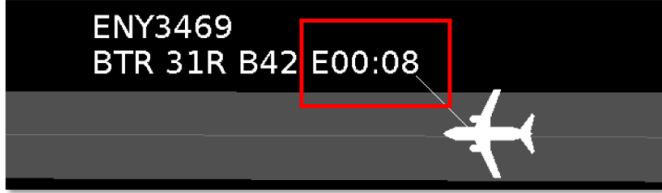



<p>Parking Gate</p>	<p>Parking gate at terminal.</p>  <p>When unknown, “UNK” is displayed (<i>not pictured</i>).</p>
<p>Gate Conflict</p>	<p>The parking gate is displayed in magenta when a gate conflict is detected.</p> 



<p>APREQ</p>	<p>Departure flight is subject to an Approval Request (APREQ).  The symbology indicates which approval mode ARTCC is using:  “APREQ” indicates that the wheels-up time has not yet been scheduled.</p>  <p><b>Compliance:</b> The APREQ release time is color-coded to indicate expected compliance with the -2/+1 minute compliance window.</p> <p><b>Red:</b> Flight is predicted to be released from the runway <i>later</i> than the -2/+1 minute compliance window.</p>  <p><b>Green:</b> Flight is predicted to be released from the runway <i>within</i> the -2/+1 minute compliance window.</p>  <p><b>Yellow:</b> Flight is predicted to be released from the runway <i>earlier</i> than the -2/+1 minute compliance window.</p> 
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MIT	<p>Flight is subject to a Miles-in-Trail (MIT) restriction, displayed on the timeline in “##M” format.</p>  <p><i>See Section 3.1.4 for a description of the MIT tab on the TM Actions panel.</i></p>
EDCT	<p>Expect Departure Clearance Time (EDCT) is displayed on the timeline in “E:hmm” UTC format, where “E” stands for EDCT. The wheels-up time is color-coded to indicate expected compliance with the -5/+5 minute compliance window.</p> <p><b>Red:</b> Flight is predicted to be released from the runway <i>later</i> than its -5/+5 minute compliance window.</p>  <p><b>Green:</b> Flight is predicted to be released from the runway <i>within</i> its -5/+5 minute compliance window.</p>  <p><b>Yellow:</b> Flight is predicted to be released from the runway <i>earlier</i> than its -5/+5 minute compliance window.</p> 

<p>Ground Stop</p>	<p>“GS” is displayed when a destination is subject to a Ground Stop.</p>  <p><i>See Section 3.1.6 for a description of the Ground Stop tab on the TM Actions panel.</i></p>
<p>Altitude</p>	<p>Altitude in feet/100. In this example, 1,500 ft.</p> 
<p>Speed</p>	<p>Ground speed in kts/10. Displayed for both flights in air and on the surface (where available) during taxi. In this example, 120 kts.</p> 
<p>Time in Queue</p>	<p>Duration of time that a departure flight has spent in the runway queue detection box, displayed in “mm” format.</p> <p>Timer does not start until the flight is within the runway queue box and taxiing at 15 kts or less.</p>  <p><i>*Only available at airports with surface surveillance.</i></p> <p><i>See Section 4.6.10 for a description of how to display runway queue box boundaries on the map.</i></p>

<p>Taxi Time (Arrival)</p>	<p><b>Not yet landed:</b> Predicted taxi time from Target Landing Time (TLDT) to Target In-Block Time (TIBT), in “<b>Ehh:mm</b>” format, where “E” stands for “estimated.”</p>  <p><b>Landed, taxiing to gate:</b> Predicted taxi time from Actual Landing Time (ALDT) to Target In-Block Time (TIBT), in “<b>Ehh:mm</b>” format, where “E” stands for “estimated.”</p>  <p><b>Once at the gate:</b> Actual taxi time from Actual Landing Time (ALDT) to Actual In-Block Time (AIBT), in “<b>hh:mm</b>” format.</p> 
<p>Taxi Time (Departure)</p>	<p><i>*Taxi Time does not populate until pushback.</i></p> <p><b>At Pushback:</b> Predicted taxi time from Actual Off-Block Time (AOBT) to Target Takeoff Time (TTOT), in “<b>Ehh:mm</b>” format, where “E” stands for “estimated.”</p>  <p><b>After takeoff:</b> Actual taxi time from Actual Off-Block Time (AOBT) to Actual Takeoff Time (ATOT), in “<b>hh:mm</b>” format.</p> 

## 4.6.2 Toggle Arrival / Departure Datablocks

Use the “Toggle Arrival Datablocks” and “Toggle Departure Datablocks” icons on the map toolbar to select a configuration for flight datablocks.

### To toggle arrival/departure datablock configuration:

**Step 1:** Select the “Toggle Arrival Datablocks” icon on the map toolbar to toggle through three datablock configurations for *arrival* flights (Figure 4.65):

- No Datablock (see an example in Figure 4.66, left).
- ID Only Datablock (see an example in Figure 4.66, middle).
- Extended Datablock (see an example in Figure 4.66, right).

**Step 2:** Select the “Toggle Departure Datablocks” icon on the map toolbar to toggle through three datablock configurations for *departure* flights (Figure 4.65):

- No Datablock (see an example in Figure 4.66, left).
- ID Only Datablock (see an example in Figure 4.66, middle).
- Extended Datablock (see an example in Figure 4.66, right).

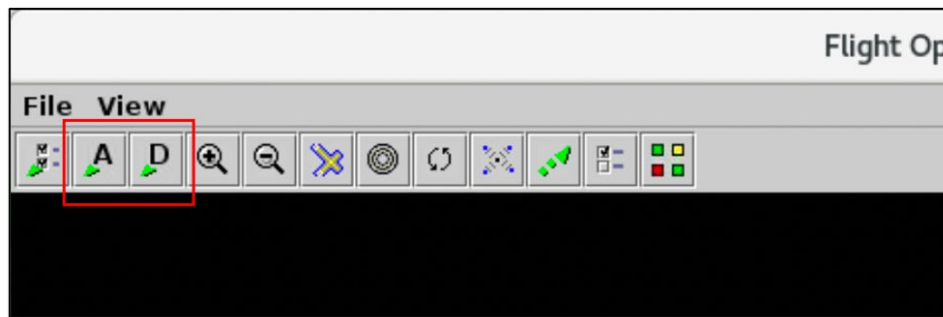


Figure 4.65. Map Toolbar: Toggle Arrival Datablocks and Toggle Departure Datablocks.

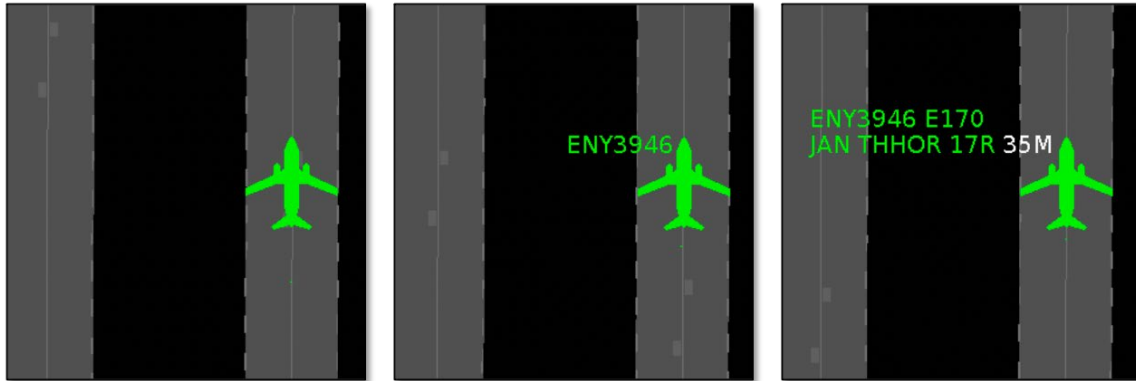


Figure 4.66. Toggle Datablocks: No Datablock (left), ID Only Datablock (middle), Extended Datablock (right; data elements in the Extended Datablock are selectable).

### 4.6.3 Zoom In / Zoom Out

Use the “Zoom In” and “Zoom Out” icons on the map toolbar to change the map zoom level.

To zoom the map in or out:

**Step 1:** Select the “Zoom In” or “Zoom Out” icon on the map toolbar (Figure 4.67).

**Alternatively:** Move the mouse wheel **up** to zoom in, or **down** to zoom out (see more *mouse* shortcuts for the map in Section 4.5.3.3).

**Alternatively:** Use keyboard shortcuts:

- Zoom In: **Alt + z**
- Zoom Out: **Alt + u**

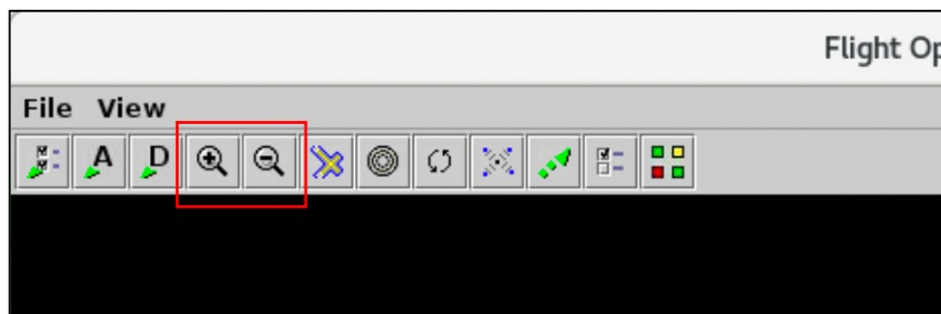


Figure 4.67. Map Toolbar: Zoom In and Zoom Out.

## 4.6.4 Reset Zoom

Use the “Reset Zoom” icon on the map toolbar to reset the map display after changing the zoom level or panning the map.

To reset the map display:

**Step 1:** Select the “Reset Zoom” icon on the map toolbar to (Figure 4.68).

**Note:** The map resets to the previously loaded display position and zoom level.

**To change the saved display position and zoom level:**

1. Pan and zoom the map as needed.
2. Save a new setting (Section 3.6.5.1) or update a previously saved setting (Section 3.6.5.3).
3. Load that setting (Section 3.6.5.2).

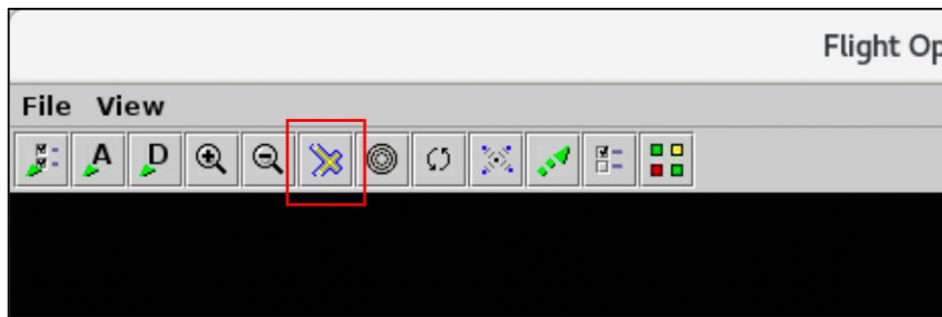


Figure 4.68. Map Toolbar: Reset Zoom.

## 4.6.5 Set Up Range Rings

Use the “Set Up Range Rings” icon to display distance markers on the map.

## To display and modify range rings:

**Step 1:** Select the “Set Up Range Rings” icon on the map toolbar (Figure 4.69).

**Step 2:** Select the “Show Range Rings” checkbox to display range rings on the map (Figure 4.70).

**Step 3:** To change the color of the range rings, click inside the color box to open the Choose Color window (Figure 4.70).

1. On the “Swatches” tab, use the mouse to select a color. If necessary, use the other four color-palette tabs (HSV, HSL, RGB, CMYK) to refine the color selection (Figure 4.71).
2. When complete, select “OK” to close the Choose Color window (Figure 4.71).

**Step 4:** In the “Total Distance from Airport to Display Range Rings” field, enter the maximum distance, in nmi, to display range rings (e.g., 50 nmi in Figure 4.70).

**Step 5:** In the “Distance Between Range Rings” field, enter the distance between rings, in nmi (e.g., 10 nmi in Figure 4.70).

**Note:** *The maximum distance must be a multiple of the spacing between rings.*

**Step 6 (Optional):** Select the “Show Range Distance Labels” checkbox to display the distance of each range ring (Figure 4.70).

**Note:** *See Section 4.5.2.6 for a description of how to change the size of map labels.*

**Step 7:** Select “Apply” to apply the changes and close the window (Figure 4.70).

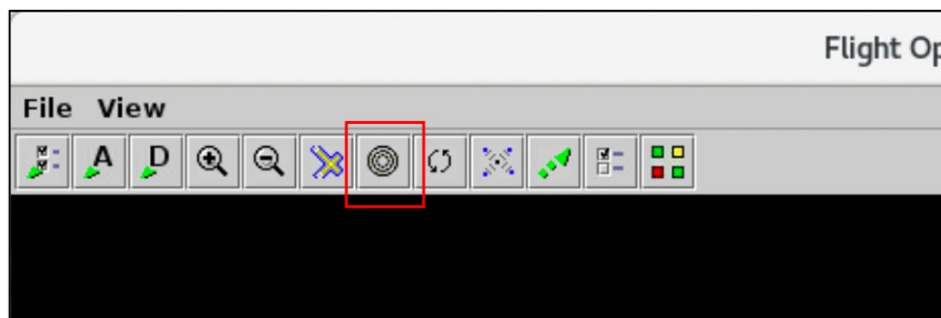


Figure 4.69. Map Toolbar: Set Up Range Rings.



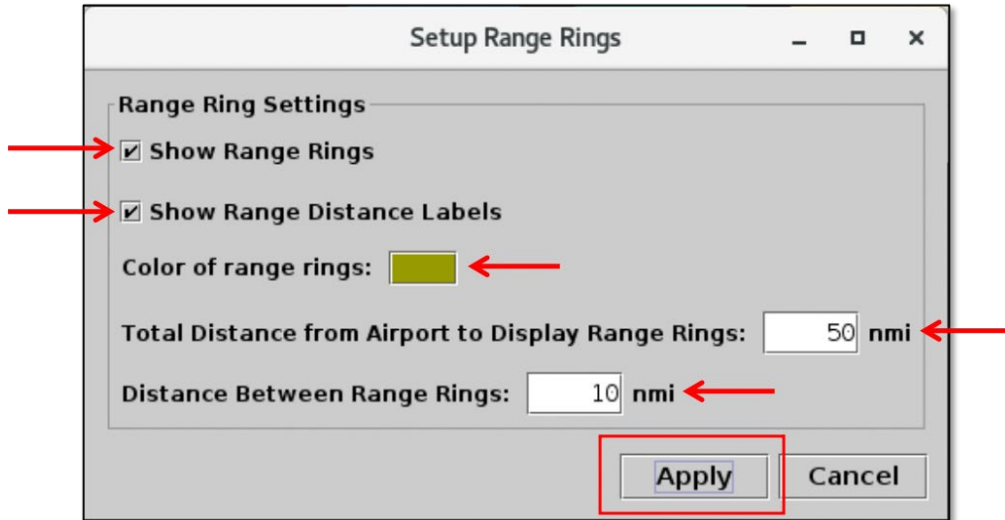


Figure 4.70. Set Up Range Rings.

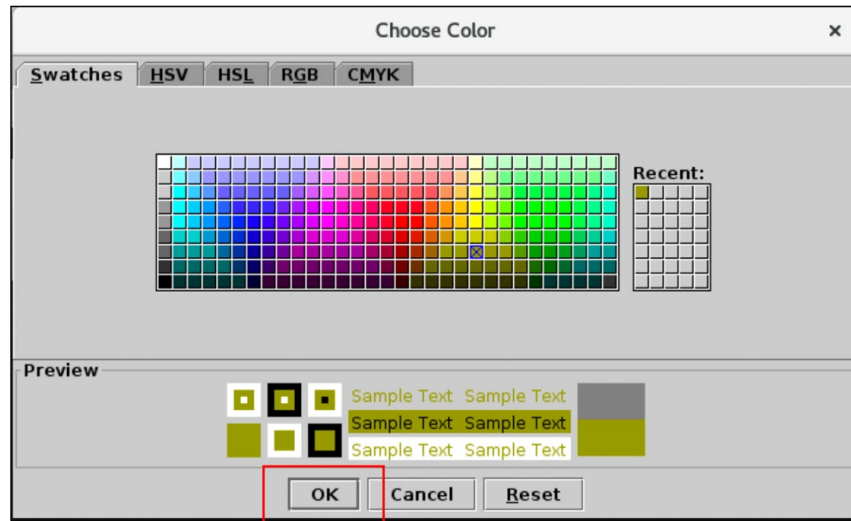


Figure 4.71. Use the “Swatches” tab to select a color. Use the HSV, HSL, RGB, or CMYK color palettes to refine the color selection, if necessary.

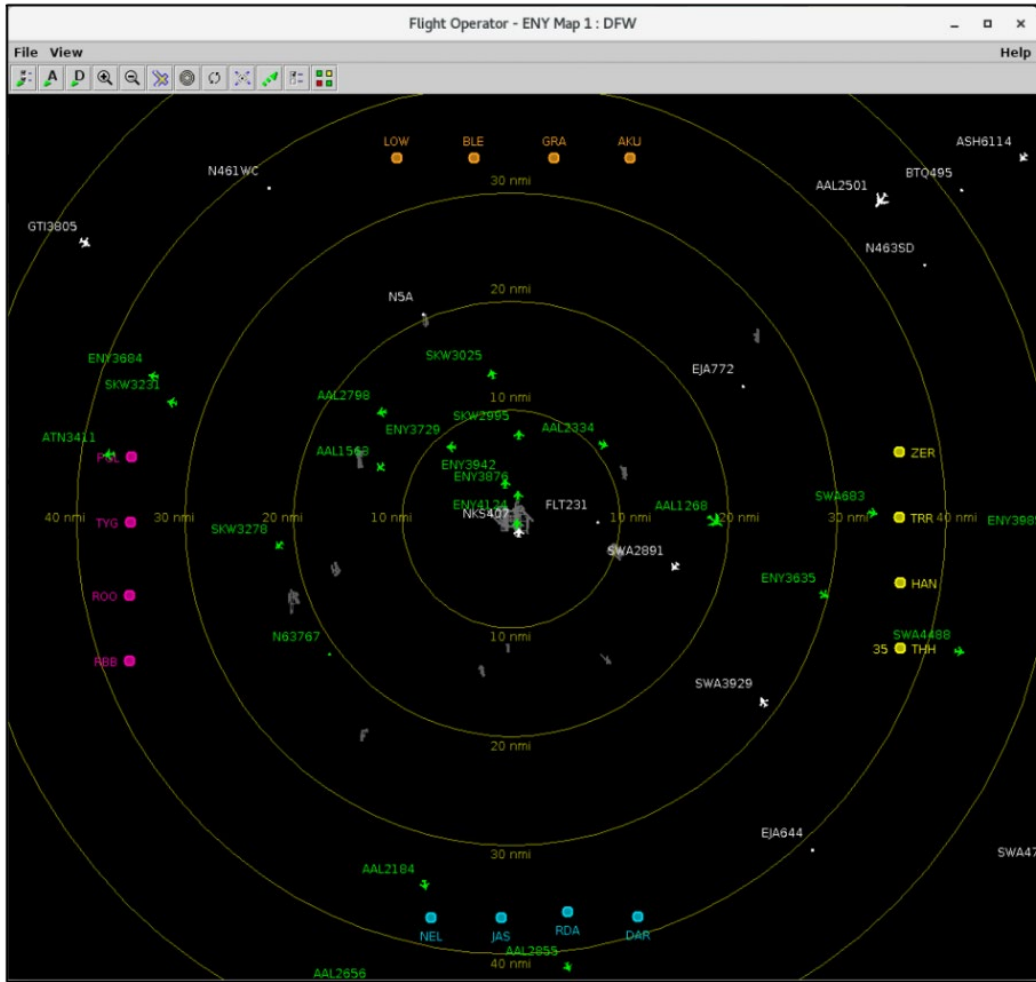


Figure 4.72. Map: Range Rings.

## 4.6.6 Rotate Map

Use the “Rotate Map” icon to rotate the map.

### To rotate the map:

**Step 1:** Select the “Rotate Map” icon on the map toolbar (Figure 4.73).

**Step 2:** Select from 90, 180, or 270 degrees to rotate the map clockwise relative to its original orientation (Figure 4.73).

**Alternatively:** Select 0 (zero) degrees to reset the map to its original orientation (Figure 4.73).

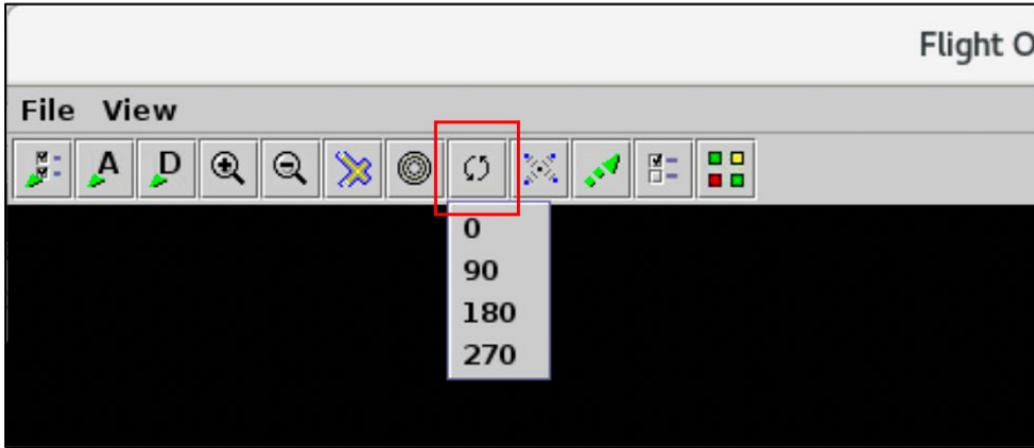


Figure 4.73. Map Toolbar: Rotate Map.

## 4.6.7 Set up Arrival/Departure Fixes and Airports

Use the “Set up Arrival/Departure Fixes and Airports” icon to display fixes, TRACON maps, and airport labels on the map.

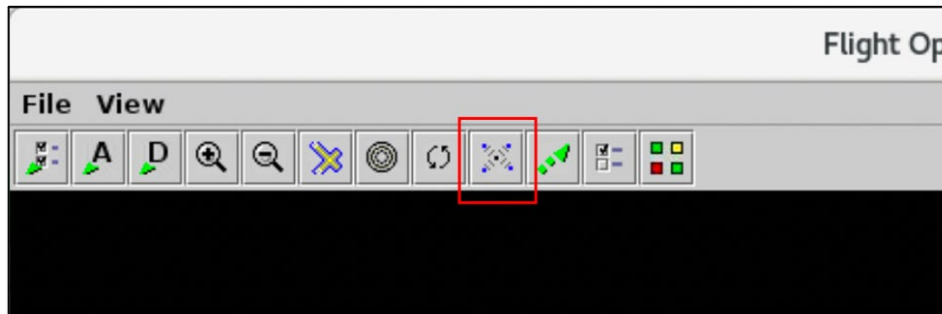


Figure 4.74. Map Toolbar: Set up Arrival/Departure Fixes and Airports.

### 4.6.7.1 Arrival Fix

Use the “Arrival Fix” tab to configure the display of arrival fixes on the map.

## To show/hide arrival fixes on the map:

- Step 1:** Select the “Set up Arrival/Departure Fixes and Airports” icon on the map toolbar (Figure 4.75).
- Step 2:** Select the “Arrival Fix” tab (Figure 4.76).
- Step 3:** Select the “Show Arrival Fix/Procedures” checkbox to display arrival fixes on the map (Figure 4.76).
- Step 4:** Select “Show Arrival Fixes” or “Show Arrival Procedures” (Figure 4.76).
- Step 5:** In the “Spacing Between Distance Markers” field, enter the spacing distance, in nmi (e.g., 10 nmi in Figure 4.76).
- Step 6:** Enter the number of markers in the “Number of Distance Markers *Inside* Arrival Fix” field (e.g., 5 nmi in Figure 4.76).
- Step 7:** Enter the number of markers in the “Number of Distance Markers *Outside* Arrival Fix” field (e.g., 5 nmi in Figure 4.76).
- Step 8:** Select “Apply” to apply the changes and close the window (Figure 4.76). See an example of arrival fixes in Figure 4.77.
- Alternatively:** To hide arrival fixes, deselect the “Show Arrival Fix/Procedures” checkbox.
- Note:** See Section 4.5.2.6 for a description of how to change the font size of arrival fix labels.

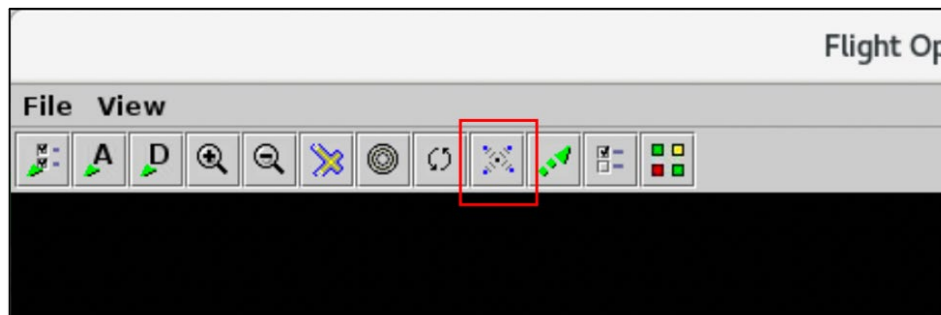


Figure 4.75. Map Toolbar: Set Up Arrival/Departure Fixes and Airports.

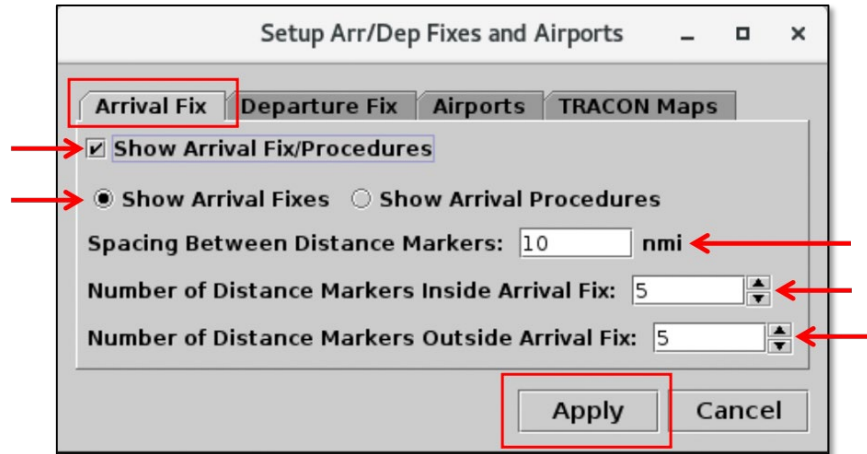


Figure 4.76. Arrival Fix tab.

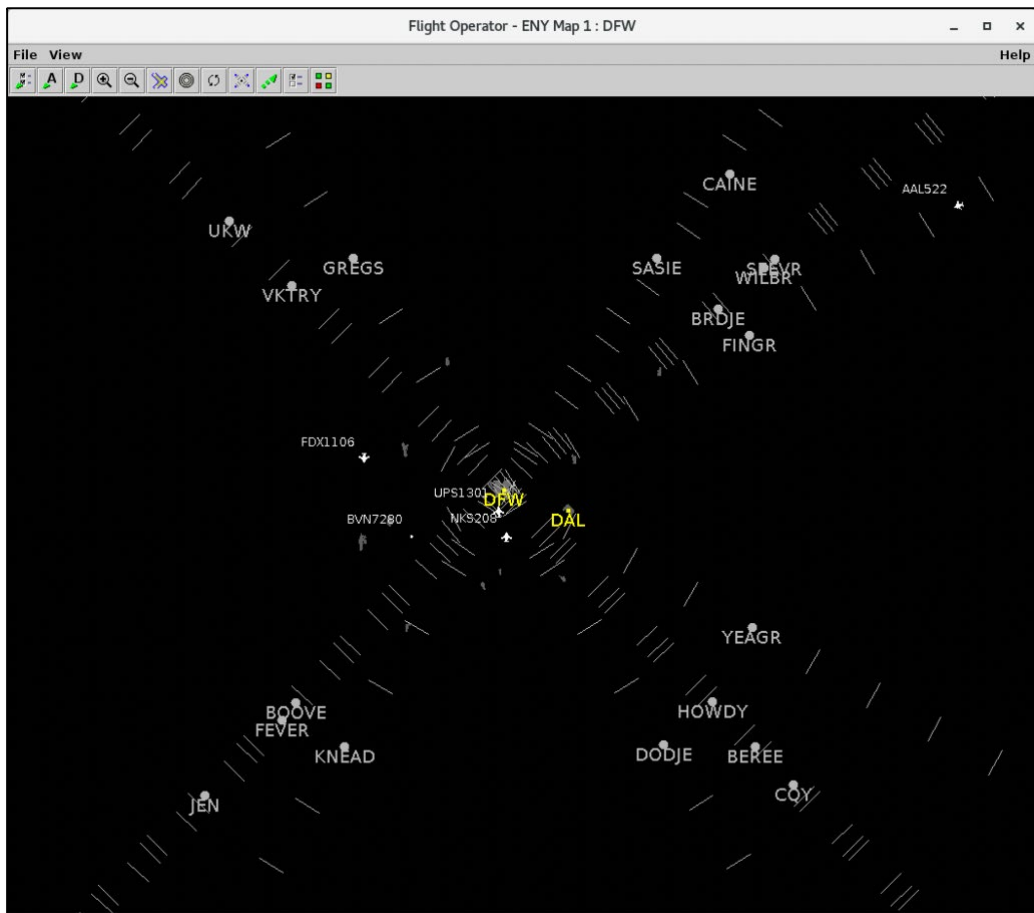


Figure 4.77. Map: Arrival fixes.

#### 4.6.7.2 Departure Fix

Use the “Departure Fix” tab to configure the display of departure fixes on the map.

**To show/hide departure fixes on the map:**

**Step 1:** Select the “Set up Arrival/Departure Fixes and Airports” icon on the map toolbar (Figure 4.78).

**Step 2:** Select the “Departure Fix” tab (Figure 4.79).

**Step 3:** Select the “Show Departure Fixes/Procedures” checkbox to display departure fixes on the map (Figure 4.79).

**Step 4:** Select “Full Name” or “Abbreviation” (Figure 4.79).

**Step 5:** Select “Apply” to apply the changes and close the window (Figure 4.79). See an example of departure fixes in Figure 4.80.

**Alternatively:** To hide departure fixes, deselect the “Show Departure Fixes/Procedures” checkbox.

**Note:** See Section 4.5.2.6 for a description of how to change the font size of departure fix labels.

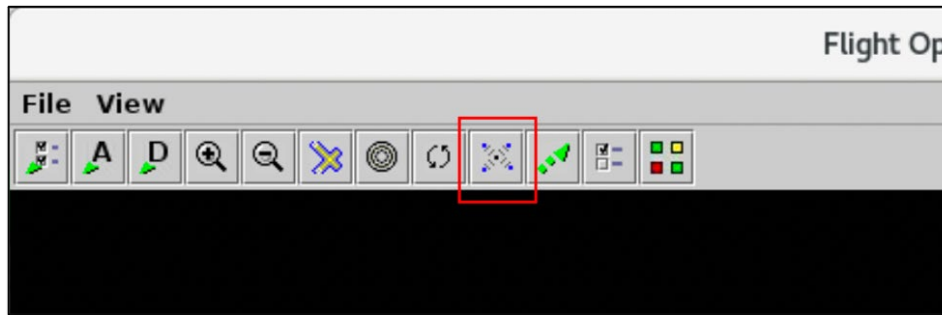


Figure 4.78. Map Toolbar: Set Up Arrival/Departure Fixes and Airports.

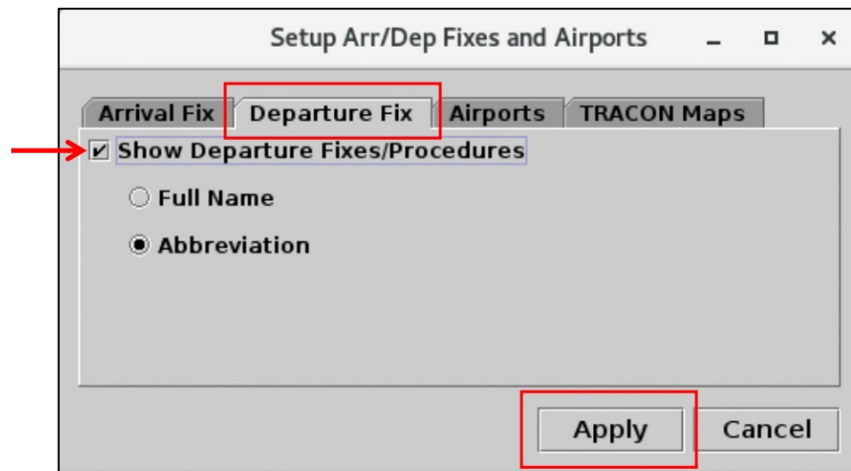


Figure 4.79. Departure Fix tab.

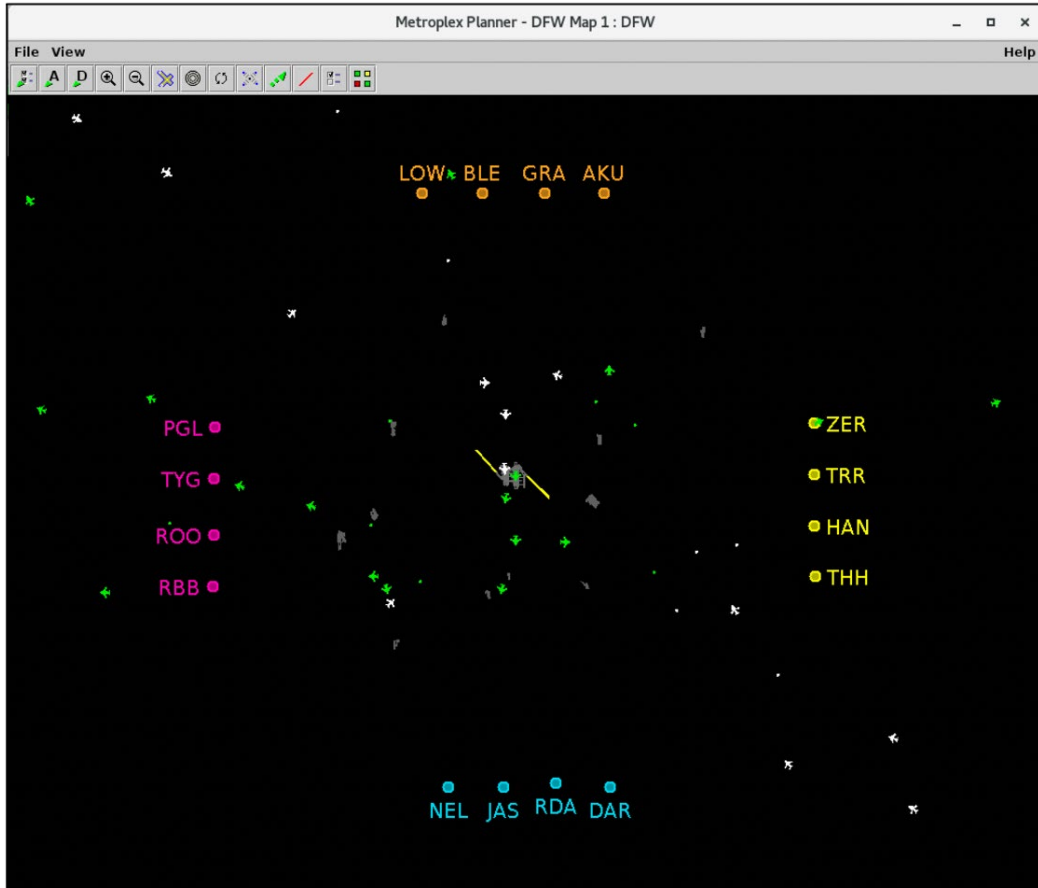


Figure 4.80. Map: Departure fixes.

#### 4.6.7.2.1 Departure Fix Labels

When a departure fix is closed, its label is grayed-out. In Figure 4.81, for example, fixes TYGGR, ROOOO, and RBBIT are closed.

When a departure fix is subject to a Miles-in-Trail (MIT) restriction, the distance is displayed next to the fix. In Figure 4.81, for example, there is a 15 MIT restriction on the PGLET departure fix.



**Figure 4.81. Map Labels: Closed departure fixes are grayed-out and MIT restrictions are indicated next to the fix label.**

See Section 3.1.5 for a description of the Departure Fix Closures tab on the TM Actions panel. See Section 3.1.4 for a description of the Miles-in-Trail tab on the TM Actions panel.



### 4.6.7.3 Airports

Use the “Airports” tab to display airport labels on the map.

#### To show/hide airport labels on the map:

**Step 1:** Select the “Set Up Arrival/Departure Fixes and Airports” icon on the map toolbar (Figure 4.82).

**Step 2:** Select the “Airports” tab (Figure 4.83).

**Step 3:** Select the “Show Airports” checkbox to display airport labels on the map (Figure 4.83).

**Step 4:** Select the “Add Airport” button to add more airports (Figure 4.83).

**Step 5:** In the “Add Airport” window, select an airport by checking the box next to the airport code or enter the airport code in the “Airport Name” text field (Figure 4.84). Separate multiple entries with a comma.

**Step 6:** When finished adding airports, select “OK” to close the Add Airport window (Figure 4.84).

**Step 7:** Select “Apply” to apply the changes and close the window (Figure 4.83).

**Alternatively:** To hide all airport labels, deselect the “Show Airports” checkbox.

**Note:** See an example of airport labels in Figure 4.85.

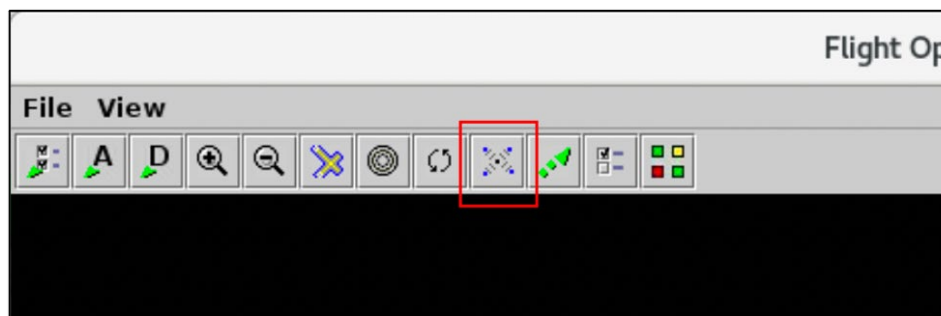


Figure 4.82. Map Toolbar: Set Up Arrival/Departure Fixes and Airports.

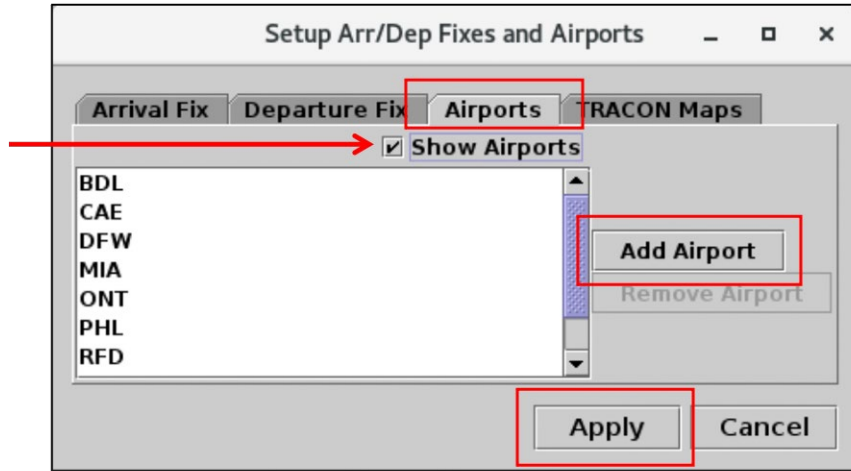


Figure 4.83. Airports tab.

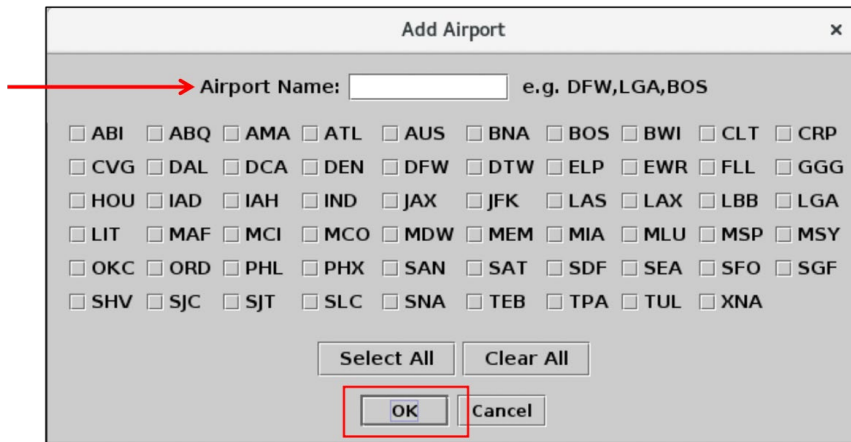


Figure 4.84. Add Airport.

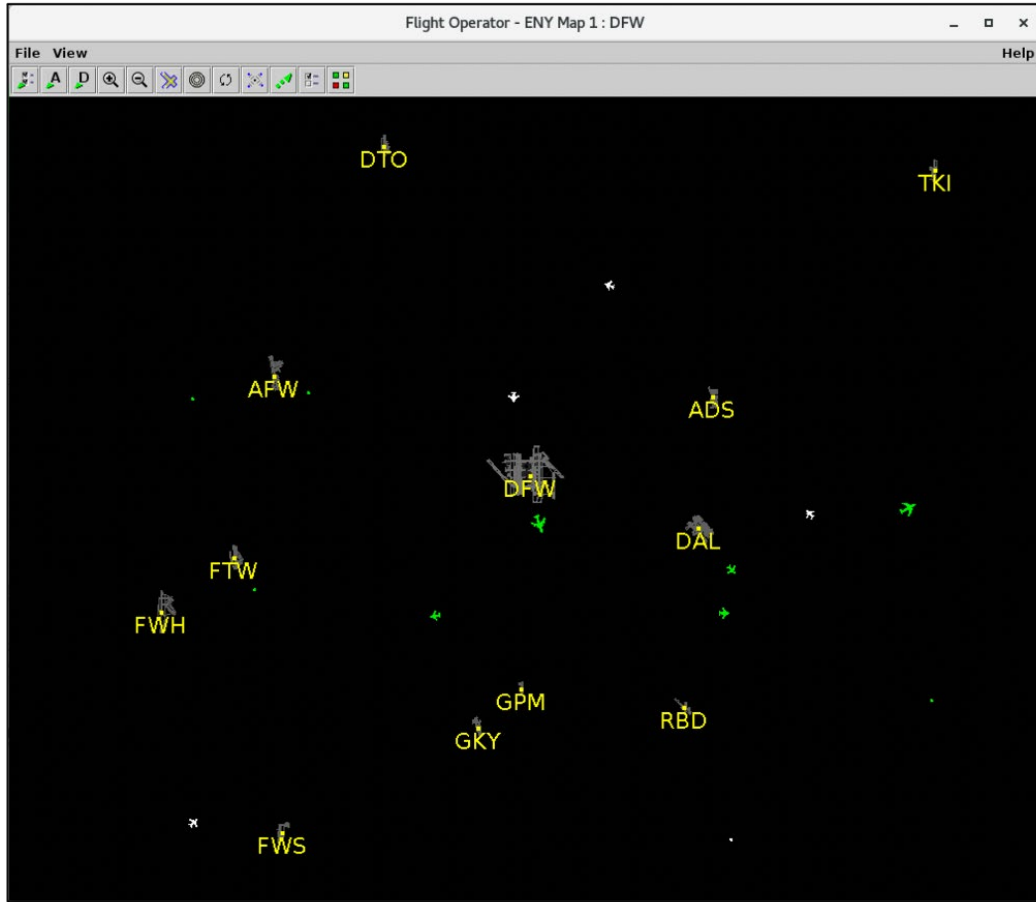


Figure 4.85. Map: Airport labels.

**To remove an airport label:**

- Step 1:* Select the “Set Up Arrival/Departure Fixes and Airports” icon on the map toolbar (Figure 4.82).
- Step 2:* Select the “Airports” tab (Figure 4.86).
- Step 3:* Use the mouse to select an airport from the list (e.g., “SHV” is selected in Figure 4.86).
- Step 4:* Select the “Remove Airport” button to remove that airport label from the map (Figure 4.86).
- Step 5:* Select “Apply” to apply the changes and close the window (Figure 4.86).

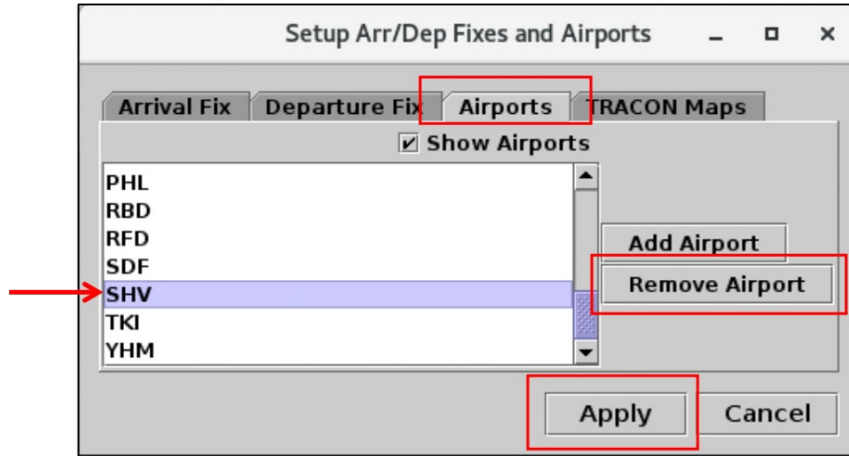


Figure 4.86. Airports tab.

#### 4.6.7.4 TRACON Maps

Use the “TRACON Maps” tab to overlay TRACON maps.

##### To display a TRACON map:

**Step 1:** Select the “Set Up Arrival/Departure Fixes and Airports” icon on the map toolbar (Figure 4.87).

**Step 2:** Select the “TRACON Maps” tab (Figure 4.88).

**Step 3:** Select the “Add TRACON Map” button (Figure 4.88).

**Step 4:** Use the TRACON map dropdown list to select a TRACON map (e.g., “Departure South” is selected in Figure 4.89).

**Step 5:** To change the color of the map outline, click inside the color box to open the Choose Color window (Figure 4.89).

1. On the “Swatches” tab, use the mouse to select a color. If necessary, use the other four color-palette tabs (HSV, HSL, RGB, CMYK) to refine the color selection (Figure 4.90).
2. When complete, select “OK” to close the Choose Color window (Figure 4.90).

**Step 6:** Select “Apply” to apply the changes and close the window (Figure 4.89).

**Note:** See an example of a TRACON map in Figure 4.90.

**Note:** More than one TRACON map can be displayed at a time.

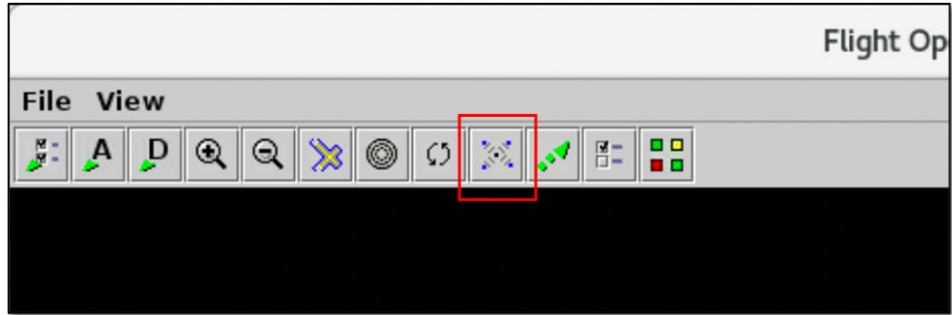


Figure 4.87. Map Toolbar: Set Up Arrival/Departure Fixes and Airports.

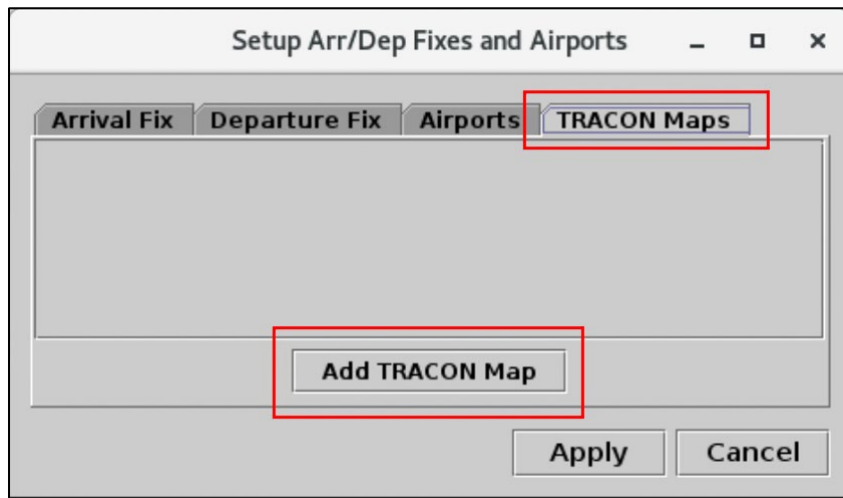


Figure 4.88. TRACON Maps tab.

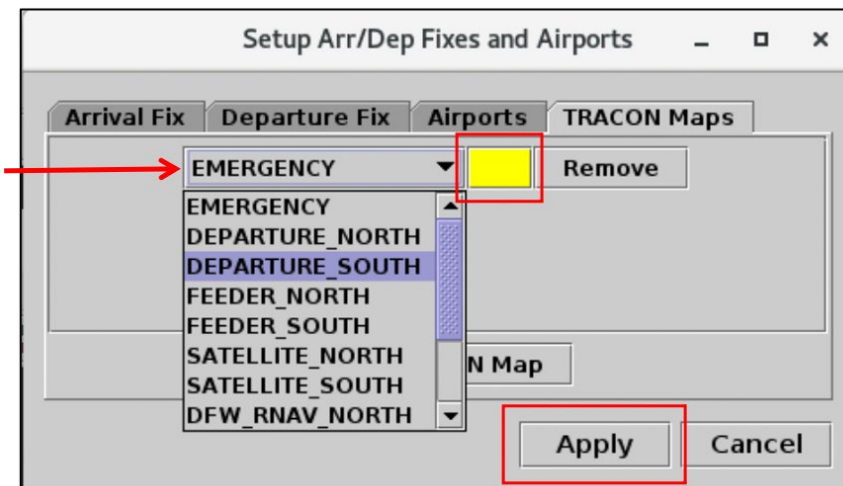


Figure 4.89. TRACON Maps dropdown list.

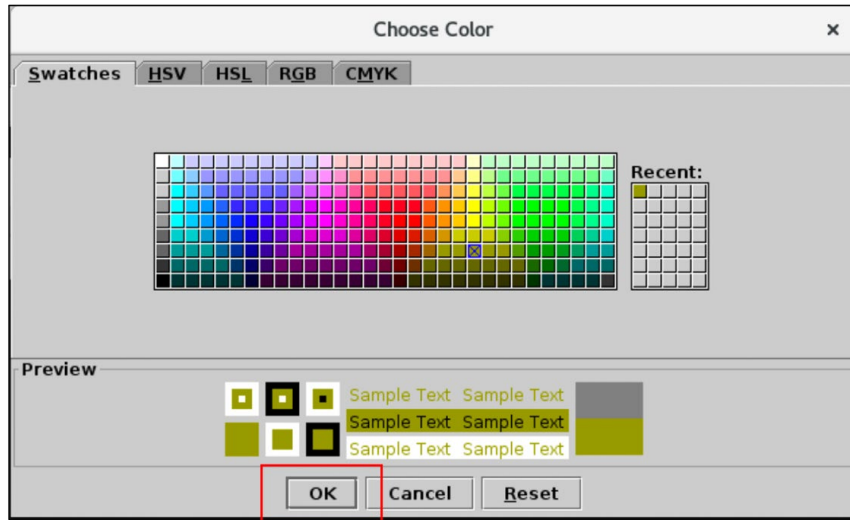


Figure 4.90. Use the “Swatches” tab to select a color. Use the HSV, HSL, RGB, or CMYK color palettes to refine the color selection, if necessary.

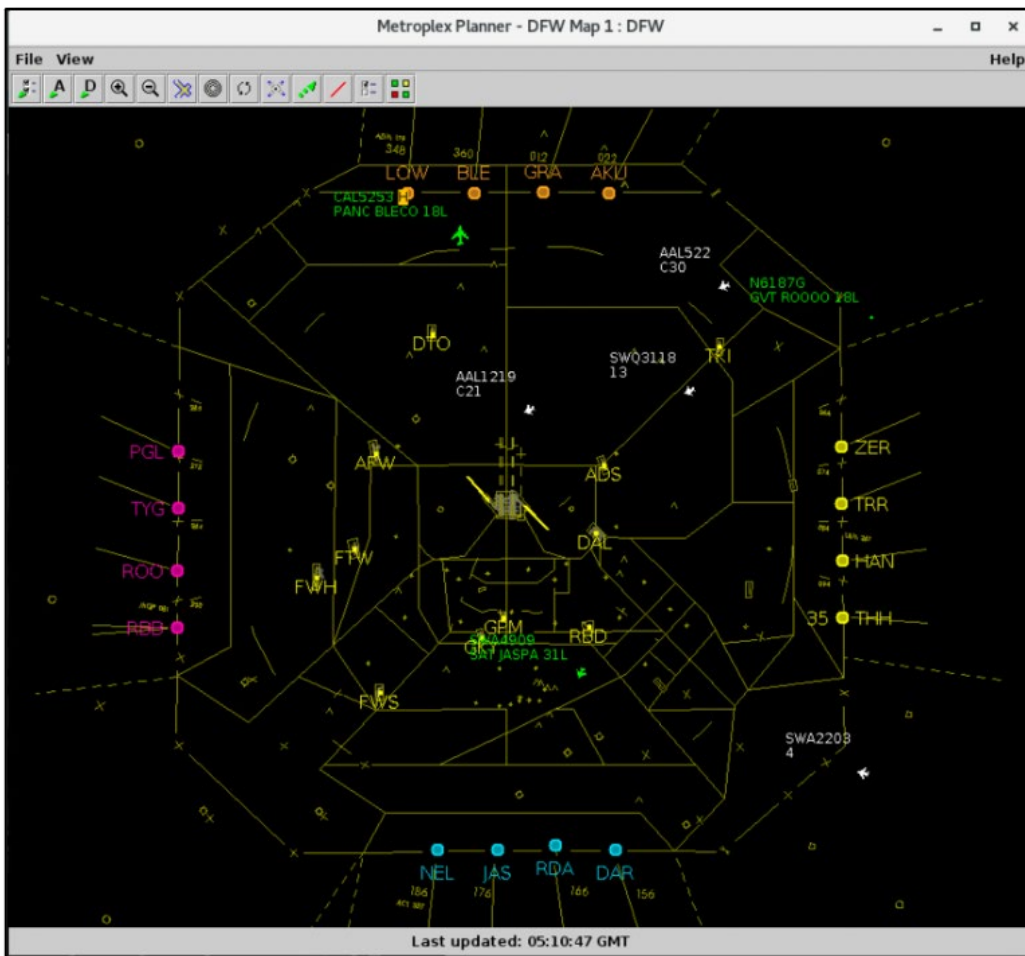


Figure 4.91. TRACON map: In this example, the “Departure South” map.

**To remove a TRACON map:**

**Step 1:** Select the “Set Up Arrival/Departure Fixes and Airports” icon on the map toolbar (Figure 4.87).

**Step 2:** Select the “TRACON Maps” tab (Figure 4.92).

**Step 3:** Select the “Remove” button (Figure 4.92).

**Step 4:** Select “Apply” to apply the changes and close the window (Figure 4.92).

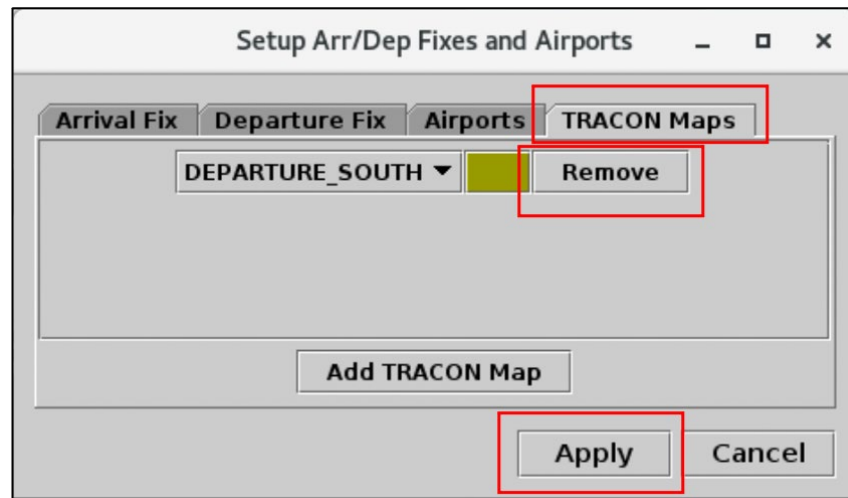


Figure 4.92. Remove TRACON map.

## 4.6.8 Set Up Target Trails

Use the “Set Up Target Trails” icon to display flight icon target trails. Target trails indicate a flight’s direction of movement on the surface or in the air.

**To display target trails:**

**Step 1:** Select the “Set Up Target Trails” icon on the map toolbar (Figure 4.93).

**Step 2:** Select the “Show Target Trails” checkbox to display a target trail for each flight icon (Figure 4.94).

**Step 3:** Enter the *time length* of trails (in seconds) in the “Maximum length of trails” field (e.g., 30 sec in Figure 4.94).

**Step 4:** Enter the *time interval* between positions (in seconds) in the “Time interval between trail positions” field (e.g., 5 sec in Figure 4.94).

**Step 5:** Select “Apply” to apply the changes and close the window (Figure 4.94).

**Alternatively:** Deselect the “Show Target Trails” checkbox to hide target trails.

**Note:** See examples of target trails on the surface (Figure 4.95) and in the air (Figure 4.96).

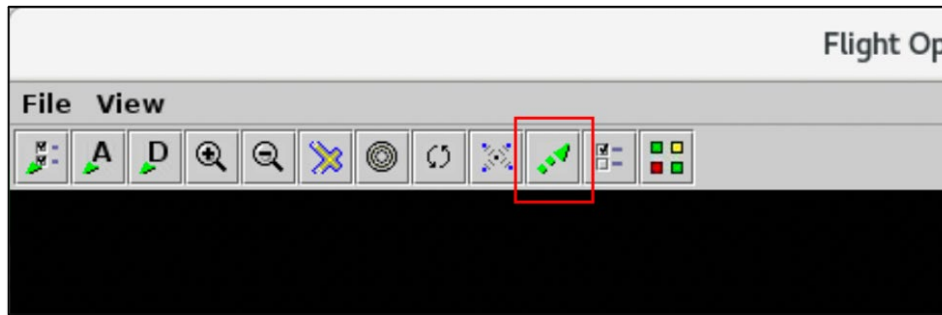


Figure 4.93. Map Toolbar: Set Up Target Trails.

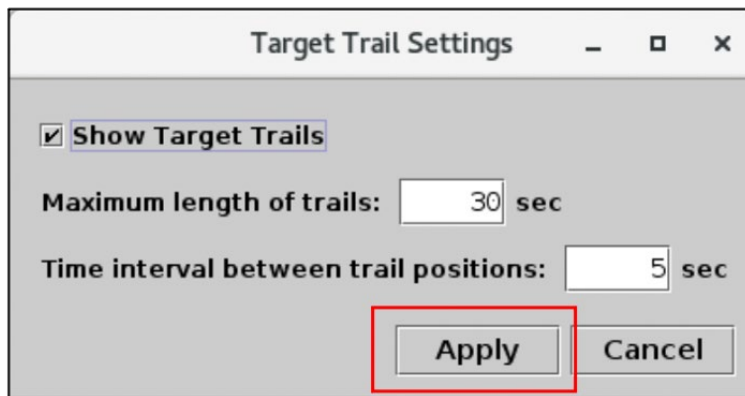


Figure 4.94. Set Up Target Trails.



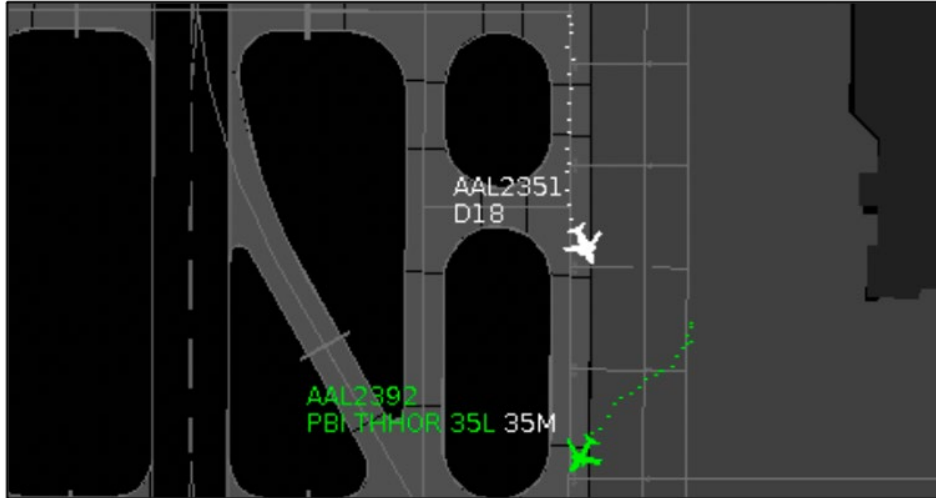


Figure 4.95. Target trails for flights on the surface.

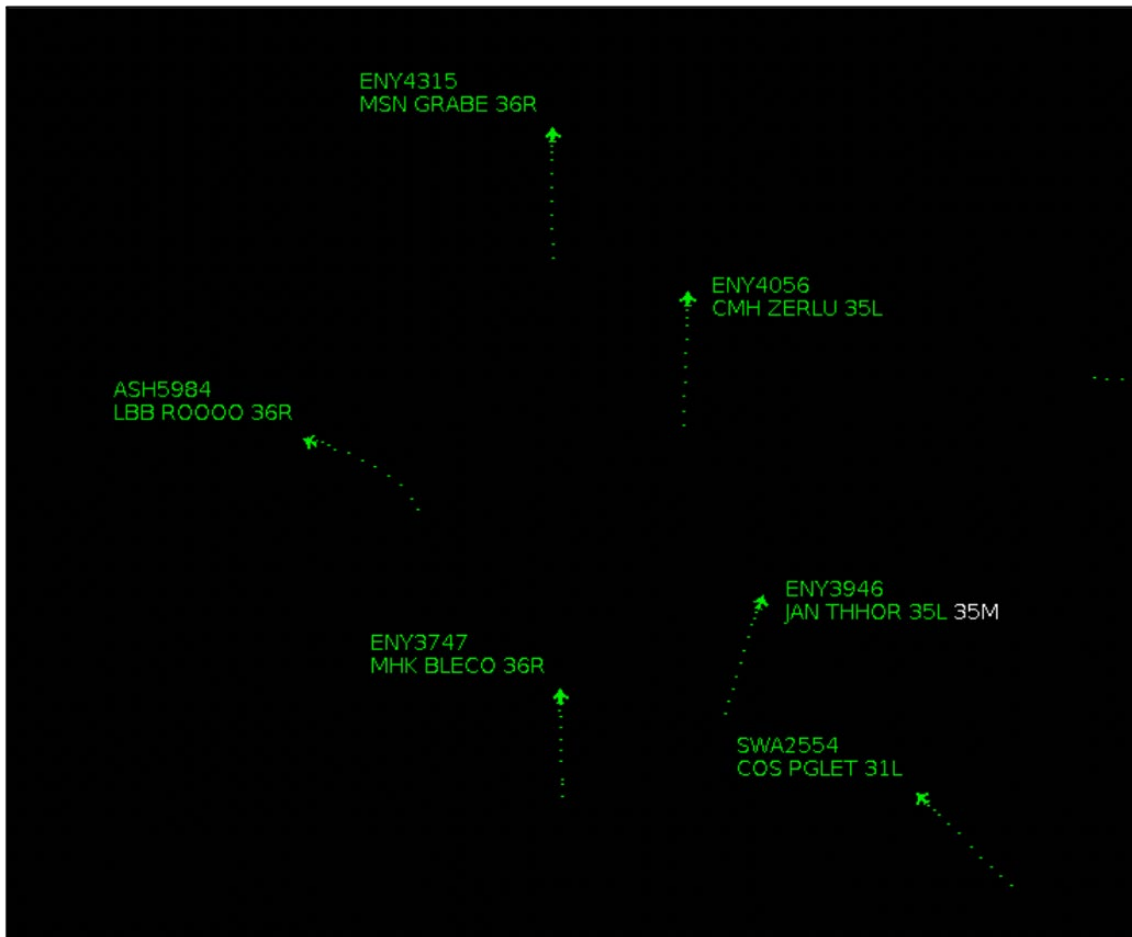


Figure 4.96. Target trails for flights in the air.

## 4.6.9 Open/Close Links

*Note: This function is only available in ATC versions of the Metroplex Planner.*

Use the “Open/Close Links” icon to mark links as closed or open on the map. “Links” include line segments on taxiways and in ramp areas.

### To close links:

*Note: This function is only available in ATC versions of the Metroplex Planner.*

**Step 1:** Ensure that the links to be closed are visible in the map window — the map cannot be panned once in Open/Close Links mode.

**Step 2:** Select the “Open/Close Links” icon on the map toolbar (Figure 4.97).

**Note:** *In Open/Close Links mode, selectable links are shown in magenta (Figure 4.98). The brown background on the map serves as a visual reminder that the map is in Open/Close Links mode (Figure 4.98).*

**Note:** *Links can only be opened/closed at the map’s primary airport. In Figure 4.98, for example, the map’s primary airport is DFW (indicated in the window header).*

*An error message is displayed if a selection is made at a different airport (in this case, an airport other than DFW, as in Figure 4.99) or outside the bounds of the primary airport (Figure 4.100). To create a map for a different airport, see Section 3.2.1.*

**Step 3:** Click and drag the mouse to select links. Once selected, links are shown in yellow (Figure 4.101).

**Step 4:** At the prompt, “Close Links Highlighted in Yellow”, select “Okay” to confirm the closure and exit Open/Close Links mode (Figure 4.102).

**Note:** *Once confirmed, closed links are displayed in red (Figure 4.103).*

**Note:** *To close more links, repeat Steps 1 – 4.*

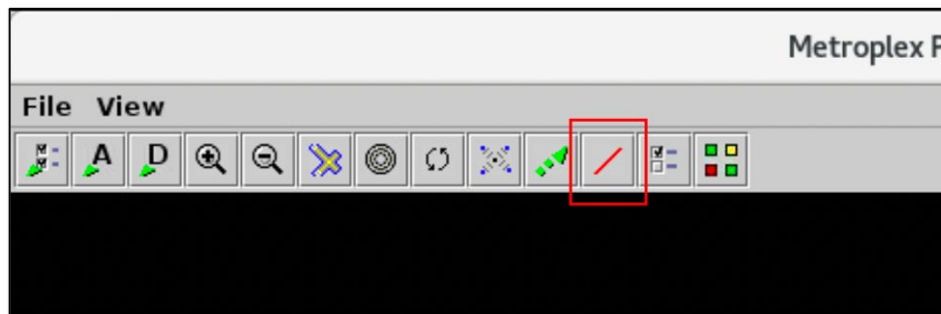


Figure 4.97. Map Toolbar: Open/Close Links.

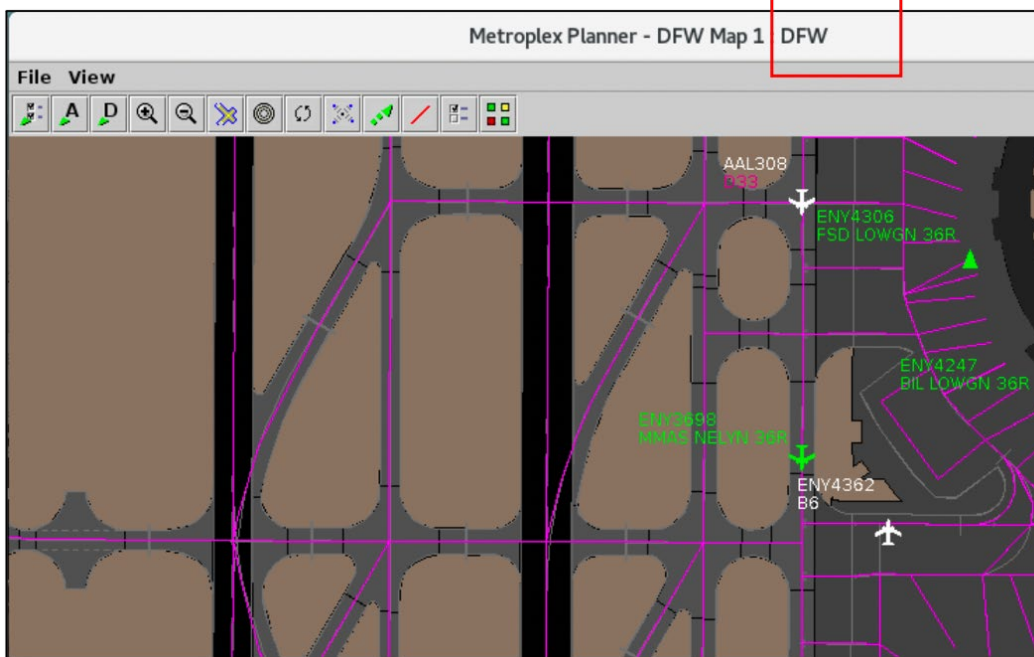


Figure 4.98. Open/Close Links: Selectable links are shown in magenta. The brown background indicates that Open/Close Links is currently selected.

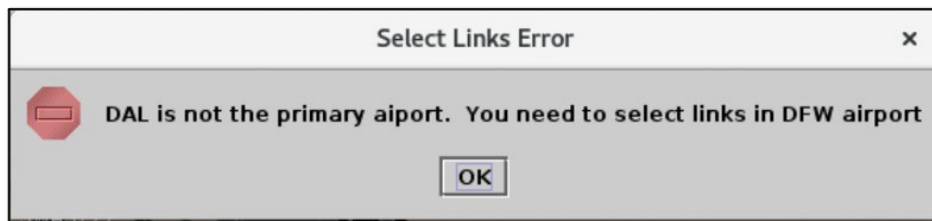


Figure 4.99. Open/Close Links: Message for incorrect airport.



Figure 4.100. Open/Close Links: Message for outside airport boundary.

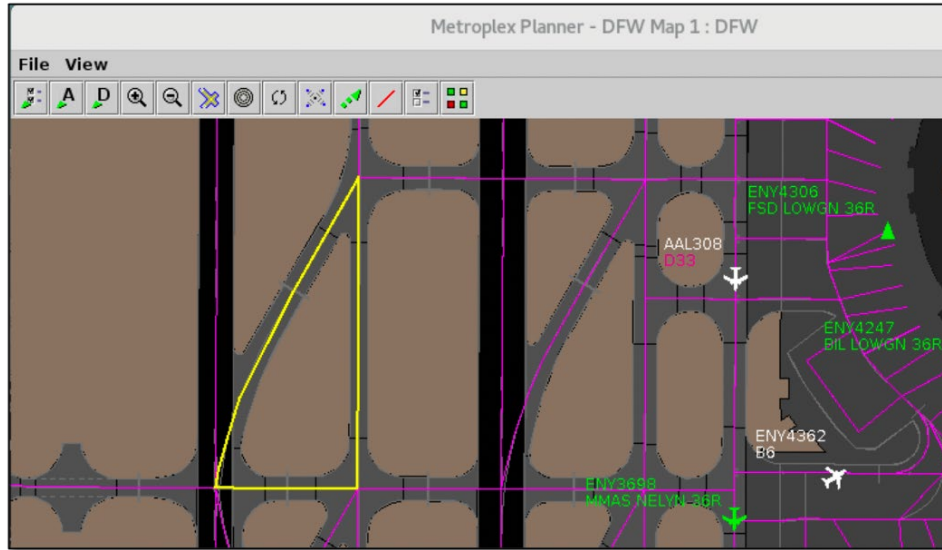


Figure 4.101. Open/Close Links: Selected links are shown in yellow.

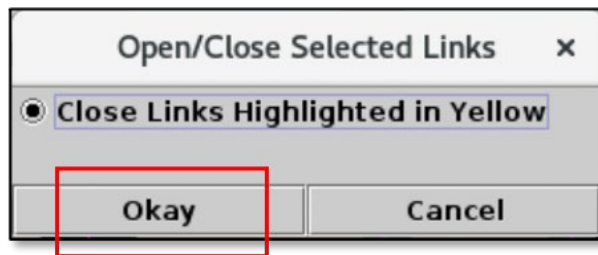


Figure 4.102. Open/Close Links: Confirm closed links.

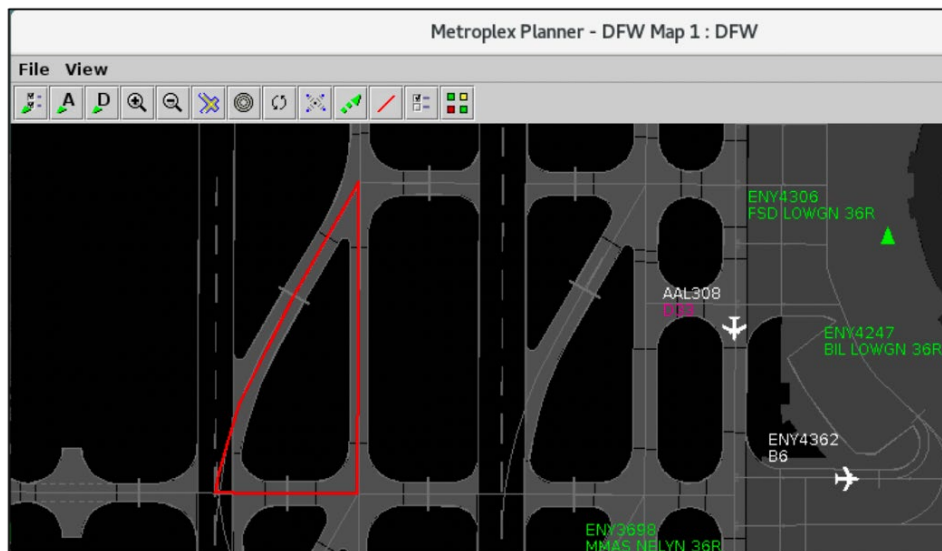


Figure 4.103. Once confirmed, closed links are shown in red.

## To open links:

*Note: This function is only available in ATC versions of the Metroplex Planner.*

**Step 1:** Ensure that the links to be opened are visible in the map window — the map cannot be panned once in Open/Close Links mode.

**Step 2:** Select the “Open/Close Links” icon on the map toolbar (Figure 4.97).

**Note: In Open/Close Links mode, previously closed links are shown in red (Figure 4.104).**

**Step 3:** Click and drag the mouse over the red, previously closed links. Once reselected, links are shown in blue (Figure 4.105).

**Step 4:** At the prompt, “Open Links Highlighted in Blue”, select “Okay” to confirm the opening and exit Open/Close Links mode (Figure 4.106).

**Note: The reopened links are no longer highlighted on the map (Figure 4.107).**

**Note: If both previously closed links and currently open links are inadvertently selected at the same time, select the intended action at the prompt (Figure 4.108).**

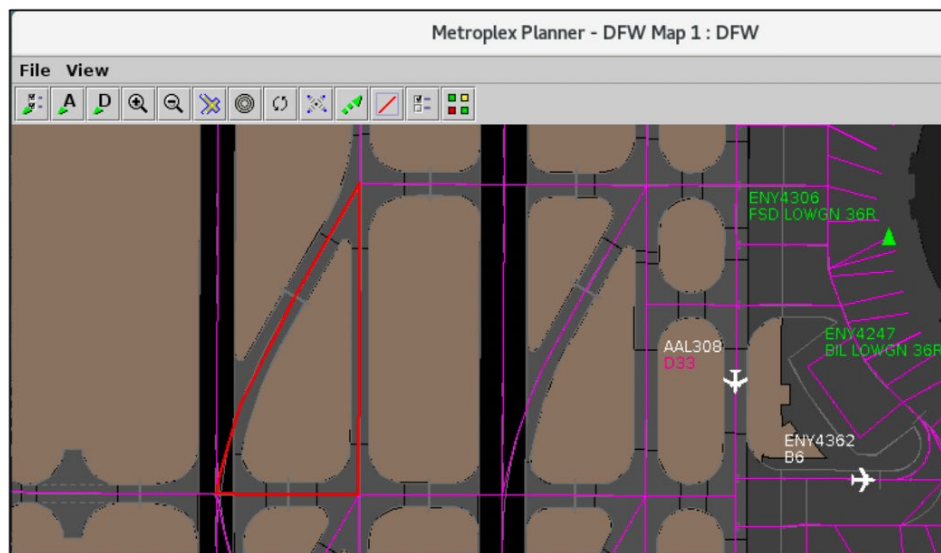


Figure 4.104. Open/Close Links: Previously closed links are shown in red.

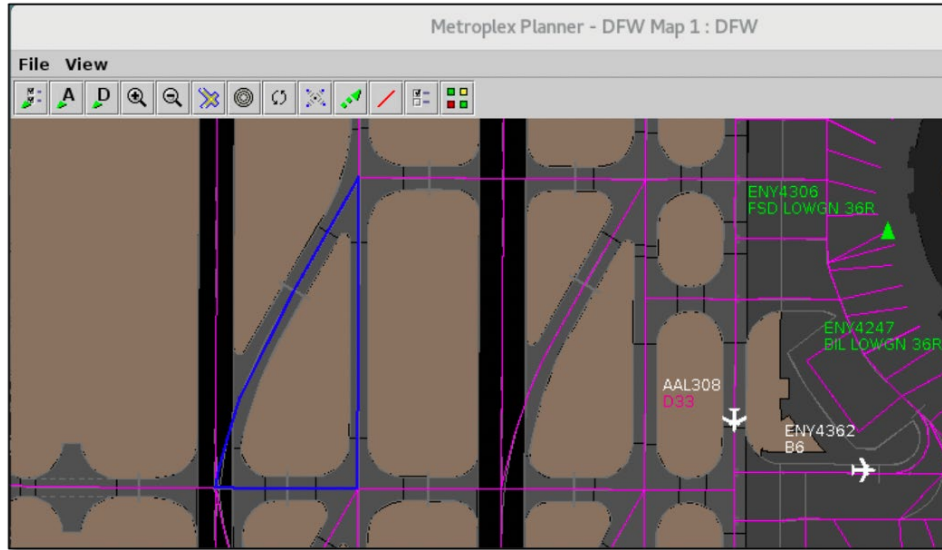


Figure 4.105. Open/Close Links: Once reselected, previously closed links are shown in blue.

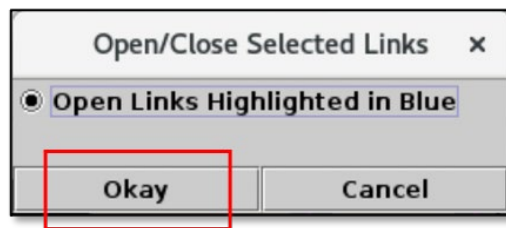


Figure 4.106. Open/Close Links: Confirm opened links.

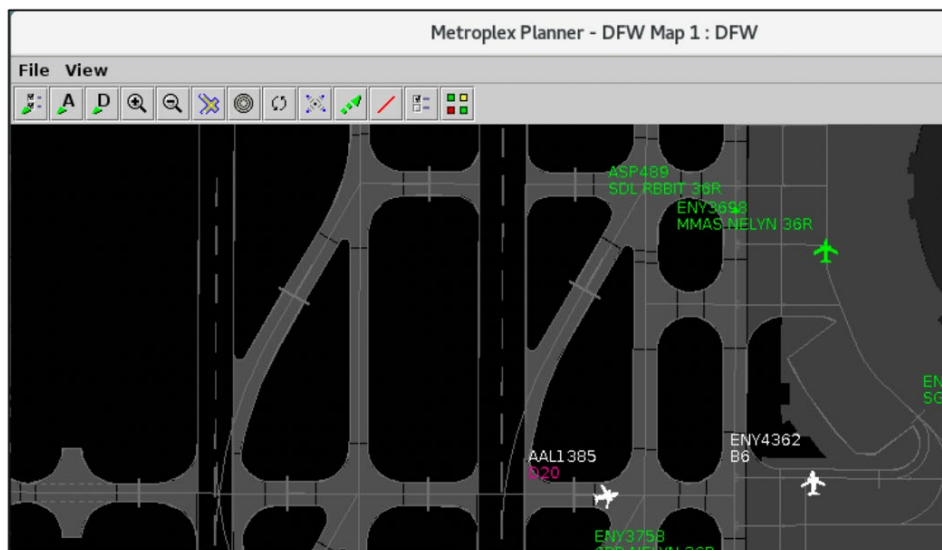


Figure 4.107. Open/Close Links: Reopened links are no longer highlighted.

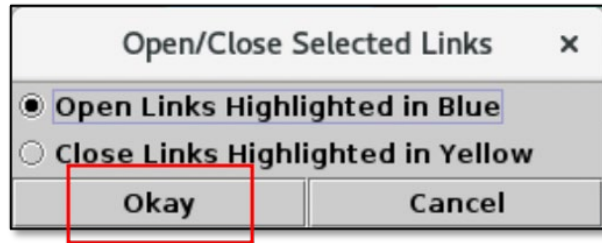


Figure 4.108. Open/Close Links: Confirm selection.

See Section 3.1.9 for a description of how to enter runway closures in the TM Actions panel.

## 4.6.10 Set Up Map

Use the “Set Up Map” icon to select additional labels and boundaries on the map.

### To display additional labels and boundaries on the map:

**Step 1:** Select the “Set Up Map” icon on the map toolbar (Figure 4.109).

**Step 2:** Select the checkbox next to the item to be displayed (e.g., “Runways” is selected in Figure 4.110).

**Step 3:** To change the color, click inside the color box to open the Choose Color window (Figure 4.110).

1. On the “Swatches” tab, use the mouse to select a color. If necessary, use the other four color-palette tabs (HSV, HSL, RGB, CMYK) to refine the color selection (Figure 4.111).
2. When complete, select “OK” to close the “Choose Color” window (Figure 4.111).

**Step 4:** Select “Ok” to apply the changes and close the window (Figure 4.112).

**Note:** See an example of Runway labels in Figure 4.113.

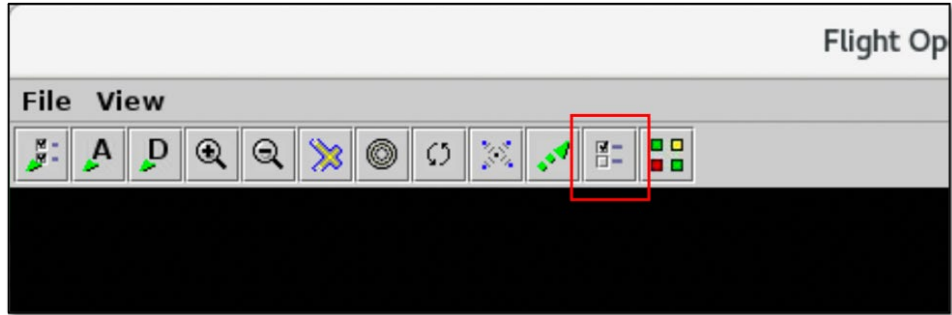


Figure 4.109. Map Toolbar: Set Up Map.

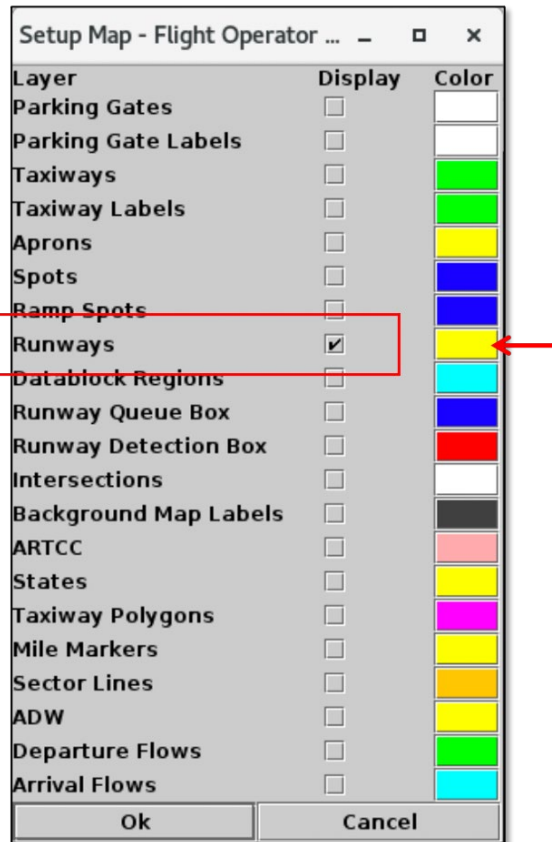


Figure 4.110. Map: Set Up Map menu.



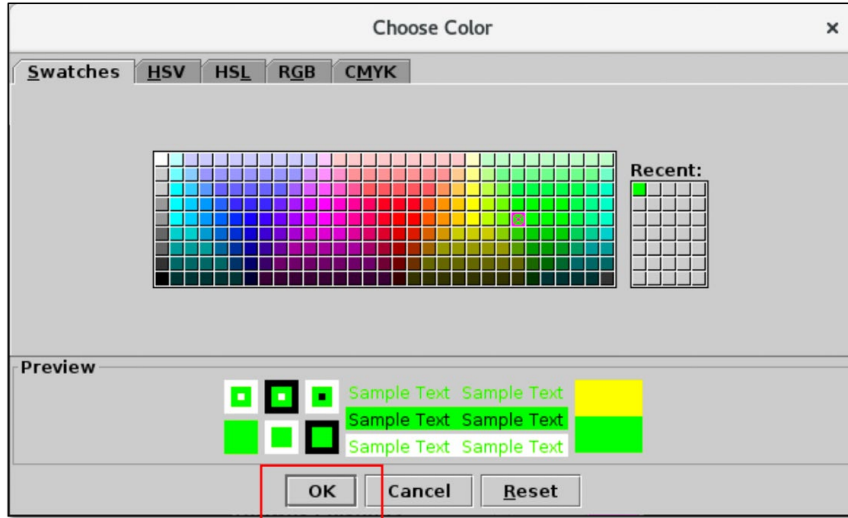


Figure 4.111. Use the “Swatches” tab to select a color. Use the HSV, HSL, RGB, or CMYK color palettes to refine the color selection, if necessary.



Figure 4.112. Set Up Map: Set Up Map menu.

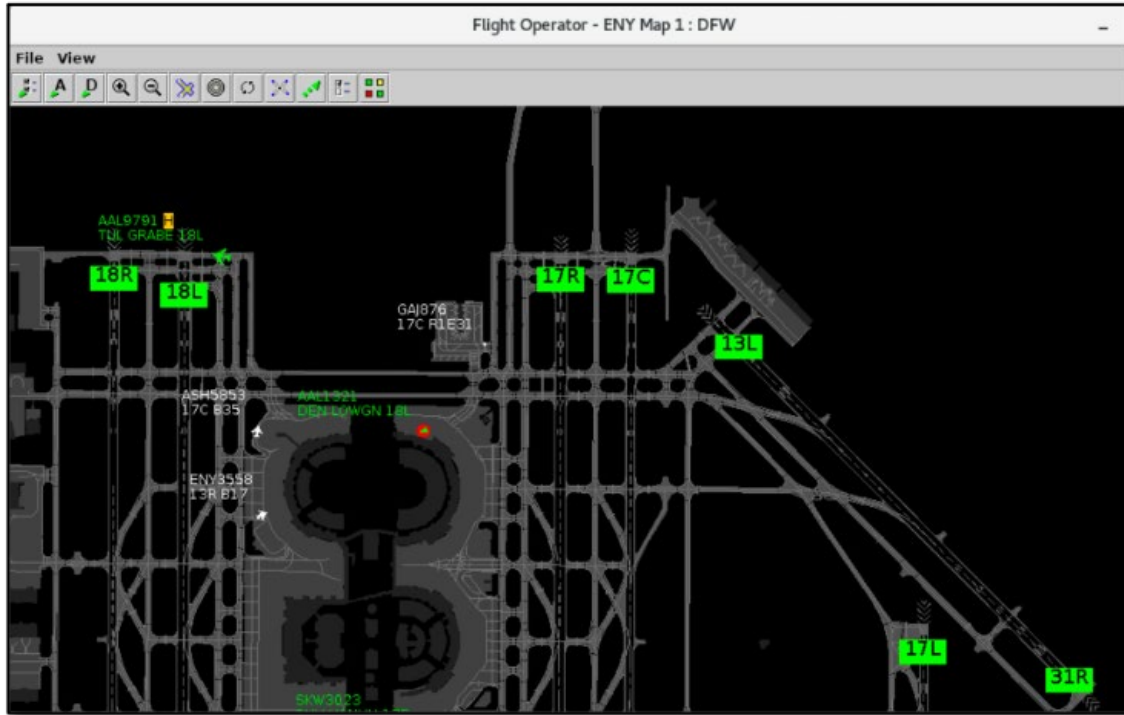


Figure 4.113. Set Up Map: Example of Runway labels on the map.

See Section 4.5.2.6 for a description of how to increase/decrease the font size of map labels, like Runway labels.

#### 4.6.11 TOS Route Availability Labels

Use the “TOS Route Availability Labels” icon to display the status of TOS CDRs on the map. These color-coded labels correspond to the CDRs listed on the TOS Operation tab (Section 3.1.11.4). TOS Route Availability Labels reflect restrictions generated by DCC Advisories (Section 3.1.11.4.3.2), user-entered restrictions (Section 3.1.11.4.3.3), and departure fix closures (Section 3.1.11.4.3.1).

## To display TOS Route Availability Labels on the map:

**Step 1:** Select the “TOS Route Availability Labels” icon on the map toolbar (Figure 4.114).

**Note:** *Color-coded CDR labels are displayed around the TRACON boundary (Figure 4.115) and correspond to the same CDR codes and color-coding displayed on the TOS Operation tab (Section 3.1.11):*

- **Green:** The CDR is available and can be used for TOS rerouting.
- **Yellow:** The CDR is unavailable to one or more destinations or is impacted by a Flow Constrained Area (FCA) advisory. The CDR is *partially* restricted (Figure 4.116).
- **Red:** The CDR is unavailable to *all* flights for TOS rerouting. The CDR is closed (Figure 4.117).

**Note:** *When a CDR is partially restricted, click on the yellow label to view restricted destinations. For example, in Figure 4.116, LGA-, EWR-, and JFK-bound flights are currently restricted from using the “1E” CDR for TOS reroutes.*

**Alternatively:** To hide the labels, select the “TOS Route Availability Labels” icon on the map toolbar again (Figure 4.114).

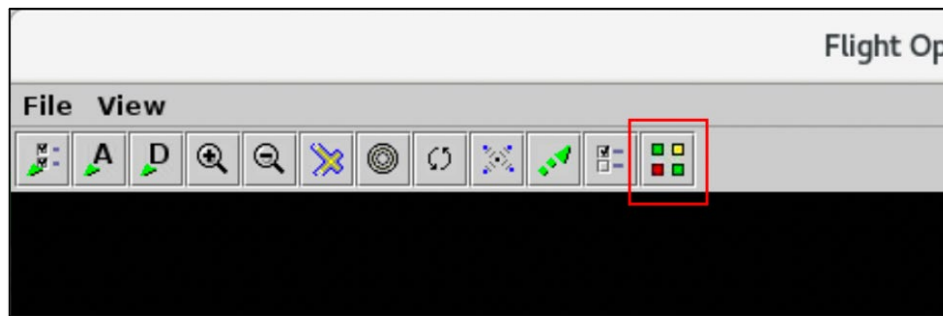


Figure 4.114. Map Toolbar: TOS Route Availability Labels.

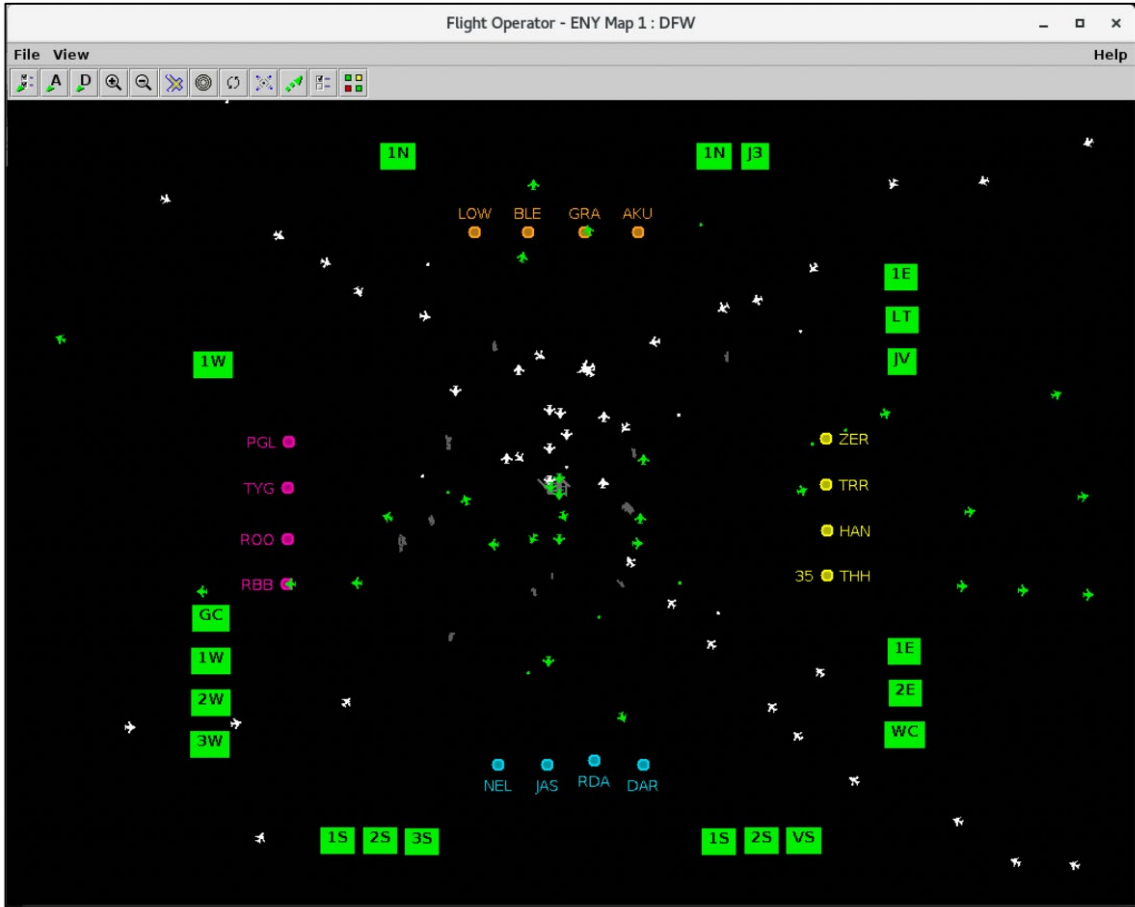


Figure 4.115. Map: TOS Route Availability Labels.

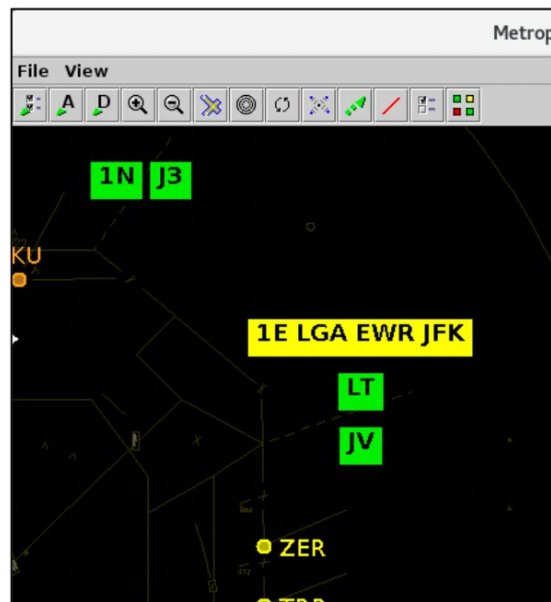
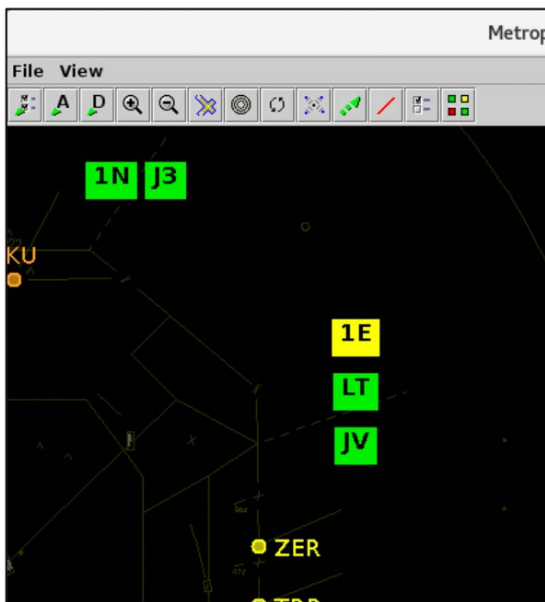


Figure 4.116. Click on a partially restricted CDR (yellow) to view restrictions. In this example, LGA-, EWR-, and JFK-bound flights are currently restricted from using the “1E” CDR for TOS reroutes.

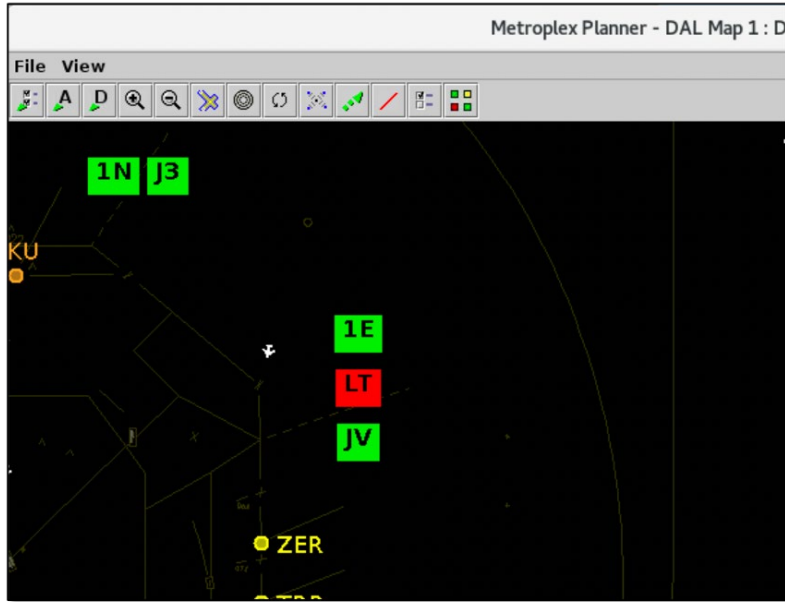


Figure 4.117. A CDR that is restricted from being used for TOS reroutes is highlighted in red.

See Section 4.5.2.6 for a description of how to increase/decrease the font size of map labels, like TOS Route Availability Labels.

## 4.7 Map: Other Flight and Airport Information

Other types of flight and airport information are also displayed on the map.

### 4.7.1 Tarmac Rule / Long On Board

Tarmac Rule / Long On Board (LOB) information is indicated on the map using yellow, orange, and red discs displayed underneath the flight icon (Figure 4.118).

- For **departures**, the timer starts at pushback and is continuously computed as current time minus the Actual Off-Block Time (AOBT) until the flight takes off.
- For **arrivals**, the timer starts at touchdown and is continuously computed as the current time minus the Actual Landing Time (ALDT) until the flight is at the gate.

The Long on Board indicator appears automatically (cannot be toggled on or off) and is displayed regardless of whether the datablock is displayed or not.

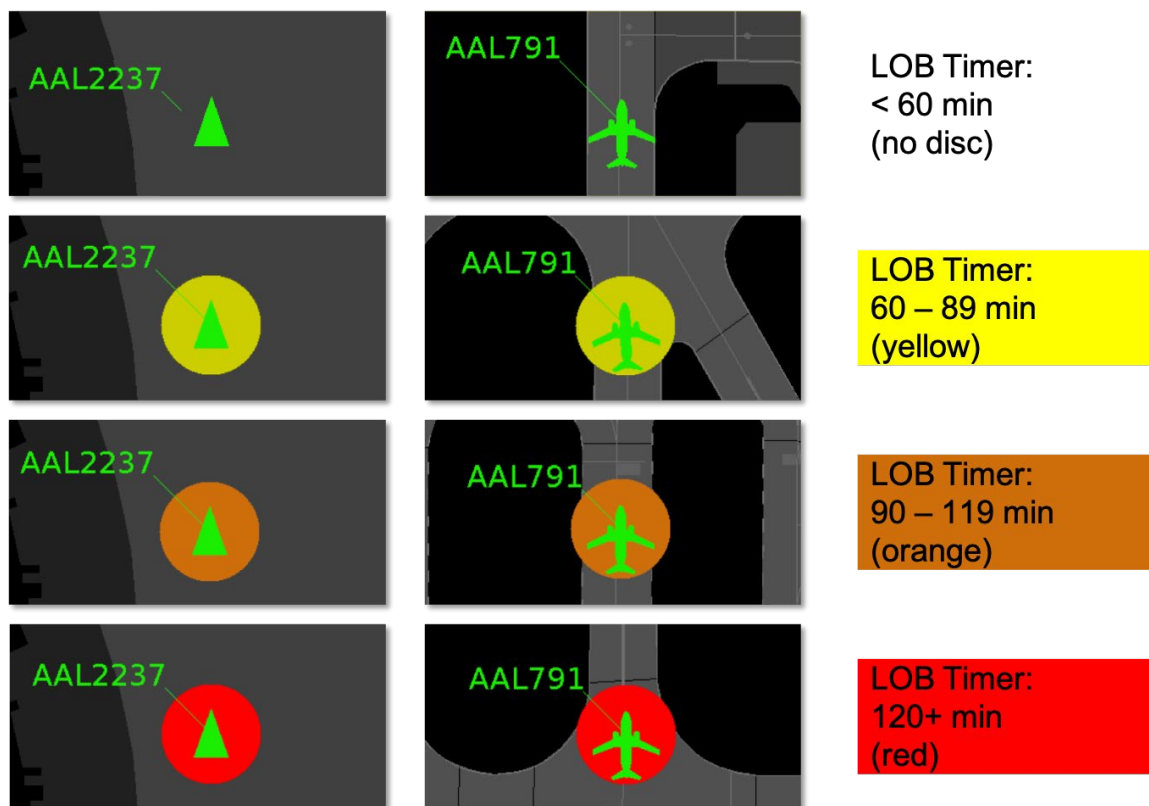


Figure 4.118. Long On Board indicators (yellow, orange, and red discs) shown for a flight at the gate (left column) and in the AMA (right column).

## 4.7.2 Runway Closures

Closed runways are highlighted in red with a white “X” at each end (Figure 4.119).

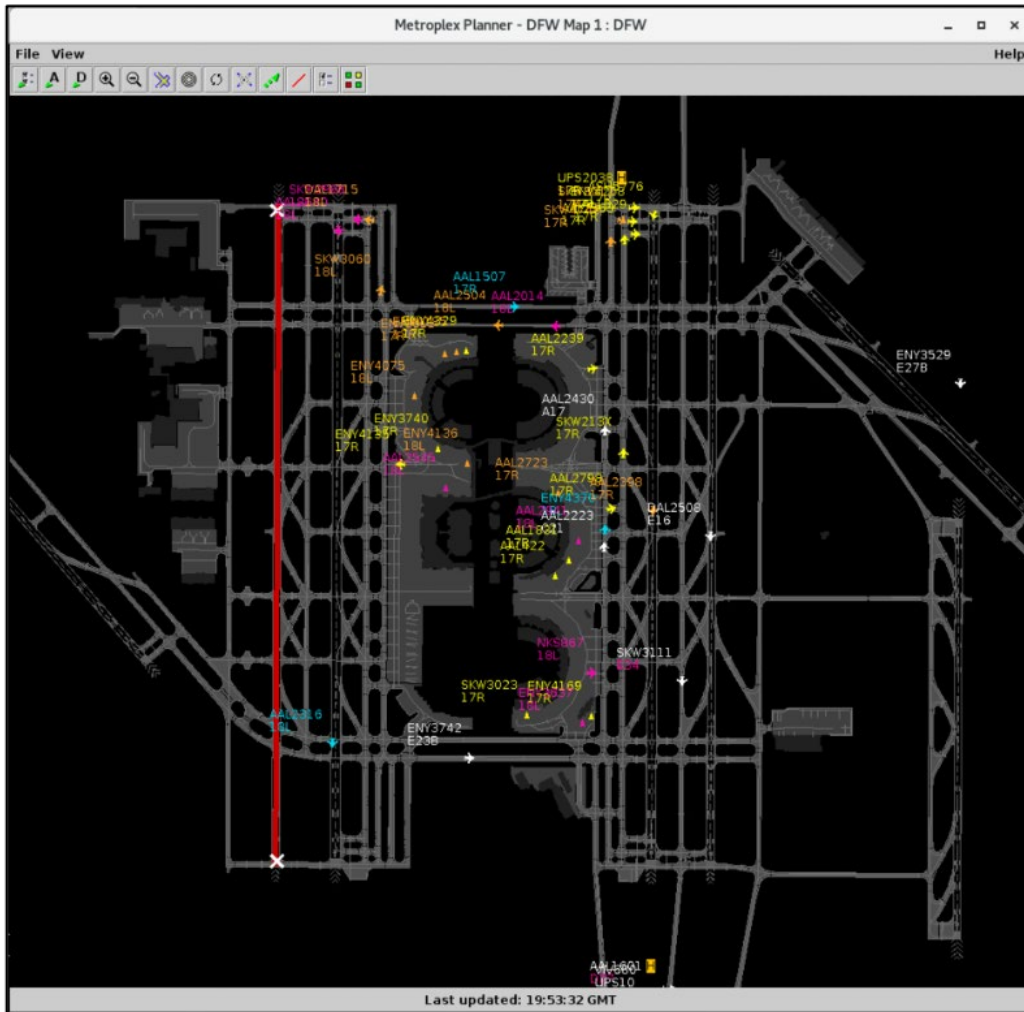


Figure 4.119. Map: Closed runways are highlighted in red with a white “X” at each end.

See Section 3.1.9 for a description of how to enter runway closures on the Runway Closures tab on the TM Actions panel.

## 4.8 Map: Flight Right-Click Menu

Right-click on a flight to open the flight menu (Figure 4.120). Right-click options are described in Section 7.

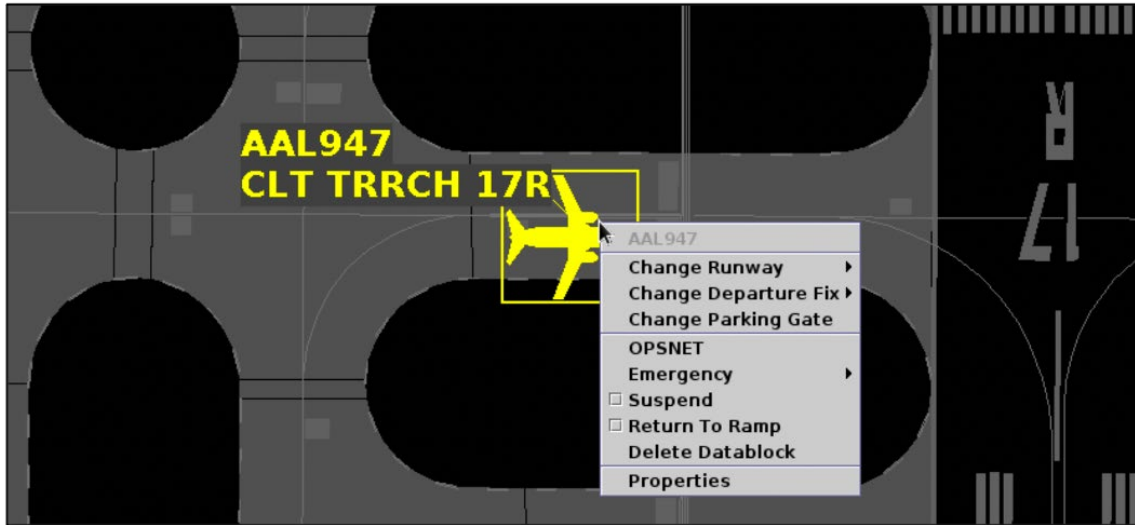


Figure 4.120. Flight right-click menu.



## 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.

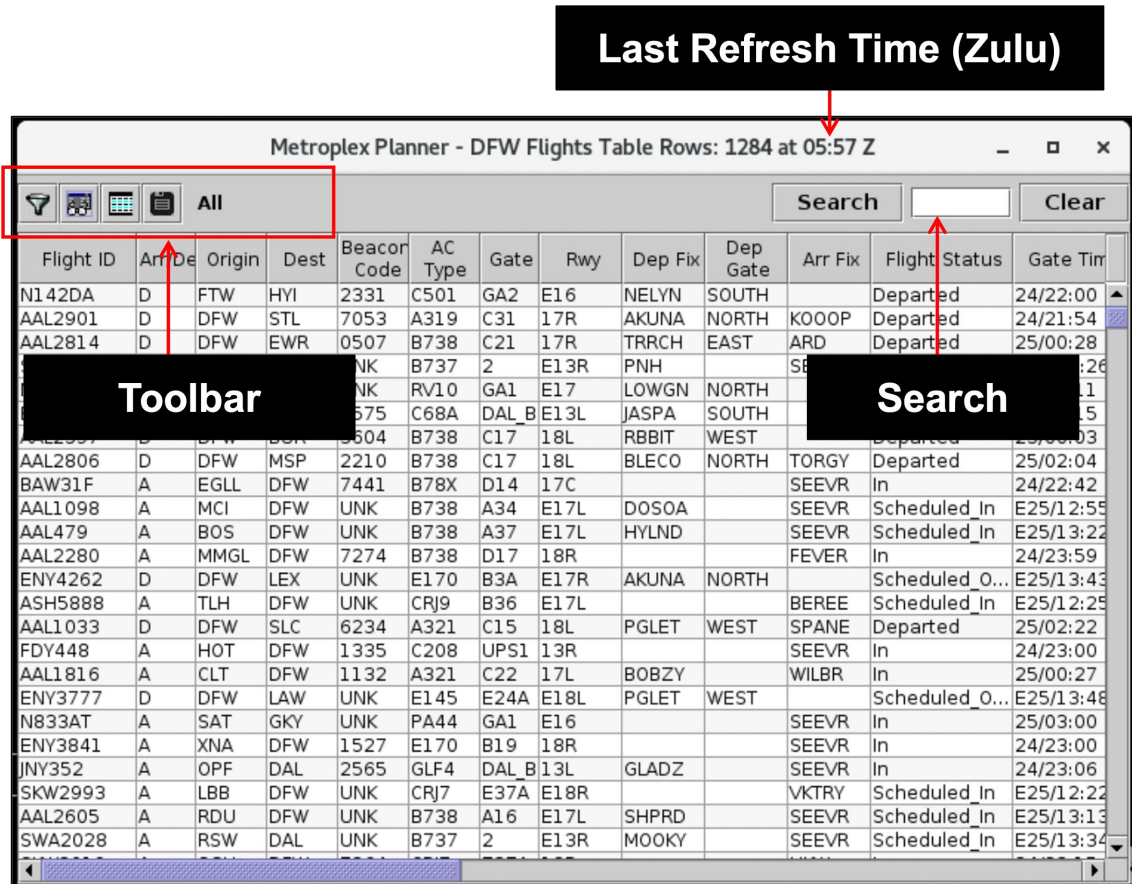


Figure 5.1. Flights Table.

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:** Select multiple flights at the same time by holding the Shift key.

**Note:** Right-click to select multiple rows and open the right-click menu.

Flight ID	Arr/Dep	Origin	Dest	Beacon Code	AC Type	Gate	Rwy	Dep Fix	Dep Gate	Arr Fix	Flight Status	Gate Time	Spot T
ASH5731	D	DFW	SDF	UNK	CRJ9	B36	E35L	ZERLU	EAST	CHERI	Scheduled_Out	E09/23:40	E09/23
N31CA	D	DAL	SGR	UNK	CL30	DAL_B	E31R	ROOOO	WEST		Scheduled_Out	E09/23:15	E09/23
ENY3307	D	DFW	MMDO	2355	E135	B15	18L	NELYN	SOUTH		Departed	09/17:37	09/17:4
SIS648	D	AFW	SRB	2270	GALX	GA1	E16R	TRRCH	EAST		Departed	09/15:20	09/15:3
SWA437	A	DEN	DAL	1413	B737	12	13L	EPKEE		GREGS	In	09/15:24	09/15:0
LN490AM	A	SAT	DAL	2503	BE40	DAL_B	13L			SEEV	In	09/15:15	09/14:5
SWA320	D	DAL	CMH	0527	B737	7	E31R	ZERLU	EAST		Scheduled_Out	E09/19:33	E09/19
N4215C	A	BED	DFW	3466	F2TH	R1E...	17L			SEEV	In	09/15:45	09/15:4
AAL1769	D	DFW	LAX	3673	B738	C10	18L	RBBIT	WEST	HLYWD	Departed	09/17:51	09/17:5
AAL1304	D	DFW	MMSD	0555	B738	C28	17R	RBBIT	WEST		Departed	09/13:23	09/13:2
BTQ553	D	DFW	CNM	UNK	PC12	R1E...	E36R	RBBIT	WEST		Scheduled_Out	E09/19:30	E09/19
AAL2354	A	LAX	DFW	2061	A321	C30	E36L			BOOVE	Enroute_Arr	E09/20:54	E09/20
ENY4267	D	DFW	GRR	UNK	E170	B44	E35L	AKUNA	NORTH		Scheduled_Out	E09/22:25	E09/22
SKW3118	D	DFW	PIB	2245	CRJ2	E37A	17R	THHOR	EAST		Departed	09/15:17	09/15:2
SWA1676	D	DAL	MDW	0514	B737	8	E13L	AKUNA	NORTH	JOT	Departed	09/12:41	09/12:4
N153TJ	A	HOU	ADS	2541	C25A	GA1	E15	GIFFA		CQY	In	09/12:24	09/12:2
AAL1326	A	AUS	DFW	2777	A321	A28	17L	ELOEL		CQY	In	09/16:43	09/16:4
AAL250	A	SAN	DFW	7232	B738	C12	17C	IPL		FEVER	In	09/16:52	09/16:5

**Figure 5.2. Flights Table: Selected row is highlighted in cyan (e.g., SWA320).**

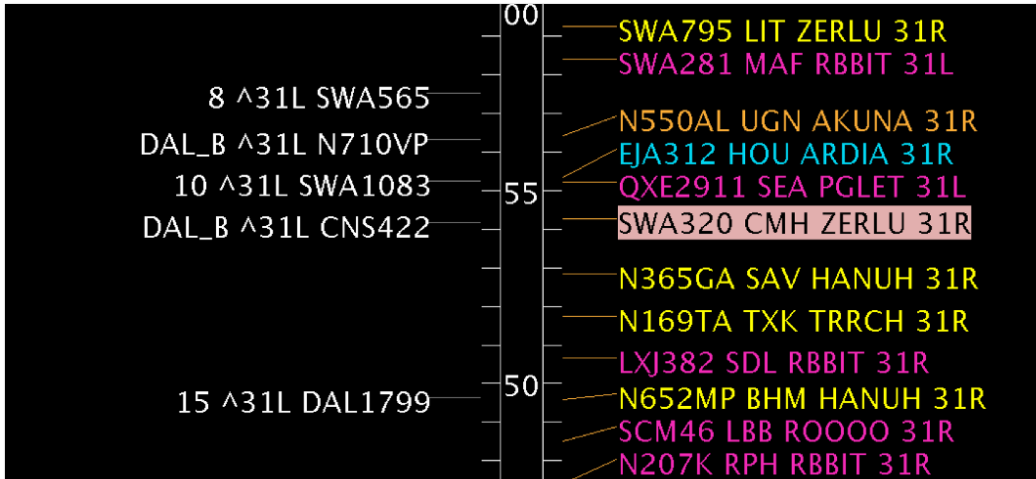


Figure 5.3. Selected flight highlighted on the Timeline (e.g., SWA320).



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	E3 1R	AUS	KDAL RAMBL5. WI...	SOUTH		09/21:09					Potential	Not Submitted
SWA795	E3 1R	LIT	KDAL EMMTT4.BS...	EAST	09/19:52	09/19:59	19:59	DALLIT1N	0		Potential	Not Submitted
SWA320	E3 1R	CMH	KDAL EMMTT4.BS...	EAST	09/19:40	09/19:48	19:48	DALCMH1N	0		Potential	Not Submitted
SWA401	E3 1L	ABQ	KDAL SNSET4.HU...	WEST	09/20:16	09/20:16	20:16	DALABQ1N	0		Potential	Not Submitted
SWA281	E3 1L	MAF	KDAL SNSET4.DO...	WEST	09/19:48	09/19:57	19:57	DALMAF1S	0		Potential	Not Submitted
SWA1014	E3 1R	ELP	KDAL SNSET4.CIK...	WEST	09/19:56	09/20:03	20:03	DALELP1S	0		Potential	Not Submitted
SWA1283	E3 1R	PNS	KDAL EMMTT4.ZA...	EAST	09/19:56	09/20:04	20:04	DALPNS1S	0		Potential	Not Submitted
SWA366	E3 1L	LBB	KDAL SNSET4.BR...	WEST	09/20:05	09/20:15	20:15	DALLBB1N	0		Potential	Not Submitted
SWA1495	E3 1L	DEN	KDAL ESNYE4.RO...	NORTH		09/21:50					Potential	Not Submitted
SWA2076	E3 1L	AMA	KDAL SNSET4.HU...	WEST	09/19:51	09/20:01	20:01	DALAMA1N	0		Potential	Not Submitted
SWA712	E3 1R	BWI	KDAL EMMTT4.LO...	EAST	09/20:25	09/20:33	20:33	DALBWIJ3	0		Potential	Not Submitted
SWA1599	E3 1R	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	NIIX	Scheduled_Out
AAL2235	D	DFW	DEN	6220	A319	A9	36R	LOWGN	NORTH	NIIX	Departed
QXE2356	D	DAL	SEA	UNK	E75L	13	E13R	LOWGN	NORTH	RADDY	Scheduled_Out
FDX1162	D	AFW	DEN	UNK	B752	GA1	E16R	LOWGN	NORTH	NIIX	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
FDX1155	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, filter criteria are displayed on the toolbar next to the icons. When the table is not being filtered and all flights are shown, “All” is displayed (Figure 5.7).

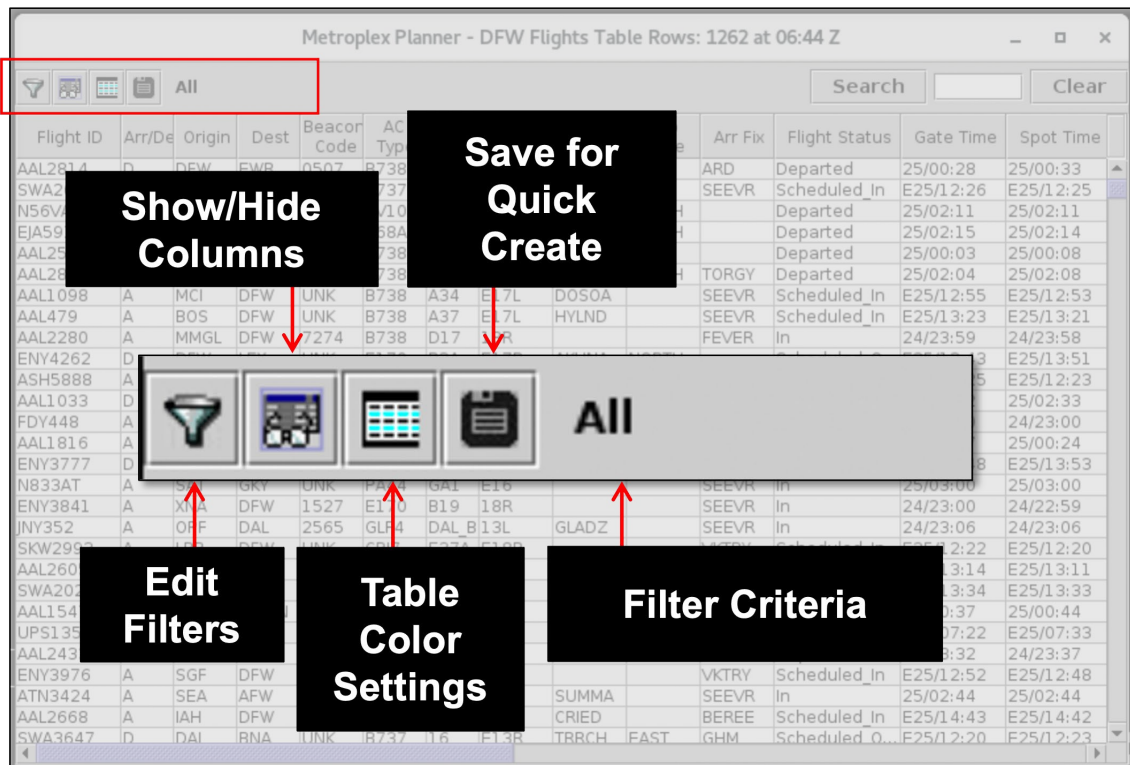


Figure 5.7. Flights Table: Toolbar.

#### 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**

<b>Field</b>	<b>Description</b>	<b>Options</b>
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-letter 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: <ul style="list-style-type: none"> <li>• Actual Departure Fix time, if available.</li> <li>• Or, Estimated Departure Fix Time (from TFMS).</li> </ul>	[mm] Relative [hhmm] Zulu

	<ul style="list-style-type: none"> <li>• Or, Target Departure Fix Time (from ATD-2 Tactical Scheduler)</li> <li>• Or, Estimated “OUT” time (from FlightStats) + 20 min.</li> </ul>	
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: <i>Yes</i> <i>No</i>
Engine Type	Aircraft engine type	Enter or Select: <i>Prop</i> <i>Turbo</i> <i>Jet</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>
Gate	Parking gate	Enter or select from dropdown list.
Gate Time	Predicted or actual gate time for arrivals and departures.	[ <i>mm</i> ] Relative [ <i>hhmm</i> ] Zulu
Has Acknowledged APREQ	APREQ has been acknowledged in the ATD-2 system.	Select: <i>Yes</i> <i>No</i>
Has AIBT	Actual In-Block Time (AIBT)	Select: <i>Yes</i> <i>No</i>
Has ALDT	Actual Landing Time (ALDT)	Select: <i>Yes</i> <i>No</i>



Has AOFF	Actual Off Time (AOFF)	Select: <i>Yes</i> <i>No</i>
Has AOUT	Actual Out Time (AOUT)	Select: <i>Yes</i> <i>No</i>
Has Closed Dep Fix	Assigned Departure Fix is closed.	Select: <i>Yes</i> <i>No</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>
Has Entered AMA	Flight is in the Airport Movement Area: <ul style="list-style-type: none"> <li>• For <b>departures</b>, Flight Status = “Taxiing_AMA” or “In_Queue.”</li> <li>• For <b>arrivals</b>, Flight Status = “On.”</li> </ul>	Select: <i>Yes</i> <i>No</i>
Has Entered Ramp	Flight is in the Ramp Area: <ul style="list-style-type: none"> <li>• For <b>departures</b>, Flight Status = “Pushback” or “Out.”</li> <li>• For <b>arrivals</b>, Flight Status = “In_Ramp.”</li> </ul>	Select: <i>Yes</i> <i>No</i>
Has Gate Conflict	Assigned parking gate has a conflict.	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: <i>Yes</i> <i>No</i>
Is Active	Flight is active.	Select: <i>Yes</i> <i>No</i>
Is Hidden	Flight is hidden.	Select: <i>Yes</i> <i>No</i>
Is Cancelled	Flight Status = “Cancelled”	Select:

		Yes No
Is Suspended	Flight Status = “Suspended”	Select: Yes No
Major Carrier	Major Carrier includes mainline and subsidiaries (fleet).	Enter: <i>3-letter airline code</i>
OPSNET	User input for Operations Network (OPSNET) delay reporting.	Select: Yes No
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: <ul style="list-style-type: none"> <li>• An <b>arrival</b> flight crosses the Spot to enter the Ramp Area.</li> <li>• A <b>departure</b> flight crosses the Spot to enter the AMA.</li> </ul>	[mm] Relative [hhmm] Zulu
SDT-TBFM	Scheduled Departure Time (SDT) as accepted in TBFM by the Center TMC. This is the scheduled wheels-up time.	[mm] Relative [hhmm] Zulu
STA-TBFM	Scheduled Time of Arrival (STA) assigned by TBFM.	[mm] Relative [hhmm] Zulu
Tail	Aircraft tail number.	Select: <i>Is Set</i> <i>Not Set</i>
TIBT	Target In-Block Time (TIBT). Predicted in-block time. <b>TIBT = TLDT + predicted taxi-in time.</b> (Predicted taxi-in time does not consider other flights on the surface.)	[mm] Relative [hhmm] Zulu
TOBT	Target Off-Block Time (TOBT). Advised pushback time for surface-metered departure flights.	[mm] Relative [hhmm] Zulu
TLDT	Target Landing Time (TLDT). Predicted landing time (from the tactical scheduler).	[mm] Relative [hhmm] Zulu
TMAT	Target Movement Area entry Time (TMAT). The time at which a surface-metered departure is expected to enter the AMA.	[mm] Relative [hhmm] Zulu

TTOT	Target Takeoff Time (TTOT). Predicted takeoff time, accounting for: 1. Undelayed taxi time, plus 2. Predicted delay from <b>surface traffic</b> 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 (Figure 5.8).

**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:** Select “*Clear*” (Figure 5.8) to clear entries from the “Values” field—while retaining the “Field” and “Operator” selections.

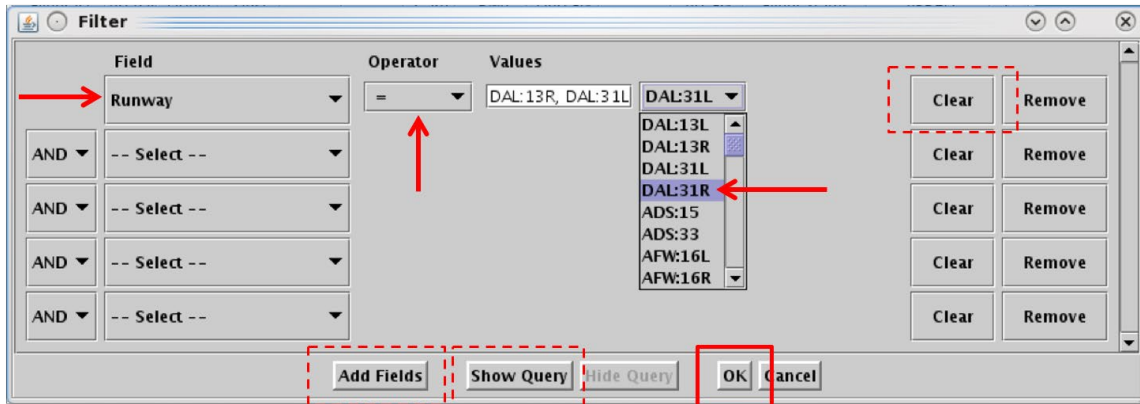


Figure 5.8. Flights Table: Filter.

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	E3 1L	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	MAJKK		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	E3 1L			SEEV	Term_Area_Arr	E09/21:29	E09/21
AS3	A	ICT	DAL	1703	C25C	DAL_B	13L			GREGS	In	09/16:40	09/16
WA493	A	MDW	DAL	1342	B738	20	E3 1L	ACITO		SEEV	Scheduled_In	E09/23:48	E09/23
WA1434	D	DAL	TUL	2332	B737	16	E13R	GRABE	NORTH		Departed	09/16:48	09/16
EJA753	A	COS	DAL	0671	CL35	DAL_B	E3 1L			SEEV	Scheduled_In	E09/23:15	E09/23
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	E3 1R	FGLET	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	E3 1L	BPKEE		SEEV	Enroute_Arr	E09/21:51	E09/21
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	E3 1R				Scheduled_Out	E09/23:07	E09/23
CM24	D	DAL	IWS	UNK	PC12	DAL_B	E3 1R	ARDIA	SOUTH		Scheduled_Out	E09/21:04	E09/21
KAPBT	A	MMA	DAL	1157	H25B	DAL_B	13R			KNEAD	In	09/15:53	09/15
XJ382	D	DAL	SDL	2241	E55P	DAL_B	E3 1R	ROOOO	WEST		Departed	09/20:21	09/20
WA512	D	DAL	AMA	0523	B737	19	E13R	FGLET	WEST		Departed	09/14:47	09/14
WA8657	A	CAE	DAL	0763	B738	2	E3 1L			SEEV	Enroute_Arr	E09/21:53	E09/21

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.

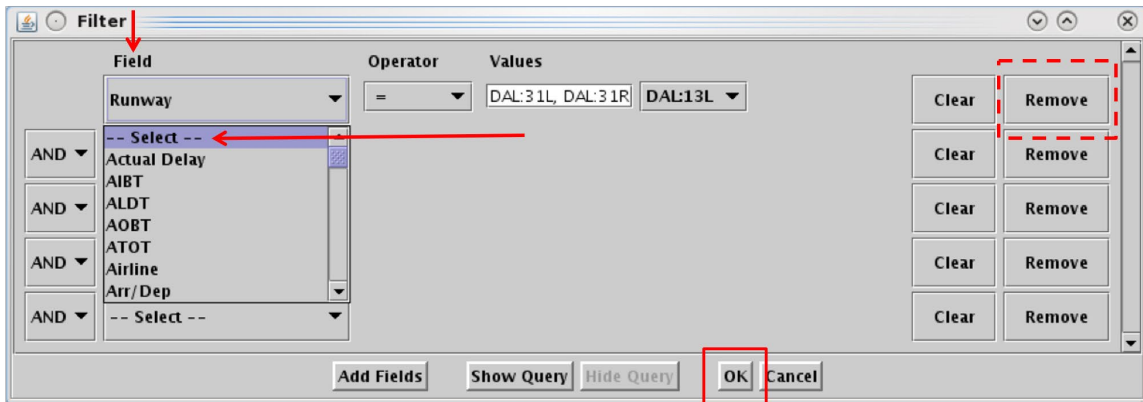


Figure 5.10. Flights Table: Remove filters.

**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	<p>APREQ status:</p> <ul style="list-style-type: none"> <li>• “APRQ” to indicate that the flight needs an APREQ time</li> <li>• “APRQ: REQUESTED” to indicate negotiation is in progress.</li> <li>• “APRQ: REJECTED” to indicate the request time was not accepted. A new time may be negotiated.</li> <li>• “FREE RELEASE” to indicate the flight has a floating release time.</li> </ul>
APREQ Mode	<p>Modes of handling the APREQ requests in TBFM by the Center Traffic Management Coordinator (TMC):</p> <ul style="list-style-type: none"> <li>• UNDETERMINED: Mode has not been set.</li> <li>• MANUAL: Requests from the Tower needs to be made over the phone.</li> <li>• SEMI: Requests are made via IDAC, but still require electronic approval by the Air Route Traffic Control Center (ARTCC) TMC.</li> <li>• AUTO: Requests are made via IDAC and are automatically approved by TBFM.</li> <li>• OFF: TBFM is not being used to schedule APREQ release times. Requests must be made by telephone.</li> </ul>
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	<p>Status of the APREQ negotiation:</p> <ul style="list-style-type: none"> <li>• UNSCHEDULED: The APREQ release time has not been requested yet.</li> <li>• PENDING_SCHEDULE: The APREQ release time has been requested by ATCT but not accepted yet by ARTCC.</li> <li>• SCHEDULED: The APREQ release time as scheduled by the ARTCC and sent to the ATCT.</li> <li>• PENDING_ACCEPT: ATCT start of negotiation for accepting the ARTCC scheduled release time.</li> <li>• ACCEPTED: The APREQ request time has been accepted by ATCT.</li> </ul>

	<ul style="list-style-type: none"> <li>• PENDING_CANCEL: The ATCT has issued a request to cancel APREQ negotiation.</li> <li>• CANCELLED: The APREQ negotiation has been cancelled by the ATCT or ARTCC.</li> </ul>
APREQ PreSchedule	APREQ release time is prescheduled.
Arr/Dep	Displays: <ul style="list-style-type: none"> <li>• “A” for arrival</li> <li>• “D” for departure</li> </ul>
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: <ul style="list-style-type: none"> <li>• Actual Departure Fix time, if available.</li> <li>• Or, Estimated Departure Fix Time (from TFMS).</li> <li>• Or, Target Departure Fix Time (from ATD-2 Tactical Scheduler).</li> <li>• Or, Estimated “OUT” time (from FlightStats) + 20 min.</li> </ul>
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.
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.
ETOT	Estimated Takeoff Time (ETOT). Predicted takeoff time, accounting for: <ol style="list-style-type: none"> <li>1. Undelayed taxi time, plus</li> <li>2. Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>3. Predicted delay from <b>terminal-area restrictions</b> being passed back to the surface.</li> </ol>
Flight ID	Flight number (call sign). For General Aviation (GA) flights, tail number is used.
Flight Status	Flight Status: <ul style="list-style-type: none"> <li>• <b>Scheduled Out:</b> A departure flight that has not yet pushed back from the gate.</li> </ul>

	<ul style="list-style-type: none"> <li>• <b>Pushback:</b> A departure flight that is pushing back.</li> <li>• <b>Out:</b> A departure flight that is taxiing in the Ramp Area.</li> <li>• <b>Taxiing AMA:</b> A departure flight that is taxiing in the Airport Movement Area (AMA).</li> <li>• <b>In Queue:</b> A departure flight inside the queue detection box of the assigned runway.</li> <li>• <b>Departed:</b> A departure flight that is airborne.</li> <li>• <b>Scheduled In:</b> An arrival flight that is not yet being tracked.</li> <li>• <b>Enroute Arr:</b> An arrival flight that is in the enroute airspace.</li> <li>• <b>Term Area Arr:</b> An arrival flight that is inside the terminal airspace.</li> <li>• <b>On Final:</b> An arrival flight that is on final approach.</li> <li>• <b>On:</b> An arrival flight that has landed.</li> <li>• <b>In Ramp:</b> An arrival flight that is taxiing in the Ramp.</li> <li>• <b>In:</b> An arrival flight that is parked at the gate.</li> <li>• <b>Return to Gate:</b> A departure that is returning to the gate, after pushing back.</li> <li>• <b>Suspended:</b> A departure flight that was scheduled to have already departed, but no updates have been received.</li> <li>• <b>Cancelled:</b> A flight that has been cancelled by the airline.</li> <li>• <b>Unknown:</b> A flight with an unknown status.</li> </ul> <p><i>*Not all types are available at all airports.</i></p>
Gate	Parking gate.
Gate Time	<ul style="list-style-type: none"> <li>• For <b>arrivals</b>, the TIBT prior to reaching the gate and the AIBT once the flight arrives at the gate.</li> <li>• For <b>departures</b>, the TOBT prior to pushing back from the gate (<i>where available</i>) and the AOBT after pushback.</li> </ul> <p>Prior to the <i>actual</i> time, the Gate Time is prefixed by an “E” to indicate estimated time.</p>
Gate Conflict	<p>Gate Conflict information:</p> <ul style="list-style-type: none"> <li>• Parking Gate</li> <li>• Start time</li> <li>• Duration in minutes</li> </ul>
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	<p>Long on Board indicator:</p> <ul style="list-style-type: none"> <li>• For <b>departures</b>, the LOB timer starts at pushback and is continuously computed as current time minus the Actual Off-Block Time (AOBT) until the flight takes off.</li> <li>• For <b>arrivals</b>, the LOB timer starts at touchdown and is continuously computed as the current time minus the Actual Landing Time (ALDT) until the flight is in the gate.</li> </ul>
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.
POBT	Proposed Off-Block Time (POBT), the airline’s “p-time.” Used in the “Time to Expiration” calculation in Center TOS Approval Mode.
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	<p><b>Departures:</b></p> <ul style="list-style-type: none"> <li>• <i>Predicted</i>: Estimated Takeoff Time (ETOT)</li> <li>• <i>Actual</i>: Actual Takeoff Time (ATOT)</li> </ul> <p><b>Arrivals:</b></p> <ul style="list-style-type: none"> <li>• <i>Predicted</i>: Estimated Landing Time (TLDT)</li> <li>• <i>Actual</i>: Actual Landing Time (ALDT)</li> </ul>
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	<p>Predicted or actual time:</p> <ul style="list-style-type: none"> <li>• A <b>departure</b> flight crosses the Spot to exit the Ramp Area.</li> <li>• An <b>arrival</b> flight crosses the Spot to enter the Ramp Area.</li> </ul> <p>Prior to the <i>actual</i> time, the Spot Time is prefixed by an “E” to indicate estimated time.</p>
Tail	Aircraft tail number.
Taxi Route	Remaining route for taxiing in the AMA.

Taxi Time	<p>Predicted or actual time spent taxiing on the airport surface, including the Ramp Area:</p> <ul style="list-style-type: none"> <li>• For <b>departures</b>, from pushback to takeoff.</li> <li>• For <b>arrivals</b>, from landing to parking at the gate.</li> </ul> <p>Prior to the <i>actual</i> time, the Taxi Time is prefixed by an “E” to indicate estimated time.</p>
AMA Taxi Duration	<p>Predicted or actual duration of time in the AMA:</p> <ul style="list-style-type: none"> <li>• For <b>departures</b>, from Spot time to takeoff.</li> <li>• For <b>arrivals</b>, from landing to Spot time.</li> </ul>
Time in Queue	<p>Duration of time that a departure flight has spent in the runway queue detection box (in minutes). Timer does not start until the flight is within the runway queue box and taxiing at 15 kts or less.</p> <p><i>*Only available at airports with surface surveillance.</i></p>
TIBT	<p>Target In-Block Time (TIBT). Predicted in-block time.  <b>TIBT = TLDT + predicted taxi-in time.</b>  (Predicted taxi-in time does not consider other flights on the surface.)</p>
TLDT	<p>Target Landing Time (TLDT). Predicted landing time (from the tactical scheduler).</p>
TMAT	<p>Target Movement Area entry Time (TMAT). The time at which a surface-metered departure is expected to enter the AMA.</p>
TOBT	<p>Target Off-Block Time (TOBT). Advised pushback time for surface-metered departure flights.</p>
TTOT	<p>Target Takeoff Time (TTOT). Predicted takeoff time, accounting for:</p> <ol style="list-style-type: none"> <li>1. Undelayed taxi time, plus</li> <li>2. Predicted delay from <b>surface traffic</b> competing for the runway.</li> </ol>
UIBT	<p>Undelayed In-Block Time (UIBT). Predicted in-gate time for a single flight without consideration of other traffic on the surface.  <b>UIBT = ULDT + predicted taxi-in time.</b>  (Predicted taxi time does not consider other flights on the surface.)</p>
ULDT	<p>Undelayed Landing Time (ULDT). Predicted landing time. ULDT is the best available predicted landing time from external systems. This time is the input into the ATD-2 schedulers.</p>
UMAT	<p>Undelayed Movement Area entry Time (UMAT). Predicted spot time for a single aircraft without consideration of other traffic on the surface.</p>
UOBT	<p>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).  = max(EOBT, current time)</p>
UTOT	<p>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</p>

	terminal-area restrictions.
----- Less Common -----	
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. <ul style="list-style-type: none"> <li>• FALSE if the APREQ time was negotiated through IDAC.</li> <li>• TRUE if the APREQ time was manually set by a user or was received through System Wide Information Management (SWIM) apart from IDAC.</li> </ul>
APREQ Source	Data source from which the APREQ release time originates.
ArrFix Source	Data source of the Arrival Fix: <ul style="list-style-type: none"> <li>• SOURCE: The arrival fix was received from an external source based on the flight plan.</li> <li>• 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.</li> <li>• 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.</li> <li>• SURFACE: The arrival fix was detected based on track data.</li> <li>• UNKNOWN: The arrival fix is unknown.</li> </ul>
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: <ul style="list-style-type: none"> <li>• SOURCE: The departure fix was received from an external source based on the flight plan.</li> <li>• DECISION_TREE: ATD-2 system is predicting the departure fix based on the most commonly used departure fix for flights flying between the origin and destination airports.</li> </ul>

	<ul style="list-style-type: none"> <li>• MODEL: Metroplex Planner is predicting the departure fix based on a fix closure and a set of alternate fixes.</li> <li>• SURFACE: The departure fix was detected based on track data.</li> <li>• UNKNOWN: the departure fix is unknown.</li> </ul>
ELDT	Estimated Landing Time (ELDT). Predicted landing time (from the terminal scheduler).
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: <ul style="list-style-type: none"> <li>• AIRLINE: Data comes from the airline.</li> <li>• DECISION_TREE: The default gate assignment from a decision tree.</li> <li>• USER: The gate was assigned by a user.</li> </ul>
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.
LTOT	Airline Takeoff Time (LTOT).
Metering Group	Tactical scheduler group to which the departure flight is assigned based on its EOBT and flight status: <ul style="list-style-type: none"> <li>• 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).</li> <li>• PLANNING: The departure has an EOBT and it is within 4 hours.</li> <li>• READY: Flight put on Gate Hold.</li> <li>• OUT: The departure has started pushback but has not yet begun taxiing.</li> <li>• TAXI: The departure is taxiing in the Ramp area or AMA.</li> <li>• QUEUE: The flight is in the queue.</li> <li>• OFF: The departure has taken off.</li> </ul>

	<ul style="list-style-type: none"> <li>• ARRIVAL: The group for all arrival flights.</li> </ul>
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: <ul style="list-style-type: none"> <li>• TZ: The track data was received from TFMS.</li> <li>• SMA: The track data was received from TMA.</li> <li>• FUSION: The track data was received from ASDE-X or surface surveillance data.</li> </ul>
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: <ul style="list-style-type: none"> <li>• MODEL: The runway is determined by the Metroplex Planner.</li> <li>• DECISION_TREE: Runway is determined by a decision tree.</li> <li>• STARS: The runway is determined by scratch pad entries made in the Standard Terminal Automation Replacement System (STARS).</li> <li>• UNKNOWN: Source of the runway determination is unknown.</li> </ul>
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: <ul style="list-style-type: none"> <li>• SURFACE: The spot is determined by the actual spot the aircraft used based on surface surveillance.</li> <li>• DECISION_TREE: The spot is predicted based on flight's gate and runway.</li> </ul>
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	<p>The delay (in minutes) that the flight is predicted to encounter, <b>at the runway</b>, caused by:</p> <ul style="list-style-type: none"> <li>• Predicted delay from <b>surface traffic</b> competing for the runway.</li> </ul> <p>= Target Takeoff Time (TTOT) – Undelayed Takeoff Time (UTOT).</p>
Undlyd OFF at Queue Entry	Undelayed Takeoff Time (UTOT) at the time at which the flight enters the departure runway queue.
Undlyd OFF at Mvmnt Area Entry	Undelayed Takeoff Time (UTOT) at the time at which the flight enters the Airport Movement Area (AMA).
Undlyd OFF at Pushback	Undelayed Takeoff Time (UTOT) at the time at which the flight pushes back from the gate.

#### To add columns to the Flights Table:

**Step 1:** Select the “Show/Hide Columns” icon (Figure 5.7).

**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.

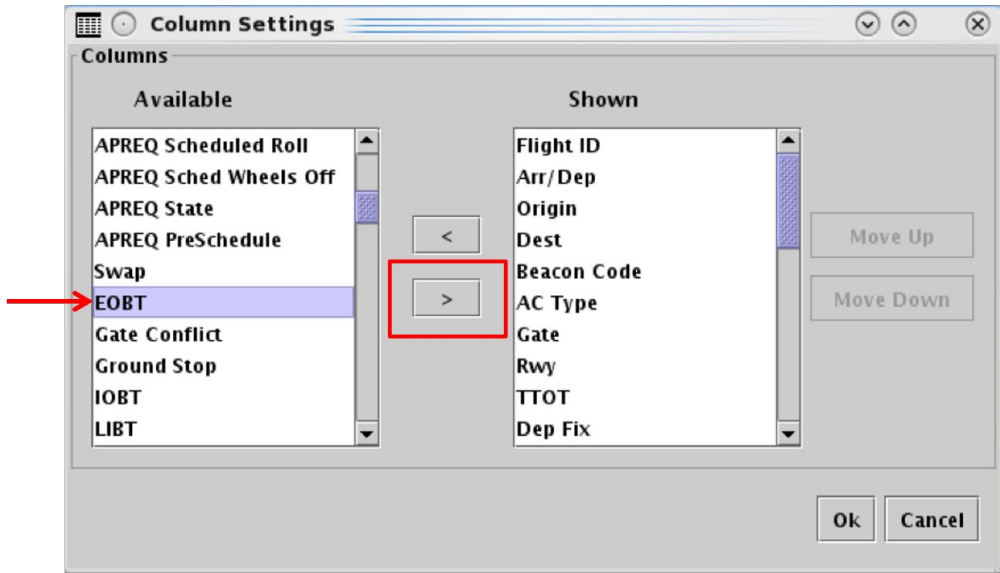


Figure 5.11. Flights Table: Column Settings. Select the right arrow to move a column name to the Shown list.

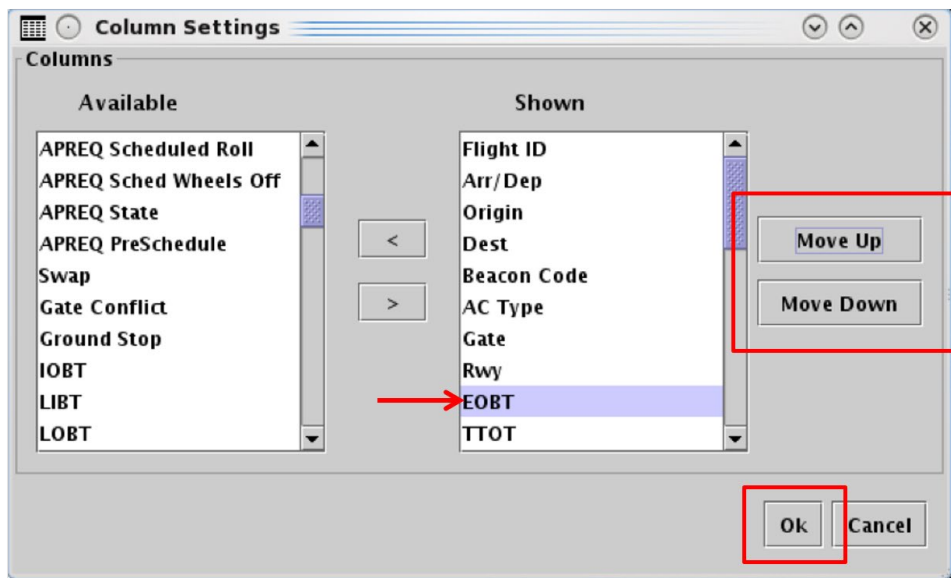


Figure 5.12. Flights Table: Column Settings. Use “Move Up” and “Move Down” to reorder columns.



Metroplex Planner - DAL Flights Table Rows: 1279 at 18:06 Z

Flight ID	Arr/De	Origin	Dest	Beacon Code	AC Type	Gate	Rwy	EOBT	TTOT	Dep Fix	Dep Gate
ATN3410	A	TPA	AFW	3611	B763	GA1	E16R			ENED	
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			DOSO	
AAL2177	A	CLE	DFW	UNK	A319	A20	E17L	06/19:30			
SKW289	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 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).

**Step 2:** Select the “Set Row Colors” tab (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, 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 (Figure 5.15).

**Step 6:** When finished making the color selection, select “OK” (Figure 5.15).

**Note:** A preview of the alternating row colors is shown on the “Set Row Colors” tab (e.g., green/white in Figure 5.16).

**Step 7 (Optional):** Repeat these steps to select a color for the *other* odd/even row. Or, use the default color (white), as shown in Figure 5.16.

**Step 8:** Select “Ok” to close the “Color Settings” window and apply the color changes (Figure 5.16). See an example of alternating row colors in Figure 5.17.

**Alternatively:** Select “Cancel” to close the window without saving the changes.

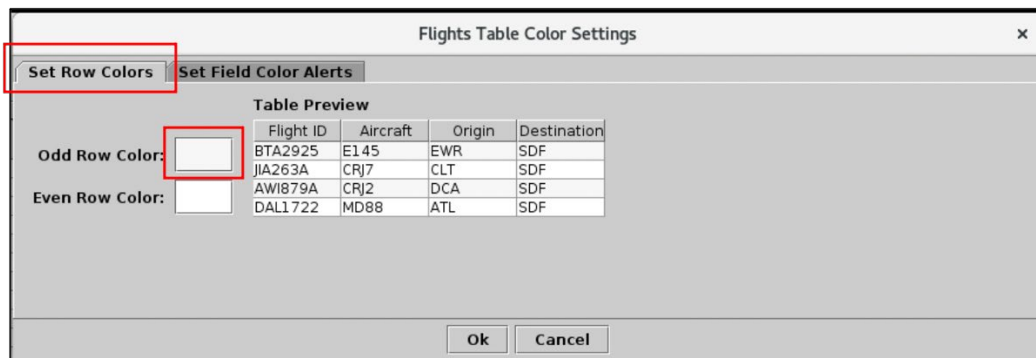


Figure 5.14. Color Settings: Set Row Colors tab.

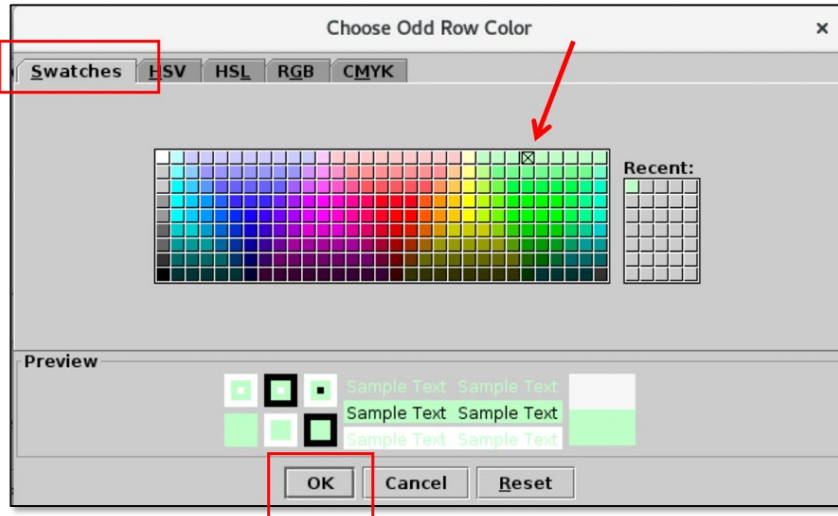


Figure 5.15. Use the “Swatches” tab to select a color. Use the HSV, HSL, RGB, or CMYK color palettes to refine the color selection, if necessary.

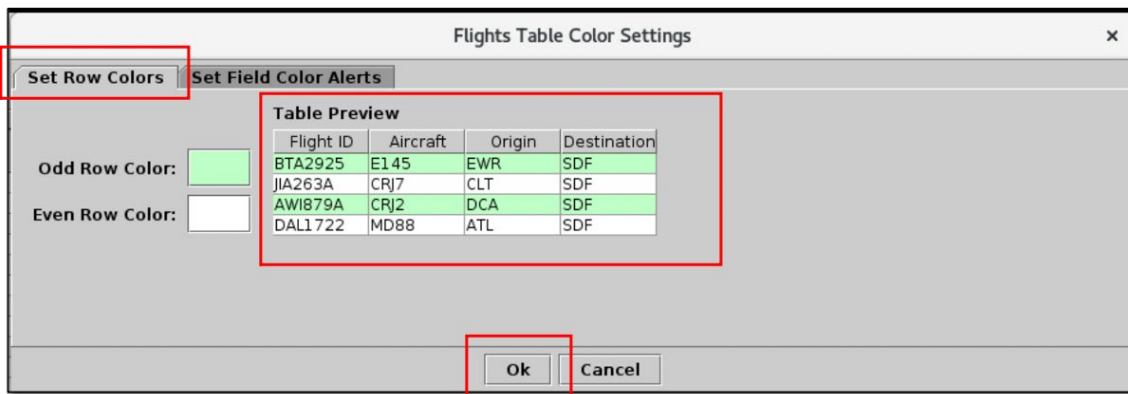


Figure 5.16. Set Row Colors: Alternating row color preview.

Metroplex Planner - DFW Flights Table Rows: 1575 at 04:42 Z

Flight ID	Arr/De	Origin	Dest	Beacor Code	AC Type	Gate	Rwy	Dep Fix	Dep Gate	Arr Fix	Flight Status	APREQ	Gate Time	Spot Time	Rwy Time	EDCT	DepFix Time	ArrFix Ti
N681CA	D	DAL	MOB	2366	B69L	DAL_B	E13L	AKUNA	NORTH		Departed		09/02:07	09/02:06	09/02:07		09/02:21	
LVJ593	A	ELP	DAL	0747	CL35	DAL_B	B13L	TDOWN	JEN		In		08/21:07	08/21:07	08/20:52		08/20:28	
NKS567	A	BWI	DFW	5626	A20N	E31	17C	OTTTO	SEEV		In		09/03:57	09/03:54	09/03:49		09/03:35	
AAL560	A	MHLM	DFW	4721	A319	D18	18R		CQY		In		09/01:33	09/01:32	09/01:30		09/01:10	
AAL466	A	ABQ	DFW	UNK	B738	C27	E18R	MNZNO	VKTRY		Scheduled In		E09/12:49	E09/12:48	E09/12:41		E09/12:31	
AAL2254	D	DFW	LAX	2225	A321	A18	18L	TYGGR	WEST	HLW	Departed		09/04:19	09/04:26	09/04:33		E09/04:04	
SWA581	D	DAL	DEN	UNK	B738	20	E13R	PGET	WEST	NIXX	Scheduled O...		E09/11:15	E09/11:16	E09/11:29		E09/11:35	
ENY3912	D	DFW	GRK	5130	E170	B3A	18L	NELYN	SOUTH		Departed		09/01:59	09/02:07	09/02:15		09/02:24	
CPA3290	A	PANC	DFW	UNK	B748	WC1B	E18R		VKTRY		Scheduled In		E09/10:09	E09/10:08	E09/10:04		E09/09:4	
SKW251F	D	DFW	COS	2244	CRJ7	E6	17R	LOWGN	NORTH		Departed		09/00:48	09/00:52	09/00:58		09/01:12	
AAL646	D	DFW	MIA	6276	B788	D29	17R	THHOR	EAST	SSCOT	Departed		08/22:03	08/22:11	08/22:19		08/22:29	
AAL442	A	TUL	DFW	UNK	A320	B6	E18R		VKTRY		Scheduled In		E09/11:21	E09/11:18	E09/11:13		E09/11:0	
AAL1955	A	SAJ	DFW	7614	A321	C22	17C	IFL	BOOVE		In		08/22:20	08/22:18	08/22:13		08/21:56	
SKW3071	A	BTR	DFW	2515	CRJ7	E34	17C		BEREE		In		09/02:16	09/02:13	09/02:06		09/01:46	
ENY4231	A	MSN	DFW	6555	E170	B24	17L		SEEV		In		08/21:19	08/21:16	08/21:02		08/20:48	
AAL2602	A	CLT	DFW	3111	A321	A13	17C	BOBZY	SEEV		In		09/03:14	09/03:11	09/02:58		09/02:42	
TWY234	D	DAL	PHL	2222	GALX	DAL_B	E13L	ZERLU	EAST	BUNTS	Departed		08/21:09	08/21:09	08/21:09		08/21:15	
AAL1405	A	LAX	DFW	UNK	B738	A36	E17L		SEEV		Scheduled In		E09/11:05	E09/11:03	E09/10:53		E09/10:2	
ENY3805	A	SJT	DFW	UNK	E170	B47	E18R		BOOVE		Scheduled In		E09/12:21	E09/12:17	E09/12:11		E09/11:5	
AAL1761	D	DFW	PIT	3464	A320	A29	17R	TRRCH	EAST	WISKE	Departed		09/00:17	09/00:23	09/00:30		09/00:40	
SWA662	D	DAL	SAT	UNK	B737	2	E13L	JASPA	SOUTH		Scheduled O...		E09/11:00	E09/11:01	E09/11:16		E09/11:17	
XSR226	A	AUS	DAL	2724	GLST	DAL_B	B13L	MUNCH	SEEV		In		09/00:26	09/00:26	09/00:11		08/23:55	
AAL2944	A	BOI	DFW	7671	B738	D37	18R		UKW		In		08/21:04	08/20:46	08/20:43		08/20:28	

Figure 5.17. Flights Table: Alternating row colors.

### 5.1.3.3.2 Set Field Color Alerts

Use the “Set Field Color Alerts” tab 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**

<b>Field</b>	<b>Description</b>	<b>Options</b>
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>

		No
Has Jet Route MIT	Jet Route is subject to a Miles-in-Trail restriction.	Select: Yes No

### 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 “Color Settings” window and apply the color changes (Figure 5.21).

**Note:** *Updated color selections are shown in the Flights Table (Figure 5.22).*

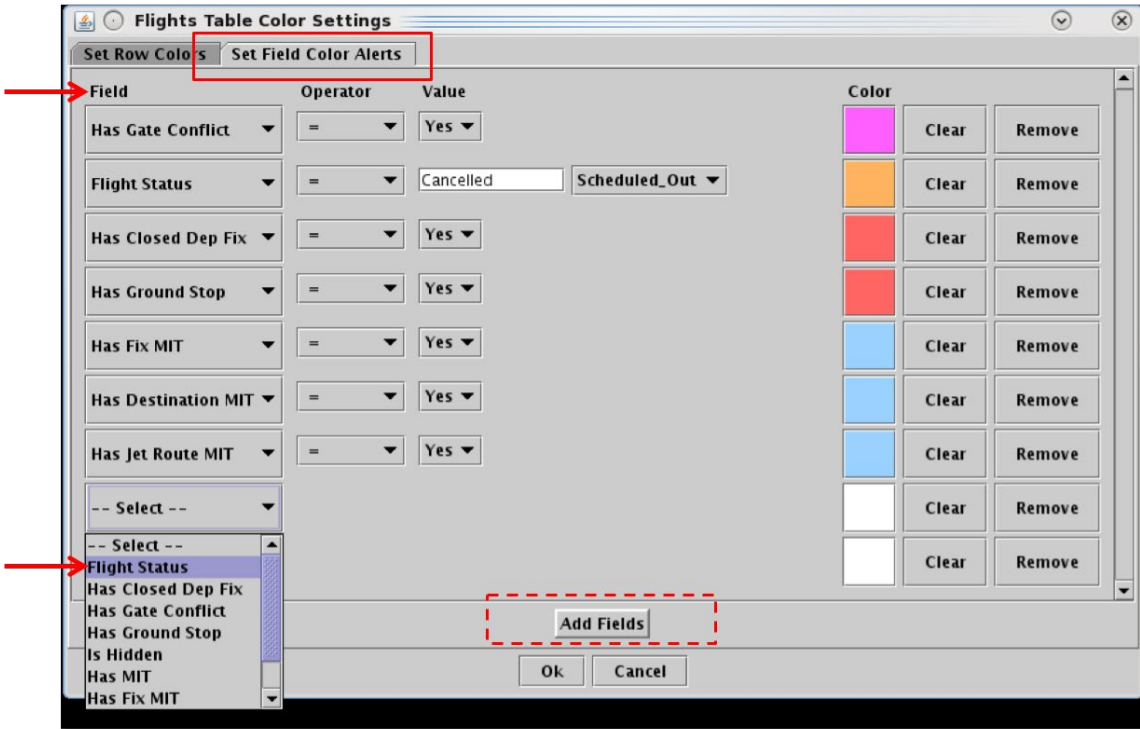


Figure 5.18. Flights Table Color Settings: Set Field Color Alerts tab.

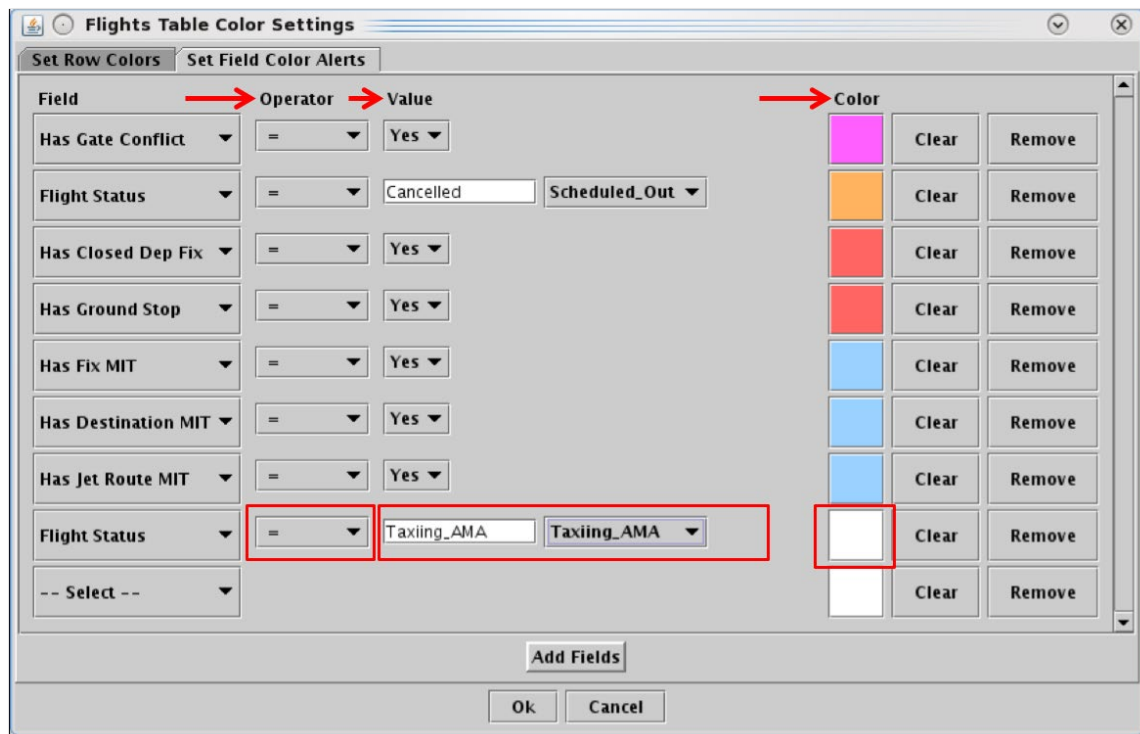


Figure 5.19. Set Field Color Alerts: Select Field, Operator, and Value.

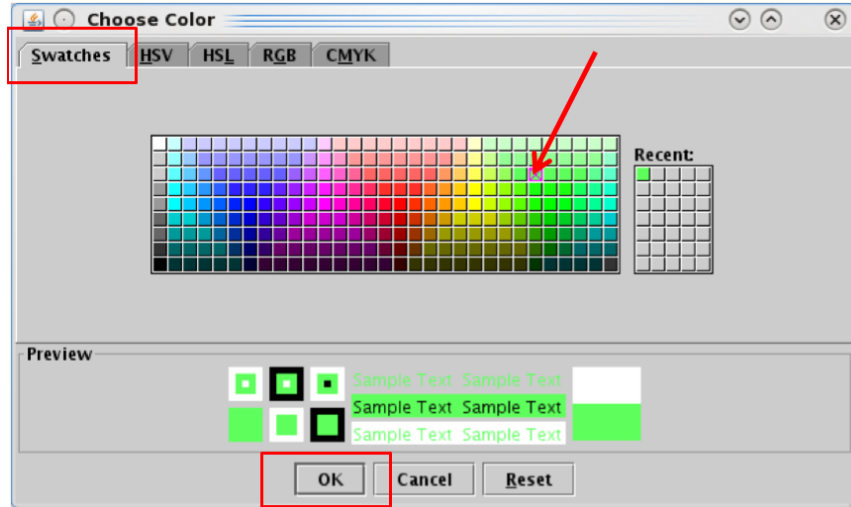


Figure 5.20. Use the “Swatches” tab to select a color. Use the HSV, HSL, RGB, or CMYK color palettes to refine the color selection, if necessary.

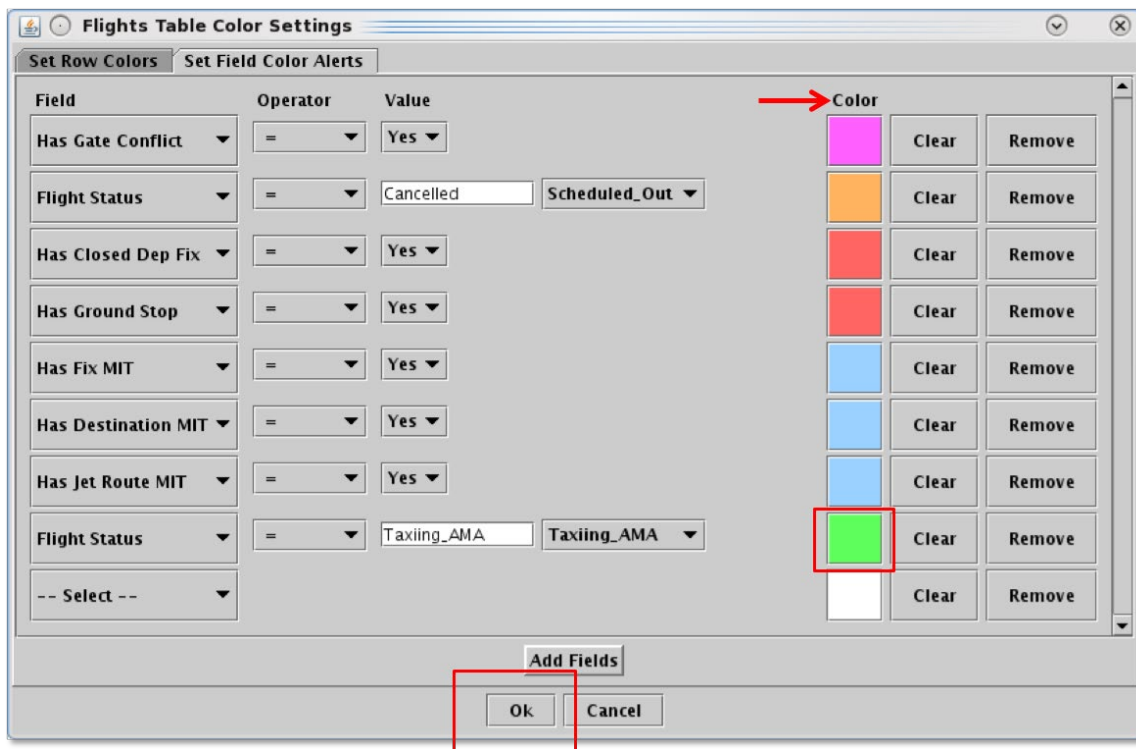


Figure 5.21. Set Field color Alerts: Newly selected color is displayed (in this example, green).



Flight ID	Arr/De	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				SEEVR	Suspended	
N926JS	D	DAL	LAL	UNK	E55P	DAL_B		THHOR	EAST		Suspended	
ENY3627	D	DFW	SDF	3623	E135	B31	E17R	ZERLU	EAST	CHERI	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	EWR	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
N237BB	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			SEEVR	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			SEEVR	Term_Area_Arr	E13/18:00
N537LB	A	EDC	RBD	UNK	SR22	GA1	E13			SEEVR	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” in Figure 5.23).

**Step 3:** Select “Save” (Figure 5.23).

**Step 4:** At the confirmation prompt, select “OK” (Figure 5.23).

**Note:** To open a previously saved configuration, on the Toolbar select “Create”, “Create Table”, “Flights Table”, and the table name (e.g., “Tower” in Figure 5.24).

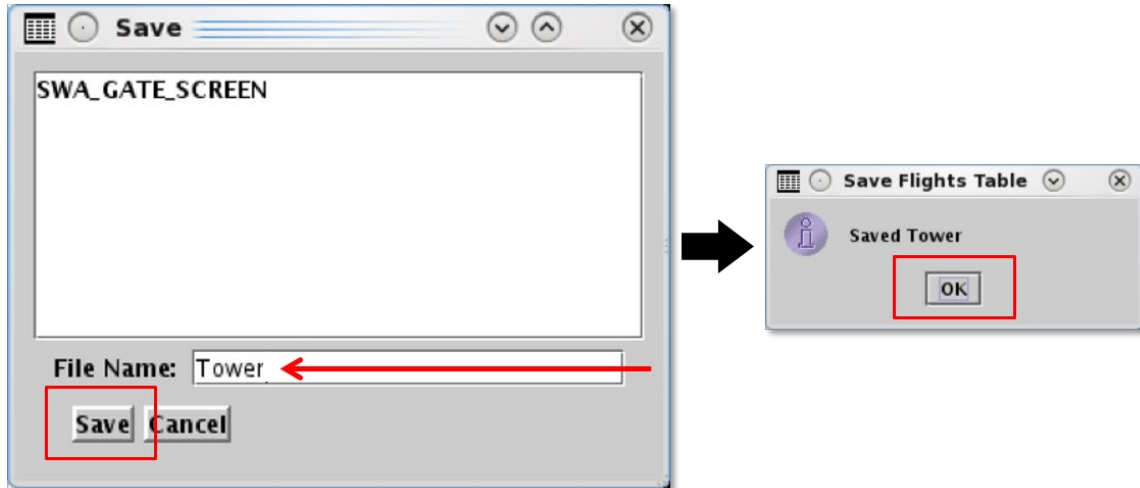


Figure 5.23. Flights Table: Save for Quick Create.

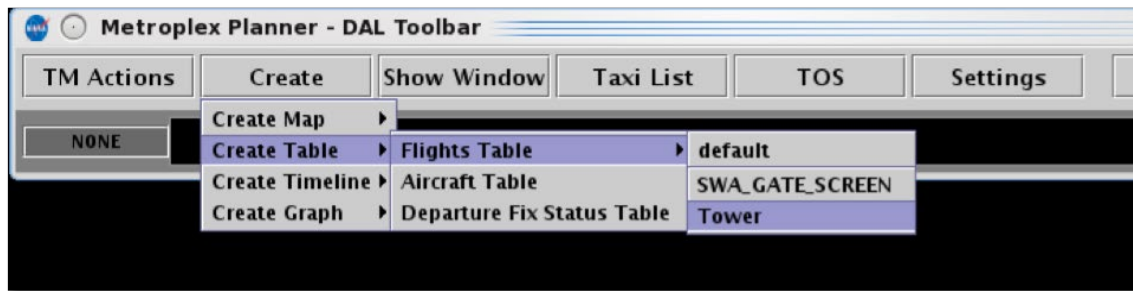


Figure 5.24. Create a Flights Table using a previously saved configuration (in this example, “Tower”).



## 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
<b>Departure and Arrival Flights</b>	
Flight number	1456
Air Carrier	AAL
Call Sign	AAL1456
Tail Number	N123AB
“GA” for General Aviation flights	GA
<b>Departure Flights</b>	
3-letter Destination Airport	BOS
Departure Fix <i>*Procedure Names cannot be used for Search.</i>	TRRCH
Departure Gate	EAST
<b>Arrival Flights</b>	
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.

Metroplex Planner - DAL Flights Table Rows: 1504 at 20:38 Z

Search NORTH Clear

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	TYGGR	WEST	SPANE	Scheduled_Out	E10/00:05
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	RO000	WEST		Departed	10/15:06
AAL2779	D	DFW	SNA	UNK	B738	A36	E36R	RO000	WEST		Scheduled_Out	E10/23:45
AAL2659	D	DFW	SNA	UNK	B738	A28	E36R	RO000	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	RO000	WEST		Departed	10/15:36
N921MT	D	DAL	SNA	2267	GLEX	DAL_B	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	E24B	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_B	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	RO000	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	RO000	WEST	SAALR	Scheduled_Out	E10/23:40
N122EP	A	3E3	TKI	UNK	SR22	GA1	E18			YEAGR	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 7.

## 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.

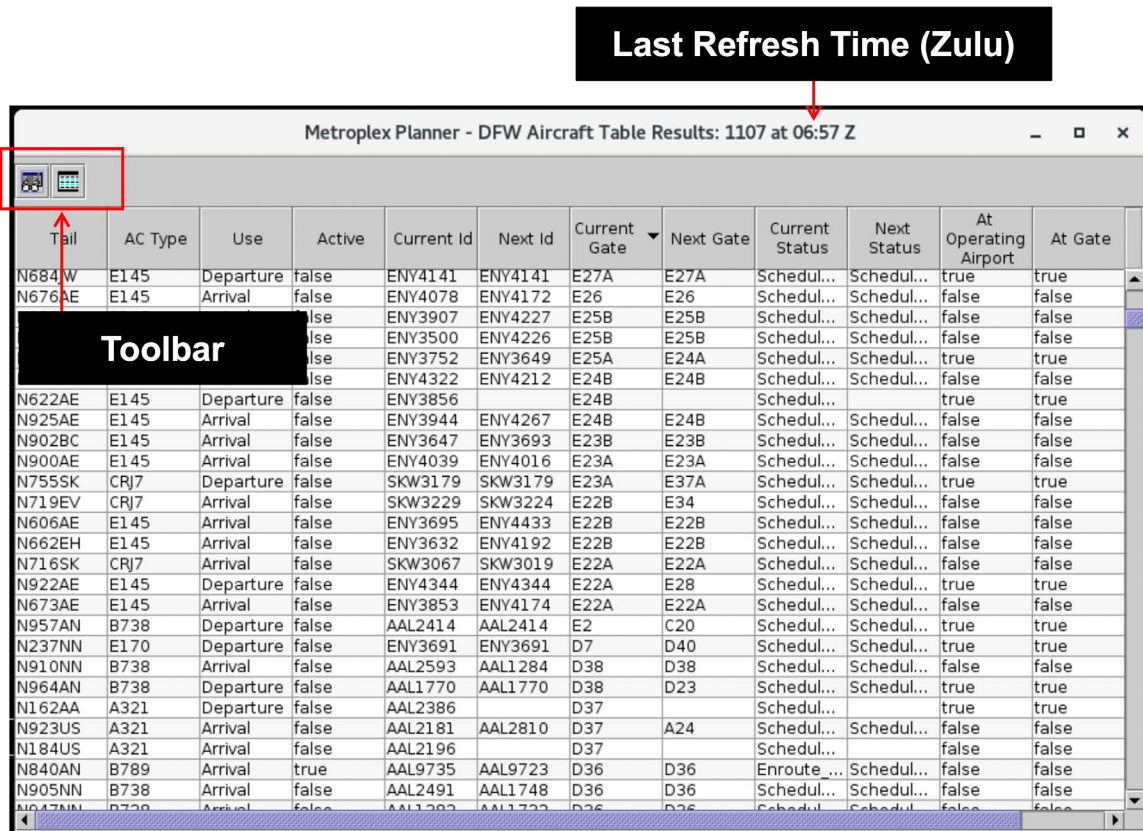


Figure 5.26. Aircraft Table.

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 is 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)

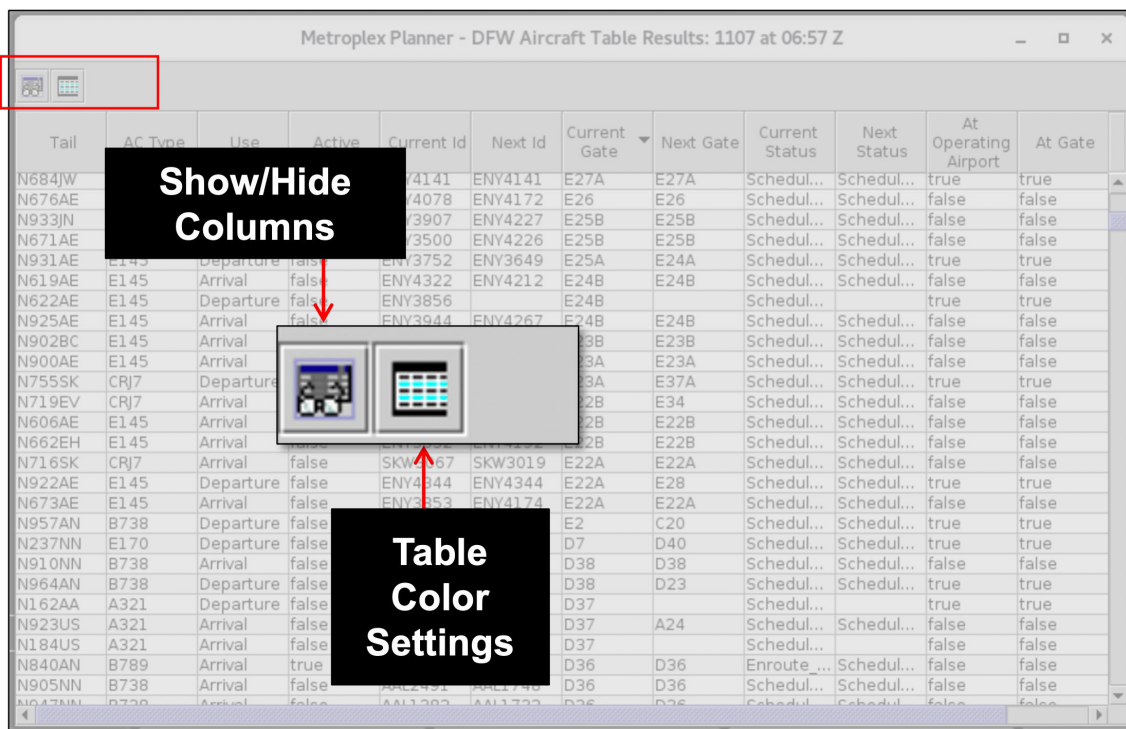


Figure 5.27. Aircraft Table: Toolbar.

### 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**

<b>Column Header</b>	<b>Description</b>	
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	<ul style="list-style-type: none"> <li>• Scheduled</li> <li>• Pushback</li> <li>• Ramp_Txi</li> <li>• Taxi_Out</li> <li>• In_Queue</li> <li>• Off</li> <li>• En_Route</li> <li>• Terminal_Airspace</li> <li>• On_Final</li> <li>• Taxi_In</li> <li>• In_Gate</li> <li>• Suspended</li> </ul>	
At Operating Airport	“True” if current flight status is: <ul style="list-style-type: none"> <li>• Scheduled_Out</li> <li>• Pushback</li> <li>• Taxiing_AMA</li> <li>• In_Queue</li> <li>• On</li> <li>• Out</li> <li>• Taxi_In</li> <li>• In</li> <li>• In_Ramp</li> <li>• Return to Gate</li> </ul>	“False” if current flight status is: <ul style="list-style-type: none"> <li>• Departed</li> <li>• Enroute_Arr</li> <li>• On_Final</li> <li>• Scheduled_In</li> <li>• Suspended</li> <li>• Term_Area_Arr</li> <li>• Cancelled</li> <li>• Unknown</li> </ul>
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: <ul style="list-style-type: none"> <li>• Arrival</li> <li>• Departure</li> <li>• None</li> </ul>	
Active	“True” if flight is Active: <p><i>Active Arrivals:</i></p> <ul style="list-style-type: none"> <li>• Enroute_Arr</li> <li>• Term_Area_Arr</li> <li>• On_Final</li> <li>• Taxi_In</li> <li>• In_Ramp</li> </ul> <p><i>Active Departures:</i></p> <ul style="list-style-type: none"> <li>• Pushback</li> <li>• Out</li> <li>• Taxiing_AMA</li> <li>• In_Queue</li> <li>• Departed</li> <li>• Return to Gate</li> </ul>	“False” if flight is Inactive: <ul style="list-style-type: none"> <li>• Scheduled_Out</li> <li>• Scheduled_In</li> <li>• In</li> <li>• Suspended</li> <li>• Cancelled</li> <li>• Unknown</li> </ul>
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: <ul style="list-style-type: none"> <li>• <b>Scheduled Out:</b> A departure flight that has not yet pushed back from the gate.</li> <li>• <b>Pushback:</b> A departure flight that is pushing back.</li> <li>• <b>Out:</b> A departure flight that is taxiing in the Ramp Area.</li> <li>• <b>Taxiing AMA:</b> A departure flight that is taxiing in the Airport Movement Area (AMA).</li> <li>• <b>In Queue:</b> A departure flight inside the queue detection box of the assigned runway.</li> <li>• <b>Departed:</b> A departure flight that is airborne.</li> <li>• <b>Scheduled In:</b> An arrival flight that is not yet being tracked.</li> <li>• <b>Enroute Arr:</b> An arrival flight that is in the enroute airspace.</li> <li>• <b>Term Area Arr:</b> An arrival flight that is inside the terminal airspace.</li> <li>• <b>On Final:</b> An arrival flight that is on final approach.</li> <li>• <b>On:</b> An arrival flight that has landed.</li> <li>• <b>In Ramp:</b> An arrival flight that is taxiing in the Ramp.</li> <li>• <b>In:</b> An arrival flight that is parked at the gate.</li> <li>• <b>Return to Gate:</b> A departure that is returning to the gate, after pushing back.</li> </ul>	

	<ul style="list-style-type: none"> <li>• <b>Suspended:</b> A departure flight that was scheduled to have already departed, but no updates have been received.</li> <li>• <b>Cancelled:</b> A flight that has been cancelled by the airline.</li> <li>• <b>Unknown:</b> A flight with an unknown status.</li> </ul> <p><i>*Not all types are available at all airports.</i></p>
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 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).

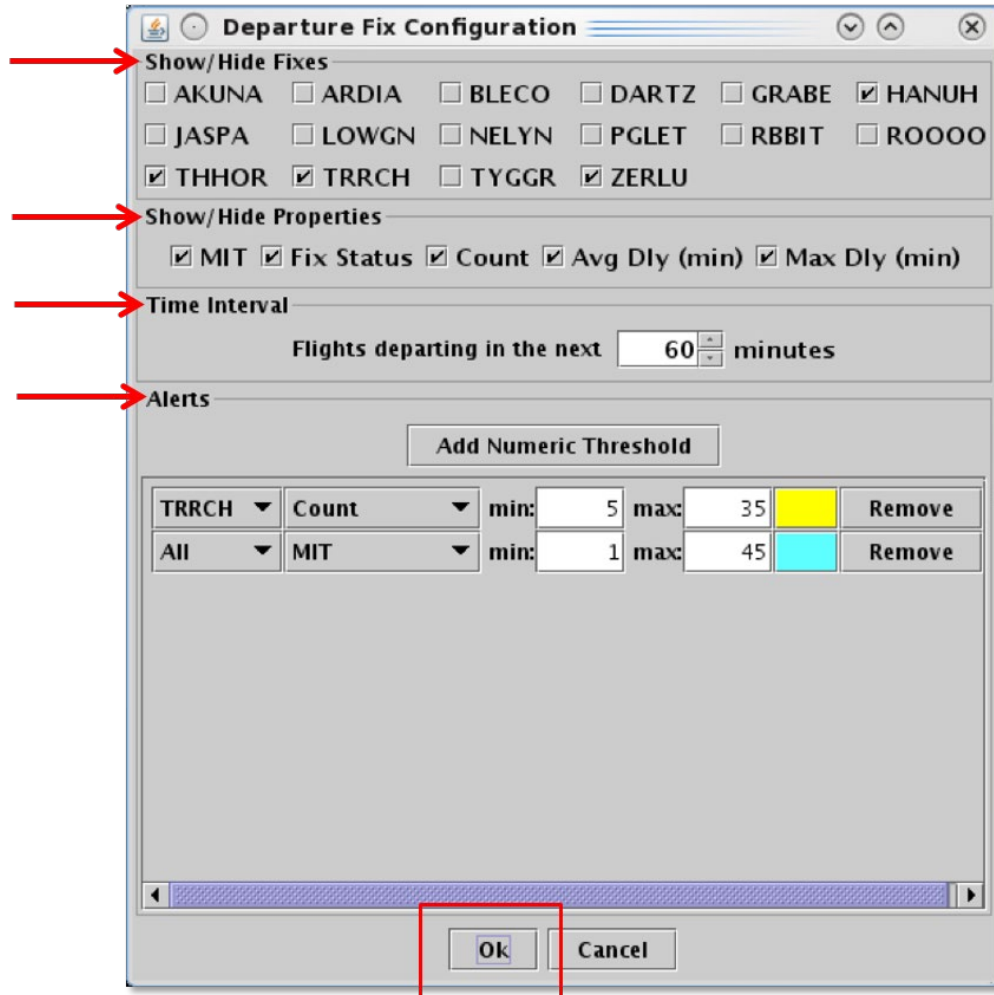


Figure 5.29. Departure Fix Status table: Configuration Window.

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 TOS Departure Table

A TOS Departure Table displays information about a flight's current filed route, its "top" TOS route, and the flight's status to facilitate coordination between the Flight Operator and ATC. Multiple TOS tables can be displayed in the TOS Operations window.

To open the TOS Operations window:

**Step 1:** On the Toolbar, select "TOS" (Figure 5.31) .

**Note:** In Figure 5.32, four TOS Departure tables are open. Each table is sorted, filtered, and color-coded independently of the others.

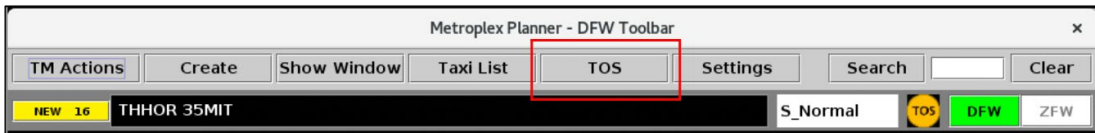


Figure 5.31. Toolbar: Open the TOS Departure Table.

The image shows the 'Metroplex Planner - DFW TOS Operations' window. The title bar indicates the time is 17:12 Z. A red box highlights the '17:12 Z' text. A red arrow points to the 'Search' button in the top right corner. The window contains four stacked TOS Departure Tables, each with a different filter and color-coded header:

- Table 1:** Filter: 'Candidate, Potential AND Coord State = Not Submitted'. It lists flights from AAL to AAL with various routes and statuses.
- Table 2:** Filter: 'Potential, Candidate AND Coord State = FO Submitted'. It lists flights from AAL to AAL.
- Table 3:** Filter: 'Potential, Candidate AND Coord State = ATC Approved'. It lists flights from AAL to AAL.
- Table 4:** Filter: 'Excluded'. It lists flights from ENY to AAL.

Annotations include 'Last Refresh Time' and 'Search' with arrows pointing to the respective elements in the window.

Figure 5.32. TOS Operations window. In this example, four TOS Departure Tables are open.

## 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”, “Excluded”, or “Expired” has been identified for the flight.
- For flights still at the gate, current time is not more than x minutes (varies by airport) greater than the flight’s EOBT (applies only to “Not Submitted” flights).

When the above 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.”

Flights not meeting these criteria are filtered out of the TOS Departure Table.

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:

**Step 1:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**Step 2:** At the bottom of the TOS Operations window, select “Add Table” (Figure 5.33):

- Select the “default” table configuration, or
- Select a configuration previously saved using the “Save for Quick Create” function (e.g., “DFW\_Tower” in Figure 5.34).

**Note:** See Section 5.4.6.4 for a description of “Save for Quick Create.”

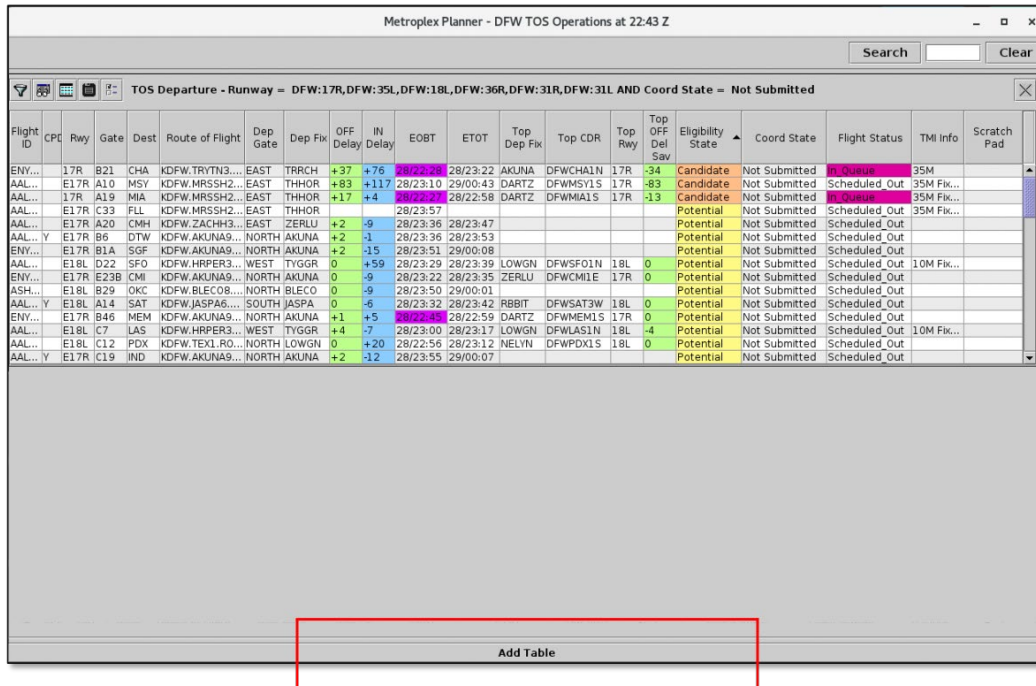


Figure 5.33. Select “Add Table” to add a new TOS Departure Table.

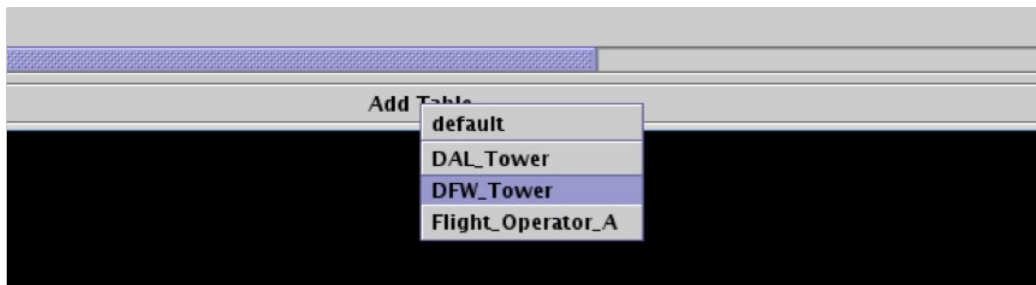


Figure 5.34. Add Table: Choose the “default” configuration or a previously saved configuration.

### To close a TOS Departure Table:

**Step 1:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**Step 2:** Select the “X” in the upper right corner of the table to be closed (Figure 5.35).

**Note:** If the “X” is outside of the visible window, use the horizontal scroll bar to scroll to the right until the “X” is visible (note red arrow in Figure 5.35).



Metroplex Planner - DFW TOS Operations at 17:19 Z

Search  Clear

Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R,DFW:31R,DFW:31L AND Eligibility State = Candidate,Potential AND Coord State = Not Submitted

Route of Flight	Dep Gate	Dep Fix	OFF Delay	IN Delay	EOBT	ETOT	Top ETOT	Top Dep Gate	Top Dep Fix	Top CDR	Top Rwy	Top OFF Del Sav	Top OFF Delay	Top IN Del Sav	Top IN Delay	Top Del Sav	Top Agg DFW Del Sav	Eligibility State	Coord State	Flight Status	TMI Info	Scratch Pad
V.TRYN3.LOOSE...	EAST	TRRCH	+70	+60	06/17:44	06/19:09	18:03	NORTH	AKUNA	DFWRDUJN	17R	-66	+4	+5	-55	-96.8	Candidate	Not Submitted	Scheduled Out	15M Fix...		
V.MRSSH2.MRSS...	EAST	THHOR	+98	+81	06/18:05	06/19:54	18:17	SOUTH	DARTZ	DFWSHVL5	17R	-97	+1	+14	-66	-103.5	Candidate	Not Submitted	Scheduled Out	15M Fix...		
V.ZACH3.BSKA...	EAST	ZERLU	+29	+21	06/17:25	06/18:06	17:37	NORTH	AKUNA	DFWCVGLN	17R	-29	0	-2	-23	-130.6	Candidate	Not Submitted	Scheduled Out	15M Fix...		
V.MRSSH2.ZALE...	EAST	THHOR	+104	+98	06/18:07	06/20:01	18:17	SOUTH	DARTZ	DFWMSYL5	17R	-103	0	+2	-96	-6.9	Candidate	Not Submitted	Scheduled Out	15M Fix...		
V.MRSSH2.ZALE...	EAST	THHOR	+79	+71	06/17:47	06/19:26	18:07	SOUTH	DARTZ	DFWPNS15	17R	-79	0	+5	-66	-104.2	Candidate	Not Submitted	Scheduled Out	15M Fix...		
V.ZACH3.BSKA...	EAST	ZERLU	+36	+13	06/17:33	06/19:20	17:47	NORTH	AKUNA	DFWRO5J3	17R	-32	+4	-15	-29	-108.9	Candidate	Not Submitted	Scheduled Out	15M Fix...		
V.FORCK2.FORCK...	EAST	HANUH	+38	+74	06/17:41	06/18:28	17:54	NORTH	AKUNA	DFWCLTLN	17R	-33	+5	+50	-24	-96.8	Candidate	Not Submitted	Scheduled Out	15M Fix...		
V.ZACH3.BSKA...	EAST	ZERLU	+82	+64	06/17:48	06/19:30	18:07	NORTH	AKUNA	DFWPHJ3	17R	-82	0	-15	-79	-104.2	Candidate	Not Submitted	Scheduled Out	15M Fix...		
V.TRYN3.LOOSE...	EAST	TRRCH	+84	+96	06/18:05	06/19:33	18:11	NORTH	AKUNA	DFWLGJ3	17R	-83	+2	+20	-76	-103.5	Candidate	Not Submitted	Scheduled Out	15M Fix...		
V.FORCK2.FORCK...	EAST	HANUH	+53	+45	06/17:38	06/18:45	18:00	NORTH	AKUNA	DFWATL1N	17R	-45	+8	+17	-29	-96.8	Candidate	Not Submitted	Scheduled Out	15M Fix...		
V.MRSSH2.ZALE...	EAST	THHOR	+44	+142	06/17:39	06/19:34	17:58	SOUTH	DARTZ	DFWVPS15	17R	-37	+7	+119	-23	-96.8	Candidate	Not Submitted	Scheduled Out	15M Fix...		

Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R,DFW:31R,DFW:31L AND Eligibility State = Potential,Candidate AND Coord State = FO Submitted

Dest	Route of Flight	Dep Gate	Dep Fix	ETOT	Top ETOT	Top Dep Gate	Top Dep Fix	Top CDR	Top Rwy	Top OFF Del Sav	Top IN Del Sav	Top Add nm	Top Prob Del Sav > RTC	Top Agg DFW Del Sav	Eligibility State	Coord State	Flight Status	TMI Info	Scratch Pad
MIA	KDFW...	EAST	THHOR	06/19:40	18:11	SOUTH	DARTZ	DFWMA15	17R	-89	-84	+42	100.0%	-103.3	Candidate	FO Submitted	Scheduled Out	15M	
BNA	KDFW...	EAST	TRRCH	06/19:55	18:01	NORTH	AKUNA	DFWBNA1N	17R	-84	-43	+84	94.1%	-96.8	Candidate	FO Submitted	Scheduled Out	15M FixCl...	

Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R,DFW:31R,DFW:31L AND Eligibility State = Potential,Candidate AND Coord State = ATC Approved

Route of Flight	Dep Gate	Dep Fix	EOBT	ETOT	Top OFF Del Sav	Top IN Del Sav	Top Add nm	Top Prob Del Sav > RTC	Top ETOT	Top Rwy	Eligibility State	Coord State	Flight Status	TMI Info	Scratch Pad
DFW.AKUNA9.MLC.EOS.MZV.KMLU...	NORTH	AKUNA	06/17:49	06/17:58							Excluded	ATC Excluded	Scheduled Out		
DFW.AKUNA9.MLC.RZC.FAM.PXV...	NORTH	AKUNA	06/17:18	06/17:30							Excluded	ATC Excluded	Scheduled Out		
DFW.AKUNA9.MLC.SGF.KPA/O131	NORTH	AKUNA	06/18:05	06/18:15							Excluded	ATC Excluded	Scheduled Out		
DFW.HUDAD2.HUDAD.PNH.ALS.K...	WEST	POLET	06/17:24	06/17:44							Excluded	ATC Excluded	Scheduled Out		
DFW.HUDAD2.HUDAD.PNH.HBLU...	WEST	POLET	06/17:17	06/17:25							Excluded	ATC Excluded	Pushback		
DFW.LOWGN8.ROLLS.TXC.AVV5...	NORTH	LOWGN	06/17:35	06/17:59							Excluded	ATC Excluded	Scheduled Out		

Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R,DFW:31R,DFW:31L AND Eligibility State = Excluded

Route of Flight	Dep Gate	Dep Fix	EOBT	ETOT	Top Dep Gate	Top Dep Fix	Top CDR	Eligibility State	Coord State	Flight Status	TMI Info	Scratch Pad
DFW.AKUNA9.MLC.EOS.MZV.KMLU...	NORTH	AKUNA	06/17:49	06/17:58				Excluded	ATC Excluded	Scheduled Out		
DFW.AKUNA9.MLC.RZC.FAM.PXV...	NORTH	AKUNA	06/17:18	06/17:30				Excluded	ATC Excluded	Scheduled Out		
DFW.AKUNA9.MLC.SGF.KPA/O131	NORTH	AKUNA	06/18:05	06/18:15				Excluded	ATC Excluded	Scheduled Out		
DFW.HUDAD2.HUDAD.PNH.ALS.K...	WEST	POLET	06/17:24	06/17:44				Excluded	ATC Excluded	Scheduled Out		
DFW.HUDAD2.HUDAD.PNH.HBLU...	WEST	POLET	06/17:17	06/17:25				Excluded	ATC Excluded	Pushback		
DFW.LOWGN8.ROLLS.TXC.AVV5...	NORTH	LOWGN	06/17:35	06/17:59				Excluded	ATC Excluded	Scheduled Out		

Add Table

Figure 5.35. TOS Departure Table: Select the “X” in the upper right corner 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:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**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:** If the selected flight appears in more than one TOS table, each instance of that flight is highlighted (in Figure 5.36, the selected flight appears in two different tables—both instances are highlighted in cyan).

**Note:** When a flight is selected in a TOS Departure table, it is highlighted throughout the Metroplex Planner user interface in the:

- Timeline
- Map
- Flights Table

**Alternatively:** Click the same row again to deselect the flight.

Metroplex Planner - DFW TOS Operations at 18:13 Z

TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R,DFW:31R,DFW:31L AND Eligibility State = Candidate,Potential

Flight ID	CPC	Rwy	Dest	Route of Flight	Dep Gate	Dep Fix	OFF Delay	IN Delay	EObt	Top Dep Fix	Top CDR	Top OFF Del Sav	Top IN Del Sav	Top Agg DFW Del Sav	Eligibility State	Coord State	Flight Status	TMI Info	Scratch Pad
ASH...	E17R	MOB	KDFW.MRSSH2.ZAL...	EAST	THHOR	+62	+49	06/18:33	DARTZ	DFWMOB1S	17R	-61	-48	-90.5	Candidate	Not Submitted	Scheduled_Out	15M	
AAL... Y	E17R	MA	KDFW.MRSSH2.ZAL...	EAST	THHOR	+50	+46	06/17:58	DARTZ	DFWMA1S	17R	-50	-45	-94.1	Candidate	FO Submitted	Pushback	15M	
AAL...	E17R	RSW	KDFW.MRSSH2.ZAL...	EAST	THHOR	+72	+84	06/18:45	DARTZ	DFWRSW1S	17R	-70	-70	-85.3	Candidate	Not Submitted	Scheduled_Out	15M	
SK...	E17R	HSV	KDFW.FORCK2.FOR...	EAST	HANUH	+59	+33	06/18:15	AKUNA	DFWHSV1N	17R	-58	-42	-97.4	Candidate	Not Submitted	Pushback	15M Fik...	
AAL...	E17R	LGA	KDFW.TRYTN3.LOO...	EAST	TRRCH	+55	+85	06/18:18	AKUNA	DFWLGAI3	17R	-53	-46	-97.5	Candidate	Not Submitted	Scheduled_Out	15M Fik...	
AAL...	E17R	CLT	KDFW.FORCK2.FOR...	EAST	HANUH	+62	+54	06/18:22	AKUNA	DFWCLT1N	17R	-61	-52	-97.4	Candidate	Not Submitted	Scheduled_Out	15M Fik...	
AAL...	18L	LAS	KDFW.HRPER3.HUL...	WEST	TYGGR	+2	-5	06/17:59	LOWGN	DFWLAS1N	18L	0	+11	0.0	Potential	Not Submitted	In_Queue		
ASH...	E17R	DAY	KDFW.ZACHH3.BSK...	EAST	ZERLU	+88	+78	06/19:25							Potential	Not Submitted	Scheduled_Out	15M Fik...	
AAL...	E17R	BHM	KDFW.FORCK2.FOR...	EAST	HANUH	+35	+11	06/18:15	AKUNA	DFWBHMLN	17R	-35	-14	-96.3	Potential	Not Submitted	Scheduled_Out	15M Fik...	
ASH...	E17R	HOU	KDFW.ARDIA7.ELLV...	SOUTH	ARDIA	+5	+26	06/17:32	RBBIT	DFWHOU3W	18L	-4	+30	+10.0	Potential	Not Submitted	Pushback		
AAL... Y	E17R	ROU	KDFW.TRYTN3.LOO...	EAST	TRRCH	+11	+18	06/18:02	AKUNA	DFWRDU1N	17R	-11	0	-103.7	Potential	Not Submitted	Taxing_AMA	15M Fik...	

TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R,DFW:31R,DFW:31L AND Eligibility State = Potential,Candidate AND Coord State = FO Submitted

Flight ID	CPDLC	Rwy	Dest	Route of Flight	Dep Gate	Dep Fix	ETOT	Top Dep Fix	Top CDR	Top OFF Del Sav	Eligibility State	Coord State	Flight Status	TMI Info	Scratch Pad
ASH...	E17R	BHM	KDFW.FORC...	EAST	HANUH	06/18:48	AKUNA	DFWBHMLN	-25		Potential	FO Submitted	Pushback	15M FikCl...	
AAL... Y	E17R	MA	KDFW.MRSS...	EAST	THHOR	06/19:16	DARTZ	DFWMA1S	-50		Candidate	FO Submitted	Pushback	15M	

TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R,DFW:31R,DFW:31L AND Eligibility State = Excluded

Flight ID	CPC	Rwy	Dest	Route of Flight	Dep Gate	Dep Fix	EObt	Top Dep Fix	Top CDR	Eligibility State	Coord State	Flight Status	TMI Info	Scratch Pad
AAL...	E17R	MSN	KDFW.AKUNA9.MLC...	NORTH	AKUNA	06/19:25				Excluded	ATC Excluded	Scheduled_Out		
ASH...	17R	PIA	KDFW.AKUNA9.MLC...	NORTH	AKUNA	06/18:03				Excluded	ATC Excluded	In_Queue		

Add Table

Figure 5.36. TOS Departure Table: A selected row is highlighted in cyan. In this example, the selected flight appears in two different table.

If a “top” TOS route has been identified for the flight, the route can be displayed on the map (Figure 5.37). See Section 5.4.4 for a description of “top” TOS routes. See Section 4.5.2.3 to enable the display of TOS routes on the map.

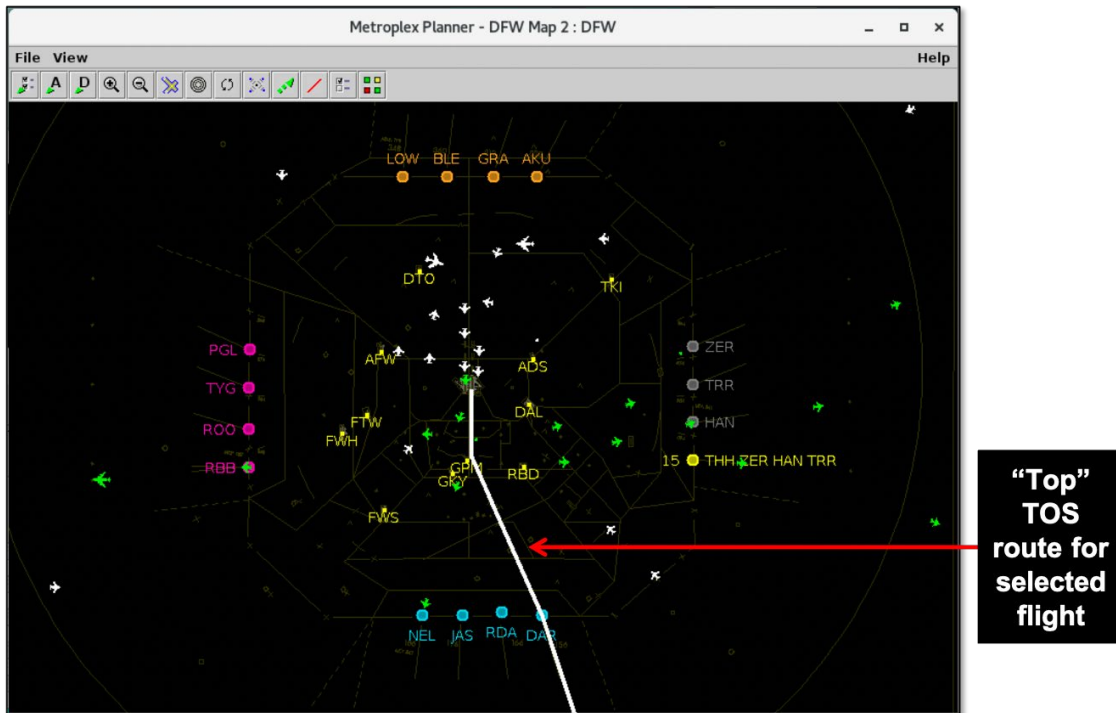


Figure 5.37. The selected flight’s “top” TOS route is displayed on the map.



## 5.4.4 TOS Departure Table: “Top” TOS Route

A “top” TOS route may be identified for flights in the TOS Departure Table. In general, the “top” route is the TOS option with the greatest predicted Delay Savings after accounting for the route’s Relative Trajectory Cost (RTC). That is, it is the TOS route predicted to be the most advantageous option. The “top” TOS route is identified approximately 60 minutes prior to expected takeoff.

The following describes how the “top” route is identified in different scenarios. Note that negative numbers represent *delay savings*, positive numbers represent *additional delay*.

### **A flight with an Eligibility State of “Candidate” and Coordination State of “Not Submitted”:**

- For a flight with a *single* “Candidate” TOS route, that route is identified as the “top” route.
- For a flight with *multiple* “Candidate” TOS routes, however, the route with the greatest predicted Delay Savings, after accounting for the RTC, is identified as the “top” route. In this notional example, Route A is identified as the “top” route because, after accounting for the cost of flying the TOS route, it is predicted that the flight will save more time by taking Route A (–7 min) than Route B (–4 min).
  - Route A = 5 min + –12 min = **–7 min** of predicted Delay Savings
  - Route B = 10 min + –14 min = **–4 min** of predicted Delay Savings

#### **Example TOS Flight Menu**

	Eligibility State	RTC	Predicted OFF Delay Savings
<b>Route A</b>	<b>Candidate</b>	<b>+5 min</b>	<b>–12 min</b>
Route B	Candidate	+10 min	–14 min

- If the predicted Delay Savings, after accounting for the RTC, is the same for two or more Candidate TOS routes, the route with the shortest distance (nm) is identified as a the “top” route. In this notional example, where both routes are predicted to save the same amount of time (–7 min) after accounting for the cost of flying the TOS route, Route B is identified as the “top” route because it is the shorter of the two routes (495 nm).

#### **Example TOS Flight Menu**

	Eligibility State	RTC	Predicted OFF Delay Savings	Distance (nm)
Route A	Candidate	+5 min	–12 min	552 nm
<b>Route B</b>	<b>Candidate</b>	<b>+5 min</b>	<b>–12 min</b>	<b>495 nm</b>

**A flight with an Eligibility State of “Potential” and Coordination State of “Not Submitted”:**

Note that, by definition, a flight’s Eligibility State is categorized as “Potential” when predicted Delay Savings is less than the route’s RTC.

- For a flight with a *single* “Potential” TOS route, that route is identified as the “top” route.
- For a flight with *multiple* “Potential” TOS routes, however, the route that results in the *least cost* after accounting for predicted Delay Savings, the RTC, and Distance (nm) is identified as the “top” route.

**A flight with a Coordination State of “FO Submitted”:**

- For a flight with a *single* “FO Submitted” route, that route is identified as the “top” route.
- For a flight with *multiple* “FO Submitted” TOS routes, however, the route with the greatest predicted Delay Savings after accounting for the RTC, and distance (nm), if necessary, is identified as the “top” route.

**A flight with a Coordination State of “ATC Approved”:**

- The “ATC Approved” route is identified as the “top” route.

**A flight with an Eligibility State of “Excluded” or “Expired”:**

- No “top” route is identified for these flights.

The “top” TOS route is identified approximately 60 min prior to expected takeoff. As shown in Figure 5.38, columns that pertain to “Top” route information (e.g., “Top CDR”) populate once a “top” route has been identified for that flight.

Flight ID	CPC	Rwy	Dest	Route of Flight	EOBT	Top Off Delay	Top ETOT	Top Dep Fik	Top CDR	Top Rwy	Top Off Del Sav	Top IN Del Sav	Top Agg DFW Del Sav	Top Add nm	Eligibility State	Coord State	Flight Status
ENY...		E17R	GPT	KDFW.MRS...	06/20:40										Potential	Not Submitted	Scheduled_Out
AAL... Y		E17R	CMH	KDFW.ZAC...	06/20:40										Potential	Not Submitted	Scheduled_Out
ASH...		E18L	MFE	KDFW.NEL...	06/20:25										Potential	Not Submitted	Scheduled_Out
AAL...		E17R	MEM	KDFW.FOR...	06/20:51										Potential	Not Submitted	Scheduled_Out
AAL... Y		E17R	TUL	KDFW.GRA...	06/20:20										Potential	Not Submitted	Scheduled_Out
AAL...		E17R	PNS	KDFW.MRS...	06/20:26										Potential	Not Submitted	Scheduled_Out
ENY...		E17R	GSP	KDFW.FOR...	06/20:30										Potential	Not Submitted	Scheduled_Out
AAL...		E17R	CLE	KDFW.ZAC...	06/20:30										Potential	Not Submitted	Scheduled_Out
AAL... Y		E17R	DTW	KDFW.ZAC...	06/20:35										Potential	Not Submitted	Scheduled_Out
ENY...		E17R	MKE	KDFW.AKU...	06/20:44										Potential	Not Submitted	Scheduled_Out
AAL...		E18L	LAX	KDFW.HRP...	06/20:30										Potential	Not Submitted	Scheduled_Out
ASH...		E17R	DAY	KDFW.ZAC...	06/19:22	0	19:36	AKUNA	DFWDAY1N	17R	-9	+4	-127.3	+96	Potential	Not Submitted	Pushback
AAL...		E17R	PIT	KDFW.TRY...	06/20:15	+2	20:33	AKUNA	DFWPIT1N	17R	-109	-100	0.0	+63	Candidate	Not Submitted	Scheduled_Out
AAL... Y		E17R	MEM	KDFW.FOR...	06/19:30	+3	19:47	AKUNA	DFWMEM1N	17R	-37	-25	-135.9	+84	Candidate	Not Submitted	Scheduled_Out
ENY...		E17R	AVL	KDFW.FOR...	06/19:30	+2	19:48	AKUNA	DFWAVL1N	17R	-49	-40	-139.4	+72	Candidate	Not Submitted	Scheduled_Out
AAL... Y		E17R	DCA	KDFW.TRY...	06/19:45	+2	19:57	AKUNA	DFWDCA1N	17R	-58	-48	-130.6	+75	Candidate	Not Submitted	Scheduled_Out
AAL... Y		E17R	RDU	KDFW.FOR...	06/19:50	0	20:04	AKUNA	DFWRDU1N	17R	-68	-56	-128.4	+90	Candidate	Not Submitted	Scheduled_Out
ENY...		E17R	LIT	KDFW.ZAC...	06/19:45	+3	20:00	AKUNA	DFWLIT1N	17R	-58	-49	-130.6	+65	Candidate	FO Submitted	Scheduled_Out

Figure 5.38. In the TOS table, “Top” metrics are blank until a “top” route is identified for the 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 a second column header. A *smaller* arrow is displayed in the second column (e.g., “EOBT” in Figure 5.39).

The screenshot shows a software interface titled "Metroplex Planner - DFW TOS Operations at 19:53 Z". The main window displays a table of flight operations. The table has the following columns: Flight ID, CPC, Rwy, Dest, Route of Flight, OFF Delay, EOBT, Top OFF Delay, Top Dep Fix, Top CDR, Top OFF Del Sav, Top IN Del Sav, Top Agg DFW Del Sav, Top Adj nm, Eligibility State, and Coord State. The table is sorted by Eligibility State (Candidate, Potential) and then by EOBT (dd/mm). Red boxes highlight the "EOBT" and "Eligibility State" columns, indicating they are the active sort criteria.

Flight ID	CPC	Rwy	Dest	Route of Flight	OFF Delay	EOBT	Top OFF Delay	Top Dep Fix	Top CDR	Top OFF Del Sav	Top IN Del Sav	Top Agg DFW Del Sav	Top Adj nm	Eligibility State	Coord State
ENY...		E17R	AVL	KDFW.FOR...	+34	06/19:41	0	AKUNA	DFWAVL1N	-34	-25	-146.0	+72	Candidate	Not Submitted
AAL... Y		E17R	LGA	KDFW.ZAC...	+28	06/19:50	0	AKUNA	DFWLGJ3	-23	-15	-145.0	+58	Candidate	Not Submitted
AAL... Y		E17R	EWB	KDFW.TRY...	+48	06/19:53	+1	AKUNA	DFWEWRJ3	-47	-41	-138.3	+48	Candidate	Not Submitted
AAL...		E17R	SAV	KDFW.FOR...	+50	06/20:06	0	DARTZ	DFWSAV1S	-50	-31	-127.5	+142	Candidate	Not Submitted
ENY...		E17R	GSO	KDFW.FOR...	+51	06/20:07	0	AKUNA	DFWGS01N	-51	-39	-131.4	+84	Candidate	Not Submitted
AAL... Y		E17R	RSW	KDFW.MRS...	+54	06/20:08	0	DARTZ	DFWRSW1S	-54	-49	-131.4	+42	Candidate	Not Submitted
AAL...		E17R	TPA	KDFW.MRS...	+76	06/20:12	+2	DARTZ	DFWTPA1S	-74	-59	-123.4	+115	Candidate	Not Submitted
AAL...		E17R	PIT	KDFW.TRY...	+84	06/20:16	+2	AKUNA	DFWPIT1N	-82	-74	-121.0	+63	Candidate	Not Submitted
ENY...		E17R	GSP	KDFW.FOR...	+98	06/20:21	+2	AKUNA	DFWGSP1N	-96	-82	-116.5	+107	Candidate	Not Submitted
AAL...		E17R	MYR	KDFW.MRS...	+79	06/20:21	+1	DARTZ	DFWMYR1S	-77	-56	-123.4	+165	Candidate	Not Submitted
AAL...		E17R	CLE	KDFW.ZAC...	+103	06/20:30	0	AKUNA	DFWCLE1N	-103	-96	-116.2	+49	Candidate	Not Submitted
AAL... Y		E17R	DTW	KDFW.ZAC...	+110	06/20:35	0	AKUNA	DFWDTW1N	-110	-104	-117.0	+49	Candidate	Not Submitted
ENY...		E17R	GPT	KDFW.MRS...	+115	06/20:40	+2	DARTZ	DFWGPT1S	-113	-102	0.0	+88	Candidate	Not Submitted
AAL... Y		E17R	CMH	KDFW.ZAC...	+114	06/20:40	0	AKUNA	DFWCMH1N	-113	-107	-113.5	+49	Candidate	Not Submitted
AAL...		E17R	MCO	KDFW.MRS...	+30	06/19:26	+5	DARTZ	DFWMC01S	-25	-11	-135.9	+105	Potential	Not Submitted
ASH...		E17R	TLH	KDFW.MRS...	+14	06/19:32	0	DARTZ	DFWTLH1S	-14	0	-146.1	+101	Potential	Not Submitted
ASH...		E18L	LBB	KDFW.KAT...	+3	06/19:37	+3	LOWGN	DFWLBB1N	0	+24	0.0	+185	Potential	Not Submitted
ENY...		18L	CRP	KDFW.NEL...	+2	06/19:38	+2	RBBIT	DFWCRP1W	0	+22	0.0	+165	Potential	Not Submitted
ENY...		18L	SJT	KDFW.WST...	+2	06/19:39	+2	NELYN	DFWST1S	0	+12	0.0	+88	Potential	Not Submitted
ASH...		E18L	CID	KDFW.BLE...	+3	06/19:42	+3	PGLET	DFWCID1W	0	+38	0.0	+292	Potential	Not Submitted
AAL...		18L	SAN	KDFW.WST...	+2	06/19:43	+2	LOWGN	DFWSAN1N	0	+15	0.0	+117	Potential	Not Submitted
AAL...		E18L	SAT	KDFW.JASP...	+4	06/19:45	+4	RBBIT	DFWSAT3W	0	+12	0.0	+91	Potential	Not Submitted
AAL...		E18L	ONT	KDFW.KAT...	+5	06/19:45	+5	LOWGN	DFWONT1N	0	+12	0.0	+92	Potential	Not Submitted
AAL... Y		E17R	DCA	KDFW.TRY...	+17	06/19:46	0	AKUNA	DFWDCA1N	-17	-7	-146.1	+75	Potential	Not Submitted
AAL...		E18L	AUS	KDFW.JASP...	+4	06/19:46	+4	RBBIT	DFWAUS3W	0	+17	0.0	+14	Potential	Not Submitted

Figure 5.39. TOS Departure Table: Sort. 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, filter criteria are displayed on the toolbar next to the icons. When the table is not being filtered and all flights are shown, “All” is displayed (Figure 5.40).

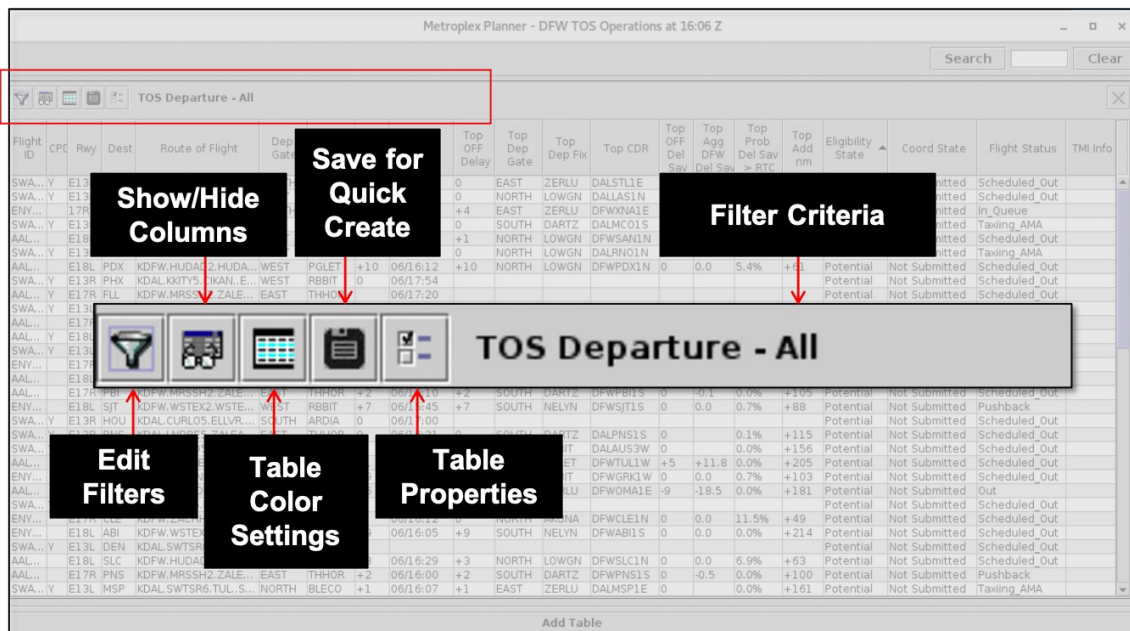


Figure 5.40. TOS Departure Table: Toolbar.

### 5.4.6.1 Edit Filters

Use “Edit Filters” (Figure 5.40) to modify which flights are included 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
Airline	Airline code.	Enter: <i>3-letter airline code or “GA”</i>
Coord State	<p>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>.</p> <ul style="list-style-type: none"> <li>• <b>Not Submitted:</b> <i>None</i> of this flight’s TOS route options have been submitted to ATC by the Flight Operator.</li> <li>• <b>FO (Flight Operator) Submitted:</b> <i>At least one</i> of this flight’s TOS routes has been submitted to ATC by the Flight Operator.</li> <li>• <b>ATC Approved:</b> <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.</li> <li>• <b>Reroute Filed:</b> This flight’s original filed route has been amended based on the TOS route option approved by ATC.</li> <li>• <b>FO (Flight Operator) Excluded:</b> The Flight Operator has excluded this flight from TOS Operations.</li> <li>• <b>ATC Excluded:</b> <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 Advisory, or User-entered restrictions, it is <i>automatically</i> excluded from TOS Operations.</li> </ul>	Enter or Select: <i>Not Submitted FO Submitted ATC Approved Reroute Filed FO Excluded ATC Excluded</i>

Dep Gate	Terminal-area Departure Gate.	Enter or select from dropdown list.
Destination has APREQ	Destination subject to APREQ.	Select: <i>Yes</i> <i>No</i>
Eligibility State	Indicates eligibility for TOS rerouting. In a TOS Departure Table, Eligibility State is indicated for <i>each flight</i> . <ul style="list-style-type: none"> <li>• <b>Potential:</b> <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)).</li> <li>• <b>Candidate:</b> <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)).</li> <li>• <b>Excluded:</b> <i>All</i> TOS route options for this flight are excluded because of Flight Operator or ATC exclusions.</li> <li>• <b>Expired:</b> <i>All</i> TOS route options for this flight are expired (used in Center TOS Approval mode to prevent TOS submissions within x minutes of p-time). A route expires when the “Time to Expiration” countdown timer reaches 0 (zero) minutes.</li> </ul>	Enter or Select: <i>Potential</i> <i>Candidate</i> <i>Excluded</i> <i>Expired</i>
EOBT	Earliest Off-Block Time (EOBT) provided by the airline. Earliest predicted push back time.	[ <i>mm</i> ] Relative [ <i>hhmm</i> ] Zulu
ETOT	Estimated Takeoff Time (ETOT). Predicted takeoff time, accounting for: <ol style="list-style-type: none"> <li>1. Undelayed taxi time, plus</li> <li>2. Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>3. Predicted delay from <b>terminal-area restrictions</b> being passed back to the surface.</li> </ol>	[ <i>mm</i> ] Relative [ <i>hhmm</i> ] 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: Yes No
Has Scratch Pad	Flight has a user-entry in the Scratch Pad.	Select: Yes No
IN Delay	<p>Predicted arrival delay on the <i>filed</i> route (in minutes):</p> <p>= (ETOT on the <i>filed</i> route + enroute time including wind miles) – <b>Scheduled In-Block Time (SIBT)</b>.</p> <p><b>Negative</b> value represents <i>earlier</i> arrival.  <b>Positive</b> value represents <i>later</i> arrival.</p>	[mm]
Major Carrier	Enter a Major Carrier to view mainline and subsidiaries (fleet).	Enter: <i>3-letter airline code</i>
OFF Delay	<p>Delay on the <i>filed</i> route (in minutes) that the flight is predicted to encounter, <b>at the runway</b>, caused by both:</p> <ol style="list-style-type: none"> <li>1. Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>2. Predicted delay from <b>terminal-area restrictions</b> being passed back to the surface.</li> </ol> <p>= <b>Estimated Takeoff Time (ETOT)</b> – <b>Undelayed Takeoff Time (UTOT)</b>.</p>	[mm]
POBT	Proposed Off-Block Time (POBT), the airline’s “p-time.” Used in the “Time to Expiration” calculation in Center TOS Approval Mode.	[mm] Relative [hhmm] Zulu



Runway	Expected or actual runway.	Enter or select from dropdown list.
Time to Expiration	<b>Time to Expiration</b> is used in <b>Center Approval Mode</b> , that is, when Center (ZFW) is approving TOS submissions. At x minutes prior to the p-time (Proposed Off-Block Time; POBT), the flight’s Eligibility State changes from “Candidate” to “Expired.” For example, if the time limit is set to 35 min, the timer counts down to and expires at <b>p-time + 35 min</b> . After expiration, TOS routes can no longer be submitted for the flight.	[mm]
Top Add nm	Difference in route distance (in nautical miles).  = Distance of the “top” TOS route – distance of current <i>filed</i> route.	[nm]
Top Agg Del Sav  <i>*Varies by version of the Metroplex Planner</i>	<b>Sum</b> of predicted <b>OFF Delay Savings</b> for the “top” TOS route (in minutes):  = <b>OFF Delay Savings</b> for the flight rerouted on the “top” TOS route + <b>OFF Delay Savings</b> for all subsequent departures scheduled to takeoff within one hour.  <b>Negative</b> value represents <i>reduced</i> delay (i.e., <i>Delay Savings</i> ). <b>Positive</b> 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>	<b>Average</b> predicted <b>OFF Delay Savings</b> for each flight in the <b>Aggregate Delay Savings</b> computation (in minutes):  = <b>Aggregate Delay Savings</b> / the number of flights (N) scheduled to takeoff within one hour.  <b>Negative</b> value represents <i>reduced</i> delay (i.e., <i>Delay Savings</i> ). <b>Positive</b> value represents <i>additional</i> delay.	[mm]



	*Options can include: Airport, all airports in the TRACON, Airline, Air Carrier (Mainline), or Major Air Carrier (Fleet).	
Top Dep Gate	Terminal-area Departure Gate on the “ <i>top</i> ” TOS route.	Enter or select from dropdown list.
Top IN Delay	Predicted arrival delay on the “ <i>top</i> ” TOS route (in minutes):  = <b>IN Delay</b> on the <i>filed</i> route + <b>Top IN Delay Savings</b> on the “ <i>top</i> ” TOS route.  <b>Negative</b> value represents <i>earlier</i> arrival. <b>Positive</b> value represents <i>later</i> arrival.	[mm]
Top IN Del Sav	Predicted <b>IN Delay Savings</b> on the “ <i>top</i> ” TOS route (in minutes):  = <b>OFF Delay Savings</b> on the “ <i>top</i> ” TOS route + flight time difference.  Note: Flight time difference is calculated as: (“ <i>top</i> ” TOS route distance – <i>filed</i> route distance) / <i>filed</i> speed.  <b>Negative</b> value represents <i>earlier</i> arrival. <b>Positive</b> value represents <i>later</i> arrival.	[mm]
Top OFF Delay	For the “ <i>top</i> ” TOS route, the delay (in minutes) that the flight is predicted to encounter, <b>at the runway</b> , caused by both:  1. Predicted delay from <b>surface traffic</b> competing for the runway, and  2. Predicted delay from <b>terminal-area restrictions</b> being passed back to the surface.  = <b>Estimated Takeoff Time (ETOT)</b> on the “ <i>top</i> ” TOS route – <b>Undelayed Takeoff Time (UTOT)</b> on the <i>filed</i> route.	[mm]
Top OFF Del Sav	Predicted <b>OFF Delay Savings</b> on the “ <i>top</i> ” TOS route (in minutes):  = <b>OFF Delay</b> on the “ <i>top</i> ” TOS route – <b>OFF Delay</b> on the <i>current/filed</i> route.	[mm]

	<p><b>Negative</b> value represents <i>reduced</i> delay (i.e., <i>Delay Savings</i>).</p> <p><b>Positive</b> value represents <i>additional</i> delay.</p>	
Top OFF Del Sav Minus RTC	<p>For the “<i>top</i>” TOS route (in minutes):</p> <p>= <b>OFF Delay Savings</b> – <b>Relative Trajectory Cost (RTC)</b>.</p>	[mm]
Top Prob Del Sav > RTC	<p>For the “<i>top</i>” TOS route:</p> <p>Probability that predicted <b>OFF Delay Savings</b> will be <i>greater than</i> the <b>Relative Trajectory Cost (RTC)</b>.</p>	[0–100%]
Top Prob Del Sav > 0	<p>For the “<i>top</i>” TOS route:</p> <p>Probability that predicted <b>OFF Delay Savings</b> will be <i>greater than</i> 0 (zero) minutes.</p>	[0–100%]
Top RTC	<p>Relative Trajectory Cost (RTC) <i>for the “top” TOS route.</i></p> <p>RTC is the cost (in minutes) to fly the TOS route as compared to the original route. RTC is expressed in terms of minutes of surface delay.</p> <p>The RTC is used as a threshold value used to determine when a TOS route becomes more advantageous to fly than the filed route.</p> <p>The RTC is computed based on the following factors:</p> <ul style="list-style-type: none"> <li>• <i>CDR (TOS route) distance minus filed route distance.</i></li> <li>• Cost ratio (specific to each Flight Operator).</li> <li>• Filed speed.</li> </ul>	[mm]

## To filter the TOS Departure Table:

**Step 1:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**Step 2:** Select the “Edit Filters” icon (Figure 5.40).

**Step 3:** Select a variable from the dropdown list in the “Field” column (e.g., “Runway” in Figure 5.41)

**Step 4:** Select a modifier from the dropdown list in the “Operator” column (e.g., “=” in Figure 5.41).

**Step 5:** 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 6 (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 (Figure 5.41).

**Step 7:** When complete, select “OK” to apply the filter(s) and close the “Filter” window (Figure 5.41).

**Alternatively:** Select “Cancel” to cancel the pending change and close the “Filter” window.

**Note:** Select “Clear” (Figure 5.41) to clear entries from the “Values” field—while retaining the “Field” and “Operator” selections.

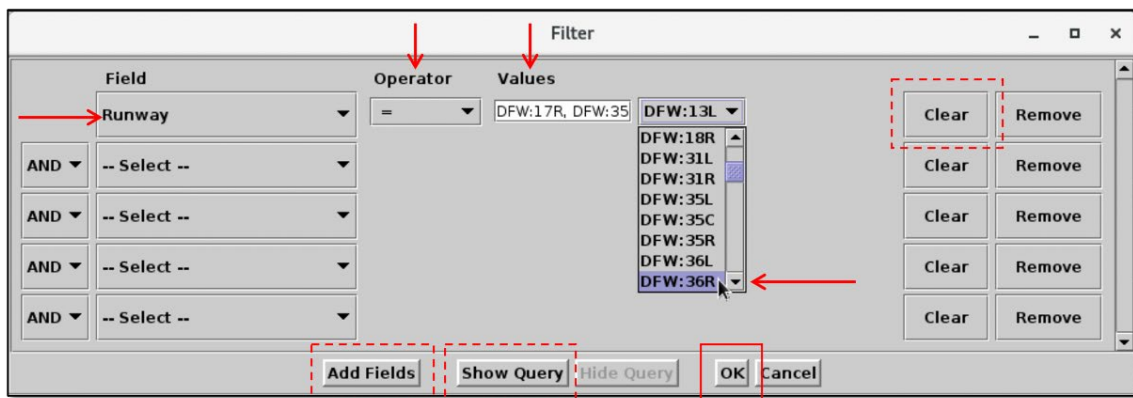


Figure 5.41. TOS Departure Table: Filter.

Filter criteria are displayed in the toolbar (e.g., “DFW:17R, DFW:35L, DFW:18L, DFW:36R” in Figure 5.42).

## Filter Criteria

Metroplex Planner - DFW TOS Operations at 21:55 Z

TOS Departure Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R

Flight ID	CPL	Rwy	Dest	Route of Flight	Dep Fix	EOBT	Top ETOT	Top Dep Fix	Top CDR	Top Rwy	Top OFF Del Sav	Top IN Del Sav	Top Prob Del Sav > RTC	Top Add nm	Eligibility State	Coord
AAL2373		E17R	SAV	KDFW.FORCK2.F...	HANUH	07/22:08	22:21	DARTZ	DFWSAV1S	17R	0	+19	0.0%	+142	Potential	Not Sub
AAL2724	Y	E18L	SNA	KDFW.KATZZ2....	ROOOO	07/21:46	21:59	LOWGN	DFWSNA1N	18L	0	+12	0.0%	+91	Potential	Not Sub
SKW3108		E18L	DSM	KDFW.BLECO8.T...	BLECO	07/21:55	22:15	ZERLU	DFWDSM1E	17R	+1	+21	0.0%	+149	Potential	Not Sub
AAL1463	Y	17R	ORD	KDFW.AKUNA9....	AKUNA	07/21:47	21:59	ZERLU	DFWORD1E	17R	0	+3	6.8%	+23	Potential	Not Sub
ENY4197		17R	CHA	KDFW.FORCK2.F...	HANUH	07/21:37	21:55	AKUNA	DFWCHA1N	17R	0	+12	0.0%	+89	Potential	Not Sub
AAL2294		E17R	CLT	KDFW.FORCK2.F...	HANUH	07/22:40	22:51	AKUNA	DFWCLT1N	17R	0	+9	14.9%	+69	Potential	Not Sub
AAL646	Y	17R	MIA	KDFW.MRSSH2....	THHOR	07/21:42	21:57	DARTZ	DFWMIA1S	17R	0	+5	0.6%	+42	Potential	Not Sub
ASH5926		E17R	HOU	KDFW.ARDIA7.E...	ARDIA	07/21:50	22:01	THHOR	DFWHOU1E	17R	0	+29	0.0%	+208	Potential	Not Sub
ENY3756		E17R	MEM	KDFW.FORCK2.F...	HANUH	07/22:21	22:41	AKUNA	DFWMEM1N	17R	0	+11	7.9%	+84	Potential	Not Sub
AAL1868		E17R	PIT	KDFW.TRYTN3.L...	TRRCH	07/21:50	22:12	AKUNA	DFWPIT1N	17R	0	+8	1.4%	+63	Potential	Not Sub
ENY4162		E17R	TUL	KDFW.GRABE8....	GRABE	07/22:45	22:52	PGLET	DFWTUL1W	18L	-5	+24	0.2%	+205	Potential	Not Sub
AAL1618	Y	E18L	MCI	KDFW.BLECO8.T...	BLECO	07/22:45	22:56	ZERLU	DFWMC11E	17R	-4	+14	1.7%	+140	Potential	Not Sub
AAL2257		E17R	MSY	KDFW.MRSSH2....	THHOR	07/23:02									Potential	Not Sub
AAL1594	Y	E18L	OKC	KDFW.BLECO8....	BLECO	07/22:23	22:36	PGLET	DFWOKC1W	18L	0	+21	0.0%	+164	Potential	Not Sub
AAL1354	Y	E17R	TPA	KDFW.MRSSH2....	THHOR	07/22:06	22:22	DARTZ	DFWTPA1S	17R	0	+15	0.1%	+115	Potential	Not Sub
AAL2796		E17R	PNS	KDFW.MRSSH2....	THHOR	07/22:24	22:39	DARTZ	DFWPNS1S	17R	0	+13	1.8%	+100	Potential	Not Sub
AAL1362		E18L	SLC	KDFW.HUDAD2....	PGLET	07/22:22	22:38	LOWGN	DFWSLC1N	18L	0	+8	9.7%	+63	Potential	Not Sub
AAL2206		E17R	MIA	KDFW.MRSSH2....	THHOR	07/22:20	22:35	DARTZ	DFWMIA1S	17R	0	+5	26.8%	+42	Potential	Not Sub
ENY3673		E17R	FSM	KDFW.AKUNA9....	AKUNA	07/21:43	22:10	ZERLU	DFWFMS1E	17R	0	+22	0.0%	+159	Potential	Not Sub
ENY4454		E18L	ABI	KDFW.WSTEX2....	RBBIT	07/22:01	22:20	NELYN	DFWABI1S	18L	0	+29	0.0%	+214	Potential	Not Sub
AAL2238		E17R	BNA	KDFW.TRYTN3.L...	TRRCH	07/22:05	22:19	AKUNA	DFWBNA1N	17R	0	+11	0.6%	+84	Potential	Not Sub
SKW3071		E17R	BTR	KDFW.MRSSH2....	THHOR	07/22:35	22:48	DARTZ	DFWBTR1S	17R	0	+10	7.8%	+77	Potential	Not Sub
AAL2553	Y	17R	MEM	KDFW.FORCK2.F...	HANUH	07/21:49	22:00	AKUNA	DFWMEM1N	17R	0	+11	0.0%	+84	Potential	Not Sub
AAL1736		E17R	MSN	KDFW.AKUNA9....	AKUNA	07/22:07	22:23	ZERLU	DFWMSN1E	17R	0	+9	3.1%	+68	Potential	Not Sub
ENY4055		E17R	JAN	KDFW.MRSSH2....	THHOR	07/22:21	22:37	DARTZ	DFWJAN1S	17R	0	+24	0.1%	+178	Potential	Not Sub
AAL1497		E18L	ICT	KDFW.BLECO8....	BLECO	07/22:02	22:18	PGLET	DFWICT1W	18L	0	+34	0.0%	+229	Potential	Not Sub

Add Table

Figure 5.42. TOS Departure Table: Filter criteria are displayed in the toolbar.

### To remove a filter in the TOS Departure Table:

**Step 1:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**Step 2:** Select the “Edit Filters” icon (Figure 5.40).

**Step 3:** In the dropdown menu in the “Field” column, select “-- Select --” to clear selections from that row (Figure 5.43).

**Alternatively:** Select “Remove” to delete the row entirely (Figure 5.43).

**Step 4:** When complete, select “OK” (Figure 5.43).

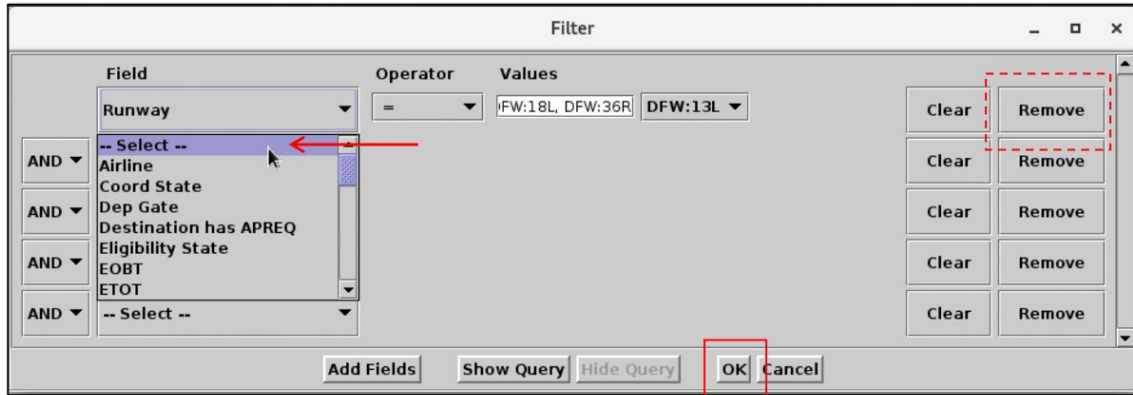


Figure 5.43. TOS Departure Table: Remove filters.

### 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 -----	
Coord State	<p>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>.</p> <ul style="list-style-type: none"> <li>• <b>Not Submitted:</b> <i>None</i> of this flight’s TOS route options have been submitted to ATC by the Flight Operator.</li> <li>• <b>FO (Flight Operator) Submitted:</b> <i>At least one</i> of this flight’s TOS routes has been submitted to ATC by the Flight Operator.</li> <li>• <b>ATC Approved:</b> <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.</li> <li>• <b>Reroute Filed:</b> This flight’s original filed route has been amended based on the TOS route option approved by ATC.</li> <li>• <b>FO (Flight Operator) Excluded:</b> The Flight Operator has excluded this flight from TOS Operations.</li> <li>• <b>ATC Excluded:</b> <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 Advisory, or</li> </ul>

	User-entered restrictions, it is <i>automatically</i> excluded from TOS Operations.
CPDLC	Controller Pilot Data Link Communication (CPDLC).
Eligibility State	<p>Indicates eligibility for TOS rerouting. In a TOS Departure Table, Eligibility State is indicated for <i>each flight</i>.</p> <ul style="list-style-type: none"> <li>• <b>Potential:</b> <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)).</li> <li>• <b>Candidate:</b> <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)).</li> <li>• <b>Excluded:</b> <i>All</i> TOS route options for this flight are excluded because of Flight Operator or ATC exclusions.</li> <li>• <b>Expired:</b> <i>All</i> TOS route options for this flight are expired (used in Center TOS Approval mode to prevent TOS submissions within x minutes of p-time). A route expires when the “Time to Expiration” countdown timer reaches 0 (zero) minutes.</li> </ul>
EDFT	<p>Estimated Departure Fix Time (EDFT). Predicted Departure Fix crossing time, accounting for:</p> <ol style="list-style-type: none"> <li>1. Undelayed taxi time, plus</li> <li>2. Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>3. Predicted delay from <b>terminal-area restrictions</b>.</li> </ol>
ETOT	<p>Estimated Takeoff Time (ETOT). Predicted takeoff time, accounting for:</p> <ol style="list-style-type: none"> <li>1. Undelayed taxi time, plus</li> <li>2. Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>3. Predicted delay from <b>terminal-area restrictions</b> being passed back to the surface.</li> </ol>
Num TOS Cand	Current number of “Candidate” TOS route options for a flight.
Num TOS Sub	Current number of TOS routes <i>submitted</i> by the Flight Operator for a flight.
Scratch Pad	Text-entry field. Entries are visible to all users.
Time to Expiration	<p><b>Time to Expiration</b> is used in <b>Center Approval Mode</b>, that is, when Center (ZFW) is approving TOS submissions. At x minutes prior to the p-time (Proposed Off-Block Time; POBT), the flight’s Eligibility State changes from “Candidate” to “Expired.” For example, if the time limit is set to 35 min, the timer counts down to and expires at <b>p-time + 35 min</b>. After expiration, TOS routes can no longer be submitted for the flight.</p>

TMI Info	<p>When a flight is subject to a TMI restriction, the following are displayed in the “TMI Info” column:</p> <ul style="list-style-type: none"> <li>• “<b>FixClsd</b>”: When the current Departure Fix is closed.</li> <li>• “<b>APRQ</b>”: When the destination is subject to an APREQ.</li> <li>• “<b>EDCT<math>hh:mm</math></b>”: When the flight is subject to an EDCT.</li> <li>• “<b>##M</b>”: When the current Departure Fix is subject to an MIT (e.g., “10M”).</li> <li>• “<b>GS</b>”: When the destination is subject to a Ground Stop.</li> </ul>
Top Add nm	<p>Difference in route distance (in nautical miles).</p> <p>= Distance of the “<i>top</i>” TOS route – distance of current <i>filed</i> route.</p>
Top CDR	Coded Departure Route city-pair code (e.g., DFWDCAI1N) for the “ <i>top</i> ” TOS route.
Top CDR Rte	Full CDR route procedure for the “ <i>top</i> ” TOS route.
Top Dep Fix	Terminal-area Departure Fix for the “ <i>top</i> ” TOS route.
Top Dep Fix Time	Predicted or actual Departure Fix crossing time for the “ <i>top</i> ” TOS route.
Top Dep Gate	Terminal-area Departure Gate for the “ <i>top</i> ” TOS route.
Top EDFT	<p>Estimated Departure Fix Time (EDFT) on the “<i>top</i>” TOS route. Predicted Departure Fix crossing time, accounting for:</p> <ol style="list-style-type: none"> <li>1. Undelayed taxi time, plus</li> <li>2. Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>3. Predicted delay from <b>terminal-area restrictions</b>.</li> </ol>
Top ETOT	<p>Estimated Takeoff Time (ETOT) on the “<i>top</i>” TOS route. Predicted takeoff time, accounting for:</p> <ol style="list-style-type: none"> <li>1. Undelayed taxi time, plus</li> <li>2. Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>3. Predicted delay from <b>terminal-area restrictions</b> being passed back to the surface.</li> </ol>
Top RTC	<p>Relative Trajectory Cost (RTC) for the “<i>top</i>” TOS route.</p> <p>RTC is the cost (in minutes) to fly the TOS route as compared to the original route. RTC is expressed in terms of minutes of surface delay.</p> <p>The RTC is used as a threshold value used to determine when a TOS route becomes more advantageous to fly than the filed route.</p>



	<p>The RTC is computed based on the following factors:</p> <ul style="list-style-type: none"> <li>• <i>CDR (TOS route)</i> distance minus <i>filed</i> route distance.</li> <li>• Cost ratio (specific to each Flight Operator).</li> <li>• Filed speed.</li> </ul>
Top Rwy	Runway of the “ <i>top</i> ” <i>TOS route</i> .
Top UTOT	Undelayed Takeoff Time (UTOT) on the “ <i>top</i> ” <i>TOS route</i> . 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.
----- TOS: Delay -----	
IN Delay	<p>Predicted arrival delay on the <i>filed</i> route (in minutes):</p> <p>= (ETOT on the <i>filed</i> route + enroute time including wind miles) – <b>Scheduled In-Block Time (SIBT)</b>.</p> <p><b>Negative</b> value represents <i>earlier</i> arrival. <b>Positive</b> value represents <i>later</i> arrival.</p>
OFF Delay	<p>Delay on the <i>filed</i> route (in minutes) that the flight is predicted to encounter, <b>at the runway</b>, caused by both:</p> <ol style="list-style-type: none"> <li>1. Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>2. Predicted delay from <b>terminal-area restrictions</b> being passed back to the surface.</li> </ol> <p>= <b>Estimated Takeoff Time (ETOT)</b> on the <i>filed route</i> – <b>Undelayed Takeoff Time (UTOT)</b> on the <i>filed</i> route.</p>
Dep Fix Delay	<p>The predicted delay (in minutes), <b>at the departure fix</b>, caused by both:</p> <ol style="list-style-type: none"> <li>1. Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>2. Predicted delay from <b>terminal-area restrictions</b>.</li> </ol> <p>= <b>Estimated Departure Fix Time (EDFT)</b> – <b>Undelayed Departure Fix Time (UDFT)</b>.</p>
Top IN Delay	<p>Predicted arrival delay on the “<i>top</i>” <i>TOS route</i> (in minutes):</p> <p>= <b>IN Delay</b> on the <i>filed</i> route + <b>Top IN Delay Savings</b> on the “<i>top</i>” <i>TOS route</i>.</p> <p><b>Negative</b> value represents <i>earlier</i> arrival. <b>Positive</b> value represents <i>later</i> arrival.</p>



Top OFF Delay	<p>For the “<i>top</i>” TOS route, the delay (in minutes) that the flight is predicted to encounter, <b>at the runway</b>, caused by both:</p> <ol style="list-style-type: none"> <li>1. Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>2. Predicted delay from <b>terminal-area restrictions</b> being passed back to the surface.</li> </ol> <p>= <b>Estimated Takeoff Time (ETOT)</b> on the “<i>top</i>” TOS route – <b>Undelayed Takeoff Time (UTOT)</b> on the <i>filed</i> route.</p>
Top Dep Fix Delay	<p>Predicted delay on the “<i>top</i>” TOS route (in minutes), <b>at the departure fix</b>, caused by both:</p> <ol style="list-style-type: none"> <li>1. Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>2. Predicted delay from <b>terminal-area restrictions</b>.</li> </ol> <p><b>Estimated Departure Fix Time (EDFT)</b> – <b>Undelayed Departure Fix Time (UDFT)</b>.</p>
----- TOS: Delay Savings -----	
Top IN Del Sav	<p>Predicted <b>IN Delay Savings</b> on the “<i>top</i>” TOS route (in minutes):</p> <p>= <b>OFF Delay Savings</b> on the “<i>top</i>” TOS route + flight time difference.</p> <p>Note: Flight time difference is calculated as: (“<i>top</i>” TOS route distance – <i>filed</i> route distance) / <i>filed</i> speed.</p> <p><b>Negative</b> value represents <i>earlier</i> arrival.  <b>Positive</b> value represents <i>later</i> arrival.</p>
Top OFF Del Sav	<p>Predicted <b>OFF Delay Savings</b> on the “<i>top</i>” TOS route (in minutes):</p> <p>= <b>OFF Delay</b> on the “<i>top</i>” TOS route – <b>OFF Delay</b> on the <i>current/filed</i> route.</p> <p><b>Negative</b> value represents <i>reduced</i> delay (i.e., <i>Delay Savings</i>).  <b>Positive</b> value represents <i>additional</i> delay.</p>
Top Prob Del Sav > RTC	<p>For the “<i>top</i>” TOS route:</p> <p>Probability that predicted <b>OFF Delay Savings</b> will be <i>greater than</i> the <b>Relative Trajectory Cost (RTC)</b>. (0–100%)</p>
Top Prob Del Sav > 0	<p>For the “<i>top</i>” TOS route:</p> <p>Probability that predicted <b>OFF Delay Savings</b> will be <i>greater than</i> 0 (zero) minutes. (0–100%)</p>

----- TOS: Aggregate Delay Savings -----	
<p>Top Agg Del Sav</p> <p><i>*Varies by version of the Metroplex Planner</i></p>	<p>Sum of predicted Delay Savings (in minutes).</p> <p><b>Predicted Aggregate Delay Savings =</b></p> <ul style="list-style-type: none"> <li>• Predicted Delay Savings for the flight rerouted on the “top” TOS route, plus</li> <li>• Predicted Delay Savings for all subsequent departures scheduled to takeoff within one hour.</li> </ul> <p><b>Negative</b> value represents <i>reduced</i> delay (i.e., Delay Savings).  <b>Positive</b> value represents <i>additional</i> delay.</p> <p>*Options can include: Airport, all airports in the TRACON, Airline, Air Carrier (Mainline), or Major Air Carrier (Fleet).</p>
<p>Top Avg Del Sav</p> <p><i>*Varies by version of the Metroplex Planner</i></p>	<p>Predicted <b>Average</b> Delay Savings for each flight in the Aggregate Delay Savings computation (in minutes).</p> <p><b>Predicted Average Delay Savings =</b></p> <ul style="list-style-type: none"> <li>• Predicted Aggregate Delay Savings, <i>divided by</i></li> <li>• Number of flights (N).</li> </ul> <p><b>Negative</b> value represents <i>reduced</i> delay (i.e., Delay Savings).  <b>Positive</b> value represents <i>additional</i> delay.</p> <p>*Options can include: Airport, all airports in the TRACON, Airline, Air Carrier (Mainline), or Major Air Carrier (Fleet).</p>
<p>Top N Del Sav</p> <p><i>*Varies by version of the Metroplex Planner</i></p>	<p>= Number of flights (N) in the Aggregate Delay Savings computation, including:</p> <ul style="list-style-type: none"> <li>• This flight (rerouted on the “top” TOS route), and</li> <li>• Subsequent departures scheduled to takeoff within one hour.</li> </ul> <p>*Options can include: Airport, all airports in the TRACON, Airline, Air Carrier (Mainline), or Major Air Carrier (Fleet).</p>
----- General -----	
AC Type	International Civil Aviation Organization (ICAO) type of aircraft (i.e., B738: Boeing model 737-800).
Airline	Airline code
AMA Taxi Duration	<p>Predicted or actual duration of time in the AMA:</p> <ul style="list-style-type: none"> <li>• For <b>departures</b>, from Spot time to takeoff.</li> <li>• For <b>arrivals</b>, from landing to Spot time.</li> </ul>
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	<p>Predicted or actual Departure Fix crossing time. This field is populated based on the availability of data, in the following order:</p> <ul style="list-style-type: none"> <li>• Actual Departure Fix time, if available.</li> <li>• Or, Estimated Departure Fix Time (from TFMS).</li> <li>• Or, Target Departure Fix Time (from ATD-2 Tactical Scheduler).</li> <li>• Or, Estimated “OUT” time (from FlightStats) + 20 min.</li> </ul>
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	<p>Flight Status:</p> <ul style="list-style-type: none"> <li>• <b>Scheduled Out:</b> A departure flight that has not yet pushed back from the gate.</li> <li>• <b>Pushback:</b> A departure flight that is pushing back.</li> <li>• <b>Out:</b> A departure flight that is taxiing in the Ramp Area.</li> <li>• <b>Taxiing AMA:</b> A departure flight that is taxiing in the Airport Movement Area (AMA).</li> <li>• <b>In Queue:</b> A departure flight inside the queue detection box of the assigned runway.</li> <li>• <b>Departed:</b> A departure flight that is airborne.</li> <li>• <b>Scheduled In:</b> An arrival flight that is not yet being tracked.</li> <li>• <b>Enroute Arr:</b> An arrival flight that is in the enroute airspace.</li> <li>• <b>Term Area Arr:</b> An arrival flight that is inside the terminal airspace.</li> <li>• <b>On Final:</b> An arrival flight that is on final approach.</li> <li>• <b>On:</b> An arrival flight that has landed.</li> <li>• <b>In Ramp:</b> An arrival flight that is taxiing in the Ramp.</li> <li>• <b>In:</b> An arrival flight that is parked at the gate.</li> </ul>

	<ul style="list-style-type: none"> <li>• <b>Return to Gate:</b> A departure that is returning to the gate, after pushing back.</li> <li>• <b>Suspended:</b> A departure flight that was scheduled to have already departed, but no updates have been received.</li> <li>• <b>Cancelled:</b> A flight that has been cancelled by the airline.</li> <li>• <b>Unknown:</b> A flight with an unknown status.</li> </ul> <p><i>*Not all types are available at all airports.</i>  <i>**In the TOS Departure Table, only Scheduled Out, Pushback, Out, Taxiing AMA, and In Queue are applicable.</i></p>
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: <ul style="list-style-type: none"> <li>• For <b>departures</b>, the LOB timer starts at pushback and is continuously computed as current time minus the Actual Off-Block Time (AOBT) until the flight takes off.</li> <li>• For <b>arrivals</b>, the LOB timer starts at touchdown and is continuously computed as the current time minus the Actual Landing Time (ALDT) until the flight is in the gate.</li> </ul>
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.
POBT	Proposed Off-Block Time (POBT), the airline’s “p-time.” Used in the “Time to Expiration” calculation in Center TOS Approval Mode.
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	<b>Departures:</b> <ul style="list-style-type: none"> <li>• <i>Predicted:</i> Estimated Takeoff Time (ETOT)</li> <li>• <i>Actual:</i> Actual Takeoff Time (ATOT)</li> </ul> <b>Arrivals:</b> <ul style="list-style-type: none"> <li>• <i>Predicted:</i> Target Landing Time (TLDT)</li> <li>• <i>Actual:</i> Actual Landing Time (ALDT)</li> </ul>

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: <ul style="list-style-type: none"> <li>• For <b>departures</b>, from pushback to takeoff.</li> <li>• For <b>arrivals</b>, from landing to parking at the gate.</li> </ul> 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 (in minutes). Timer does not start until the flight is within the runway queue box and taxiing at 15 kts or less.  <i>*Only available at airports with surface surveillance.</i>
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: <ul style="list-style-type: none"> <li>• An <b>arrival</b> flight crosses the Spot to enter the Ramp Area.</li> <li>• A <b>departure</b> flight crosses the Spot to enter the AMA.</li> </ul> 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:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**Step 2:** Select the “Show/Hide Columns” icon (Figure 5.40).

**Note:** Two lists are shown in the Column Settings window (Figure 5.44):

- **Available:** Columns not displayed in the table.
- **Shown:** Columns currently displayed in the table.

**Step 3:** Select a column name from the Available list (e.g., “CPDLC” in Figure 5.44).

**Step 4:** Select the *right* arrow to move the column name to the Shown list (Figure 5.44).

**Step 5 (Optional):** Select the column name in the Shown list and use “Move Up” and “Move Down” to reorder columns (Figure 5.45).

**Step 6:** 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.

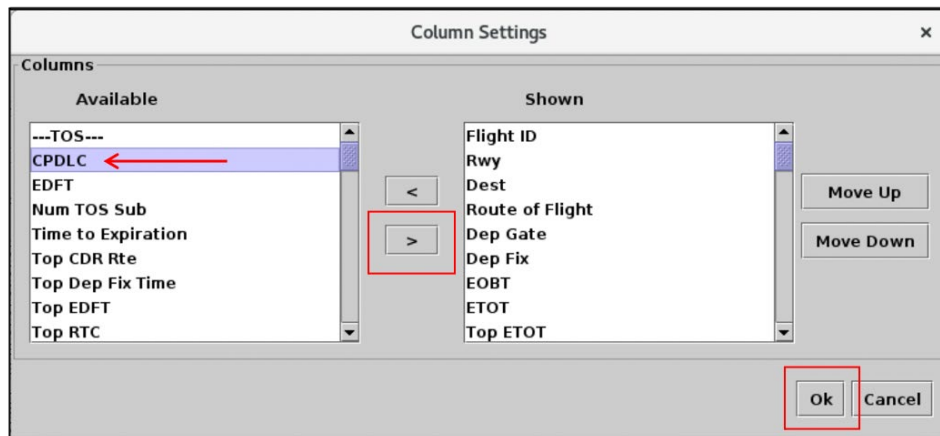


Figure 5.44. Column Settings: Select the right arrow to move a column name to the Shown list.

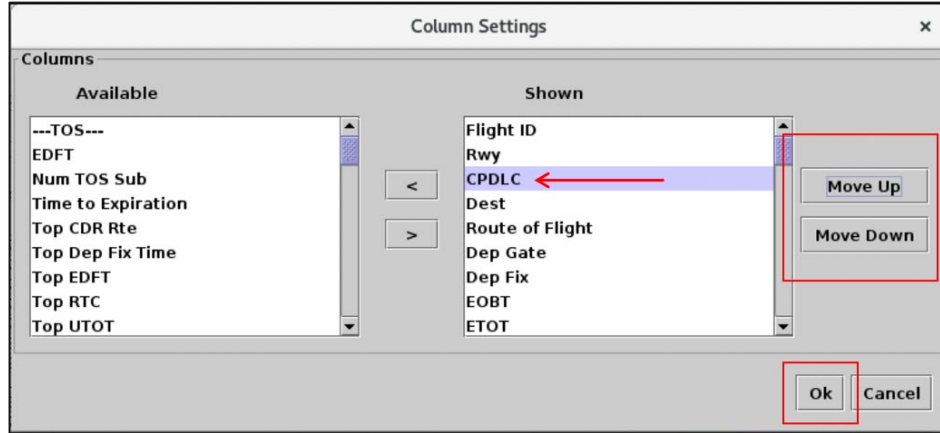


Figure 5.45. Column Settings: Use “Move Up” and “Move Down” to reorder columns.

Flight ID	Rwy	CPDLC	Dest	Route of Flight	Dep Gate	Dep Fix	EOBT	ETOT	Top ETOT
AAL...	E17R	Y	MEM	KDFW.FORCK2.FORCK...	EAST	HANUH	09/02:03	09/02:19	
AAL...	E17R	Y	IND	KDFW.TRYTN3.LOOSE...	EAST	TRRCH	09/01:42	09/01:59	01:59
AAL...	E17R	Y	DTW	KDFW.TRYTN3.LOOSE...	EAST	TRRCH	09/01:43	09/02:05	02:05
AAL...	E17R		MIA	KDFW.MRSSH2.ZALE...	EAST	THHOR	09/01:55	09/02:09	
ASH...	E17R		TJH	KDFW.MRSSH2.ZALE...	EAST	THHOR	09/01:42	09/02:04	02:04
ASH...	E18L		MAF	KDFW.WSTEX2.DOSX...	WEST	RBBIT	09/01:49	09/01:59	01:59
AAL...	E18L		OKC	KDFW.BLECO8.ZEMM...	NORTH	BLECO	09/01:56	09/02:12	
AAL...	E18L	Y	SEA	KDFW.HUDAD2.HUDA...	WEST	PGLET	09/01:32	09/01:51	01:51
AAL...	E17R		ATL	KDFW.FORCK2.FORCK...	EAST	HANUH	09/01:31	09/02:02	02:02
ENY...	E17R		SGF	KDFW.AKUNA9.MLC....	NORTH	AKUNA	09/01:29	09/01:47	01:47
AAL...	E17R		BNA	KDFW.TRYTN3.LOOSE...	EAST	TRRCH	09/01:57	09/02:10	
AAL...	E18L		DSM	KDFW.BLECO8.TULJ2...	NORTH	BLECO	09/01:51	09/02:02	02:07

Figure 5.46. TOS Departure Table: Newly added column (e.g., “CPDLC”) is shown in the table.

## To remove a column from the TOS Departure Table:

**Step 1:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**Step 2:** Select the “Show/Hide Columns” icon (Figure 5.40).

**Step 3:** Select a column name from the Shown column (e.g., “Dep Gate” in Figure 5.47).

**Step 4:** Select the *left* arrow to move the column name back to the Available list (Figure 5.47).

**Step 5:** When complete, select “OK” to close the “Column Settings” window (Figure 5.47).

**Alternatively:** Select “Cancel” to cancel the pending changes and close the “Column Settings” window.

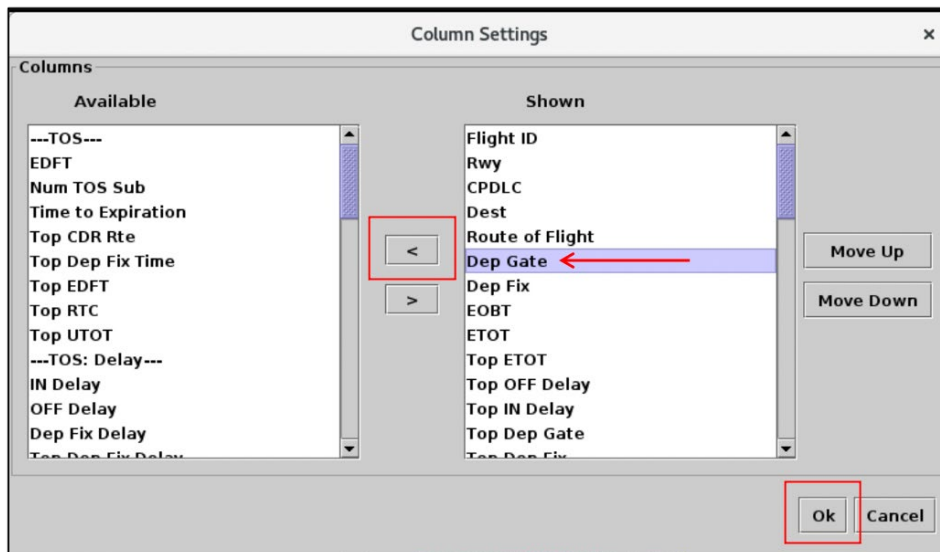


Figure 5.47. Column Settings: Select the left arrow to remove a column from the table.

### 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 to set an alternate row color in the TOS Departure Table.



## To set row colors in the TOS Departure Table:

**Step 1:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**Step 2:** Select the “Table Color Settings” icon (Figure 5.40).

**Step 3:** Select the “Set Row Colors” tab (Figure 5.48).

**Step 4:** Select either the “Odd Row” or “Even Row” color box to open the “Choose Row Color” window (e.g., “Odd Row Color” in Figure 5.48).

**Step 5:** On the “Swatches” tab, select a color (e.g., green in Figure 5.49).

**Step 6 (Optional):** If necessary, use the other four color-palette tabs (HSV, HSL, RGB, CMYK) to refine the selected color (Figure 5.49).

**Step 7:** When finished making the color selection, select “OK” (Figure 5.49).

**Note:** A preview of the alternating row colors is shown on the “Set Row Colors” tab (e.g., green/white in Figure 5.50).

**Step 8 (Optional):** Repeat these steps to select a color for the *other* odd/even row. Or, use the default color (white), as shown in Figure 5.50.

**Step 9:** Select “Ok” to close the “Color Settings” window and apply the color changes (Figure 5.50). See an example of alternating row colors in Figure 5.51.

**Alternatively:** Select “Cancel” to close the window without saving the changes.

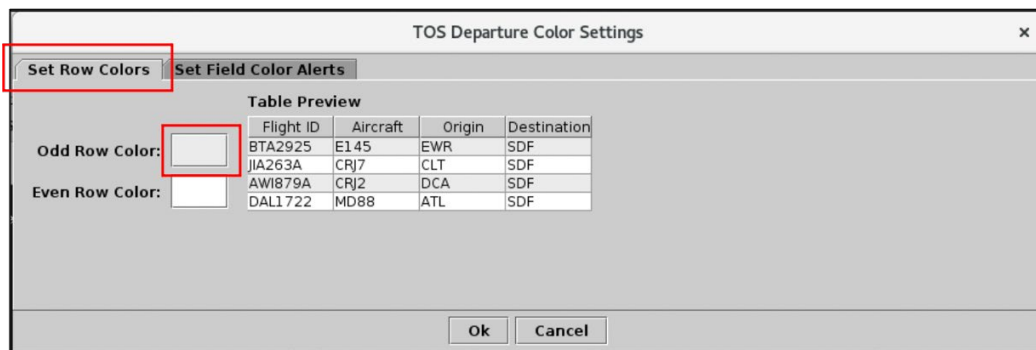


Figure 5.48. Color Settings: Set Row Colors tab.

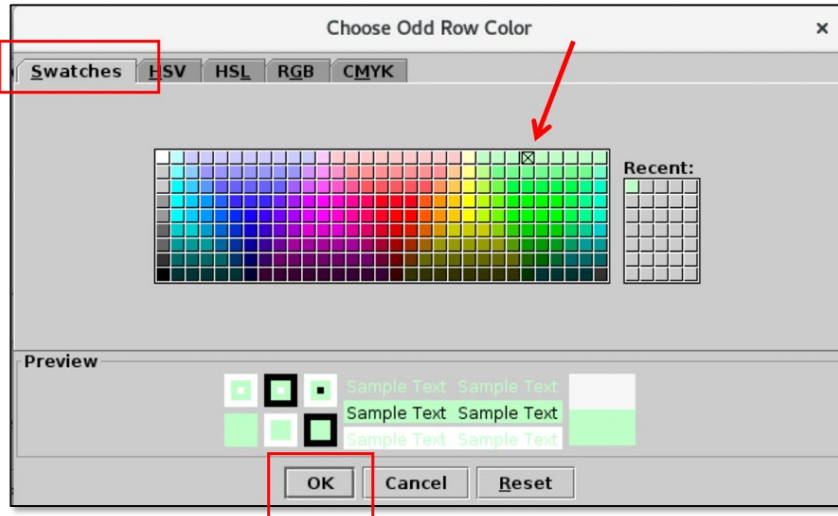


Figure 5.49. Use the “Swatches” tab to select a color. Use the HSV, HSL, RGB, or CMYK color palettes to refine the color selection, if necessary.

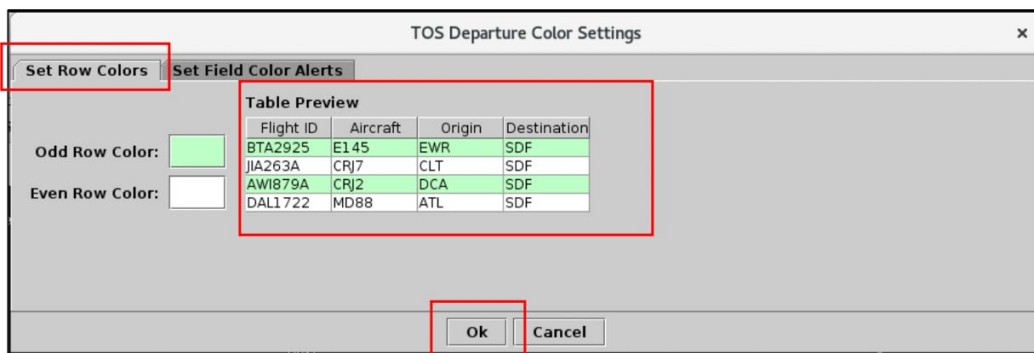


Figure 5.50. Set Row Colors: Alternating row color preview.

Metroplex Planner - DFW TOS Operations at 03:59 Z

TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R,DFW:31R,DFW:31L AND Eligibility State = Candidate,Potential AND Coord Stat

Flight ID	Rwy	CPDLC	Dest	Route of Flight	Dep Gate	Dep Fix	EOBT	ETOT	Top ETOT	Top OFF Delay	Top IN Delay	Top Dep Gate	Top Dep Fix	Top CDR	Top Rwy	Top OFF Del Sav	Top IN Del Sav	Top Agg DFW Del Sav	Top Prob Del Sav > RTC
SK...	E17R		FSM	KDFW.AKUNA9.MLC....	NORTH	AKUNA	09/05:00	09/05:13											
ASH...	E18L		ELP	KDFW.WSTEX2.CIKAN...	WEST	RBBIT	09/04:54	09/05:02											
AAL...	E18L		LAX	KDFW.HRPER3.HULZ...	WEST	TYGGR	09/03:56	09/04:13	04:13	+2	+24	NORTH	LOWGN	DFWLAX1N	18L	0	+11	0.0	0.3%
ENY...	E18L		SJT	KDFW.WSTEX2.WSTE...	WEST	RBBIT	09/03:57	09/04:05	04:05	0	+10	SOUTH	NELYN	DFWSJT1S	18L	0	+12	0.0	0.1%
AAL...	E18L	Y	AUS	KDFW.JASPA6.WINDU...	SOUTH	JASPA	09/04:27	09/04:39	04:39	0	+55	WEST	RBBIT	DFWAUS3W	18L	0	+18	0.0	0.2%
AAL...	E18L		SAT	KDFW.JASPA6.WINDU...	SOUTH	JASPA	09/03:46	09/04:06	04:06	+1	+22	WEST	RBBIT	DFWSAT3W	18L	0	+12	0.0	0.0%
ENY...	17R		XNA	KDFW.AKUNA9.MLC....	NORTH	AKUNA	09/03:49	09/03:59	03:59	+1	+24	EAST	ZERLU	DFWXNA1E	17R	+1	+18	+1.9	0.0%
AAL...	E18L		SEA	KDFW.HUDAD2.HUDA...	WEST	PGLET	09/04:05	09/04:22	04:22	+1	+43	NORTH	LOWGN	DFWSEA1N	18L	0	+3	0.0	23.0%
AAL...	E18L		TUS	KDFW.WSTEX2.CIKAN...	WEST	RBBIT	09/04:21	09/04:33	04:33	0	+47	SOUTH	NELYN	DFWTUS1S	18L	0	+14	0.0	0.4%
ENY...	E17R		SGF	KDFW.AKUNA9.MLC....	NORTH	AKUNA	09/03:56	09/04:07	04:07	0	+26	EAST	ZERLU	DFWSGF1E	17R	0	+13	0.0	0.0%
AAL...	E18L		RNO	KDFW.HRPER3.HULZ...	WEST	TYGGR	09/03:47	09/04:01	04:01	0	+19	NORTH	LOWGN	DFWRNO1N	18L	0	+9	0.0	0.0%
ASH...	E17R		HOU	KDFW.ARDIA7.ELLVR...	SOUTH	ARDIA	09/04:25	09/04:37	04:37	0	+62	EAST	THHOR	DFWHOU1E	17R	0	+29	0.0	0.0%
AAL...	E18L		PHX	KDFW.HRPER3.HULZ...	WEST	TYGGR	09/04:05	09/04:20	04:20	+1	+31	NORTH	LOWGN	DFWPHX1N	18L	0	+10	0.0	3.4%
AAL...	E18L		LAS	KDFW.HRPER3.HULZ...	WEST	TYGGR	09/04:20	09/04:40	04:40	0	+45	NORTH	LOWGN	DFWLAS1N	18L	0	+11	0.0	2.3%

Add Table

Figure 5.51. TOS Departure Table: Alternating row colors.

### 5.4.6.3.2 Set Field Color Alerts

Use the “Set Field Color Alerts” tab 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**

<b>Field</b>	<b>Description</b>	<b>Options</b>
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> <i>Expired</i>
EOBT	Earliest Off-Block Time (EOBT) provided by the airline. Earliest predicted push back time.	[ <i>mm</i> ] Relative [ <i>hhmm</i> ] Zulu
ETOT	Estimated Takeoff Time (ETOT). Predicted takeoff time, accounting for: <ol style="list-style-type: none"> <li>1. Undelayed taxi time, plus</li> <li>2. Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>3. Predicted delay from <b>terminal-area restrictions</b> being passed back to the surface.</li> </ol>	[ <i>mm</i> ] Relative [ <i>hhmm</i> ] Zulu
Flight Status	Flight Status  <i>**In the TOS Departure Table, only Scheduled Out, Pushback, Out, Taxiing AMA, and In Queue are applicable.</i>	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>
IN Delay	<p>Predicted arrival delay on the <i>filed</i> route (in minutes):</p> <p>= (ETOT on the <i>filed</i> route + enroute time including wind miles) – <b>Scheduled In-Block Time (SIBT)</b>.</p> <p><b>Negative</b> value represents <i>earlier</i> arrival. <b>Positive</b> value represents <i>later</i> arrival.</p>	[mm]
OFF Delay	<p>Delay on the <i>filed</i> route (in minutes) that the flight is predicted to encounter, <b>at the runway</b>, caused by both:</p> <ol style="list-style-type: none"> <li>1. Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>2. Predicted delay from <b>terminal-area restrictions</b> being passed back to the surface.</li> </ol> <p>= <b>Estimated Takeoff Time (ETOT)</b> on the <i>filed route</i> – <b>Undelayed Takeoff Time (UTOT)</b> on the <i>filed route</i>.</p>	[mm]
Time to Expiration	<p><b>Time to Expiration</b> is used in <b>Center Approval Mode</b>, that is, when Center (ZFW) is approving TOS submissions. At x minutes prior to the POBT (p-time), the flight’s Eligibility State changes from “Candidate” to “Expired.” For example, if the time limit is set to 35 min, the timer counts down to and expires at <b>p-time + 35 min</b>. After expiration, TOS routes can no longer be submitted for the flight.</p>	[mm]
Top Add nm	<p>Difference in route distance (in nautical miles).</p> <p>= Distance of the “<i>top</i>” TOS route – distance of current <i>filed</i> route.</p>	[nm]
Top Agg Del Sav	<p><b>Sum</b> of predicted <b>OFF Delay Savings</b> for the “<i>top</i>” TOS route (in minutes):</p> <p>= <b>OFF Delay Savings</b> for the flight rerouted on the “<i>top</i>” TOS route +</p>	[mm]
<i>*Varies by version of the</i>		

<p><i>Metroplex Planner</i></p>	<p><b>OFF Delay Savings</b> for all subsequent departures scheduled to takeoff within one hour.</p> <p><b>Negative</b> value represents <i>reduced</i> delay (i.e., <i>Delay Savings</i>).</p> <p><b>Positive</b> value represents <i>additional</i> delay.</p> <p>*Options can include: Airport, all airports in the TRACON, Airline, Air Carrier (Mainline), or Major Air Carrier (Fleet).</p>	
<p>Top IN Delay</p>	<p>Predicted arrival delay on the “<i>top</i>” <i>TOS route</i> (in minutes):</p> <p>= <b>IN Delay</b> on the <i>filed</i> route + <b>Top IN Delay Savings</b> on the “<i>top</i>” <i>TOS route</i>.</p> <p><b>Negative</b> value represents <i>earlier</i> arrival.  <b>Positive</b> value represents <i>later</i> arrival.</p>	<p>[mm]</p>
<p>Top IN Del Sav</p>	<p>Predicted <b>IN Delay Savings</b> on the “<i>top</i>” <i>TOS route</i> (in minutes):</p> <p>= <b>OFF Delay Savings</b> on the “<i>top</i>” <i>TOS route</i> + flight time difference.</p> <p>Note: Flight time difference is calculated as:  (“<i>top</i>” <i>TOS route</i> distance – <i>filed</i> route distance) / <i>filed</i> speed.</p> <p><b>Negative</b> value represents <i>earlier</i> arrival.  <b>Positive</b> value represents <i>later</i> arrival.</p>	<p>[mm]</p>
<p>Top OFF Delay</p>	<p>For the “<i>top</i>” <i>TOS route</i>, the delay (in minutes) that the flight is predicted to encounter, <b>at the runway</b>, caused by both:</p> <ol style="list-style-type: none"> <li>1. Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>2. Predicted delay from <b>terminal-area restrictions</b> being passed back to the surface.</li> </ol> <p>= <b>Estimated Takeoff Time (ETOT)</b> on the “<i>top</i>” <i>TOS route</i> – <b>Undelayed Takeoff Time (UTOT)</b> on the <i>filed</i> route.</p>	<p>[mm]</p>

Top OFF Del Sav	<p>Predicted <b>OFF Delay Savings</b> on the “<i>top</i>” TOS route (in minutes):</p> <p>= <b>OFF Delay</b> on the “<i>top</i>” TOS route – <b>OFF Delay</b> on the <i>current/</i>filed route.</p> <p><b>Negative</b> value represents <i>reduced</i> delay (i.e., <i>Delay Savings</i>).</p> <p><b>Positive</b> value represents <i>additional</i> delay.</p>	[mm]
Top Prob Del Sav > RTC	<p>For the “<i>top</i>” TOS route:</p> <p>Probability that predicted <b>OFF Delay Savings</b> will be <i>greater than</i> the <b>Relative Trajectory Cost (RTC)</b>.</p>	[0–100%]
Top Prob Del Sav > 0	<p>For the “<i>top</i>” TOS route:</p> <p>Probability that predicted <b>OFF Delay Savings</b> will be <i>greater than</i> 0 (zero) minutes.</p>	[0–100%]
Top RTC	<p>Relative Trajectory Cost (RTC) <i>for the “top” TOS route.</i></p> <p>RTC is the cost (in minutes) to fly the TOS route as compared to the original route. RTC is expressed in terms of minutes of surface delay.</p> <p>The RTC is used as a threshold value used to determine when a TOS route becomes more advantageous to fly than the filed route.</p> <p>The RTC is computed based on the following factors:</p> <ul style="list-style-type: none"> <li>• <i>CDR (TOS route) distance minus filed route distance.</i></li> <li>• Cost ratio (specific to each Flight Operator).</li> <li>• Filed speed.</li> </ul>	[mm]

## To set Field Color Alerts in the TOS Departure Table:

**Step 1:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**Step 2:** Select the “Table Color Settings” icon (Figure 5.40).

**Step 3:** Select the “Set Field Color Alerts” tab (Figure 5.52).

**Note:** *Color selections for several fields may be preset, but can be modified by the user (Figure 5.52).*

**Step 4:** Select a variable from the dropdown list in the “Field” column (e.g., “Flight Status” in Figure 5.52).

**Note:** *If a new row is not available, select “Add Fields” (Figure 5.52).*

**Step 5:** Select an option from the dropdown list in the “Operator” column (e.g., “=” in Figure 5.52).

**Step 6:** Select an option from the dropdown list in the “Value” column (e.g., “Scheduled\_Out” in Figure 5.52).

**Step 7:** Select the color box to open the “Choose Color” window (Figure 5.52).

**Step 8:** On the “Swatches” tab, select a color (e.g., cyan in Figure 5.53).

**Step 9 (Optional):** If needed, use the other four color-palette tabs (HSV, HSL, RGB, CMYK) to refine the color selection (Figure 5.53).

**Step 10:** When finished making the color selection, select “OK” (Figure 5.53).

**Note:** *The selected color is shown on the “Set Field Color Alerts” tab (e.g., cyan in Figure 5.54).*

**Step 11 (Optional):** Repeat these steps to add/modify more field color alerts.

**Step 12:** Select “Ok” to close the Color Settings window and apply the color changes (Figure 5.54). See an example of color alerts in Figure 5.55.

**Alternatively:** Select “Cancel” to close the window without saving the changes.

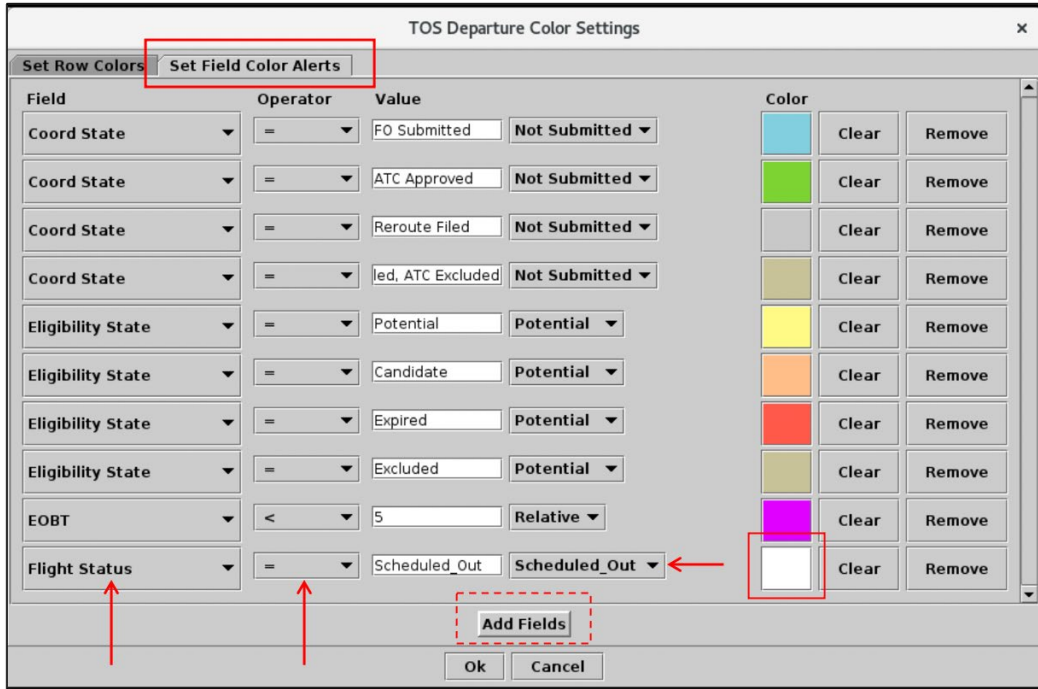


Figure 5.52. Color Settings: Set Field Color Alerts tab.

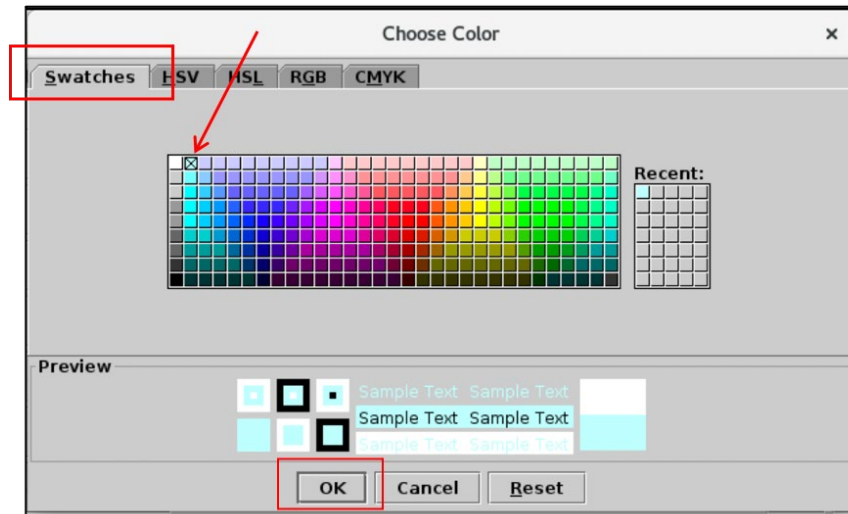


Figure 5.53. Use the “Swatches” tab to select a color. Use the HSV, HSL, RGB, or CMYK color palettes to refine the color selection, if necessary.



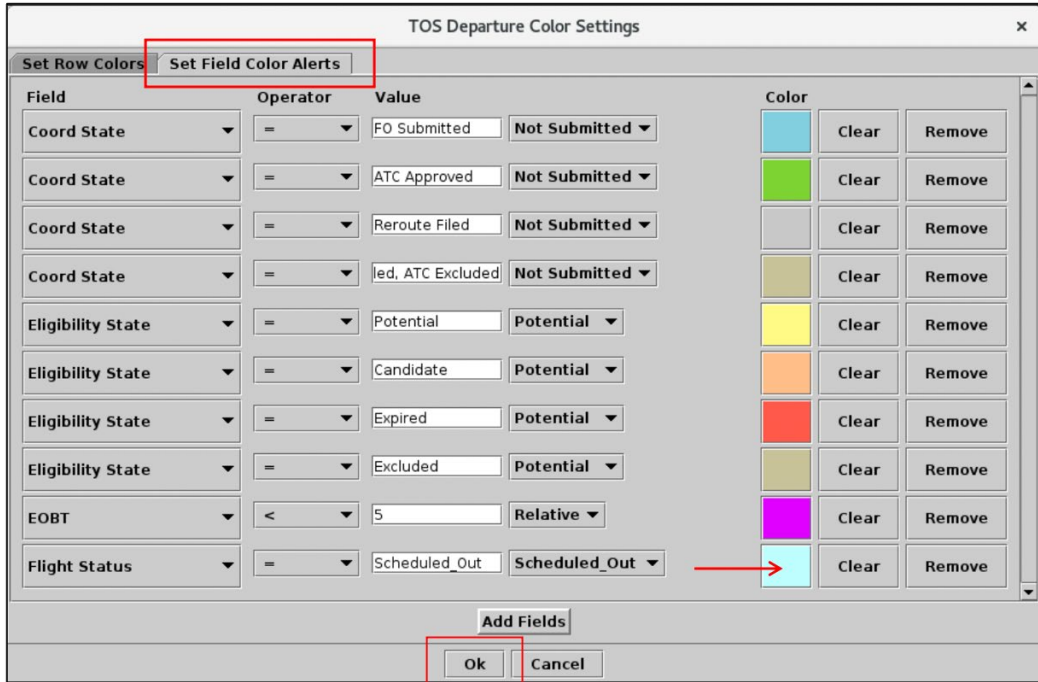


Figure 5.54. Set Field Color Alerts tab: Selected color is displayed (in this example, cyan).

Metroplex Planner - DFW TOS

TOS Departure - Runway = DFW:17R,DFW:35L,DFW:18L,DFW:36R,DFW:31R,DFW:31L AND Eligibility State =

Flight ID	CPC	Rwy	Dest	Route of Flight	Dep Gate	Dep Fix	OFF Delay	IN Delay	Flight Status	ETOT	Top ETOT	Top OFF Delay	Top IN Delay	Top Dep Gate	Top Dep Fix
AAL...	Y	E17R	ATL	KDFW.FORCK2.FORCK...	EAST	HANUH	+1		Scheduled_Out	09/17:47					
AAL...		E18L	SAN	KDFW.WSTEX2.CIKAN...	WEST	RBBIT	+13		Scheduled_Out	09/18:05					
ENY...		18L	ABI	KDFW.WSTEX2.WSTE...	WEST	RBBIT	+2	-2	In_Queue	09/16:34	16:34	+2	+27	SOUTH	NELYN
ENY...		17R	IAD	KDFW.FORCK2.FORCK...	EAST	HANUH	0	-4	In_Queue	09/16:32	16:32	0	+21	SOUTH	DARTZ
AAL...	Y	E18L	PHX	KDFW.WSTEX2.CIKAN...	WEST	RBBIT	0	-10	Taxiing_AMA	09/16:39	16:39	0	+1	NORTH	LOWGN
ENY...		E18L	GRK	KDFW.NELYN6.ACT..T...	SOUTH	NELYN	+1	-2	Pushback	09/16:37	16:37	+1	+13	WEST	RBBIT
AAL...	Y	E17R	RIC	KDFW.TRYTN3.LOOSE...	EAST	TRRCH	0	+8	Taxiing_AMA	09/16:40	16:40	0	+17	NORTH	AKUNA
AAL...	Y	E18L	MSP	KDFW.BLECO8.ZEMM...	NORTH	BLECO	+2	-8	Pushback	09/16:42	16:43	+2	+15	EAST	ZERLU
ENY...		E17R	XNA	KDFW.AKUNA9.MLC....	NORTH	AKUNA	0	+28	Scheduled_Out	09/16:44	16:44	0	+47	EAST	ZERLU
AAL...		E17R	CHS	KDFW.FORCK2.FORCK...	EAST	HANUH	0	-12	Pushback	09/16:42	16:41	0	+7	SOUTH	DARTZ
AAL...		E18L	SLC	KDFW.HUDAD2.HUDA...	WEST	PGLET	0	-4	Scheduled_Out	09/16:50	16:50	0	+4	NORTH	LOWGN
ENY...		E17R	CMH	KDFW.FORCK2.FORCK...	EAST	HANUH	+1	+19	Scheduled_Out	09/16:51	16:51	+1	+14	NORTH	AKUNA
ASH...		E17R	BHM	KDFW.FORCK2.FORCK...	EAST	HANUH	+1	+26	Scheduled_Out	09/16:55	16:54	0	+45	NORTH	AKUNA
AAL...		E17R	VPS	KDFW.MRSSH2.ZALE...	EAST	THHOR	0	+56	Scheduled_Out	09/16:57	16:57	0	+69	SOUTH	DARTZ
AAL...		E17R	CLT	KDFW.FORCK2.FORCK...	EAST	HANUH	0	-10	Scheduled_Out	09/17:01	17:01	0	0	NORTH	AKUNA
ASH...		E17R	MOB	KDFW.MRSSH2.ZALE...	EAST	THHOR	0	+86	Scheduled_Out	09/17:07	17:07	0	+879	SOUTH	DARTZ
AAL...		E17R	PHL	KDFW.FORCK2.FORCK...	EAST	HANUH	0	+97	Scheduled_Out	09/17:10	17:10	0	+95	NORTH	AKUNA
AAL...		E18L	SMF	KDFW.HRPER3.HULZ...	WEST	TYGGR	0	+2	Scheduled_Out	09/17:31	17:31	0	+12	NORTH	LOWGN

Figure 5.55. TOS Departure Table: Field Color Alerts. In this example, Flight Status = "Scheduled Out" is highlighted in cyan.

#### 5.4.6.4 Save for Quick Create

Use “Save for Quick Create” (Figure 5.40) to save a TOS Departure Table configuration setting.

##### To save a TOS Departure Table configuration setting:

**Step 1:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**Step 2:** Select the “Save for Quick Create” icon (Figure 5.40).

**Step 3:** Enter a file name (e.g., “Tower\_West” in Figure 5.56).

**Step 4:** Select “Save” (Figure 5.56).

**Step 5:** Select “OK” in the confirmation pop-up window (Figure 5.56).

**Note:** To open a previously saved configuration setting, select the “Add Table” button (e.g., “Tower\_West” in Figure 5.57).

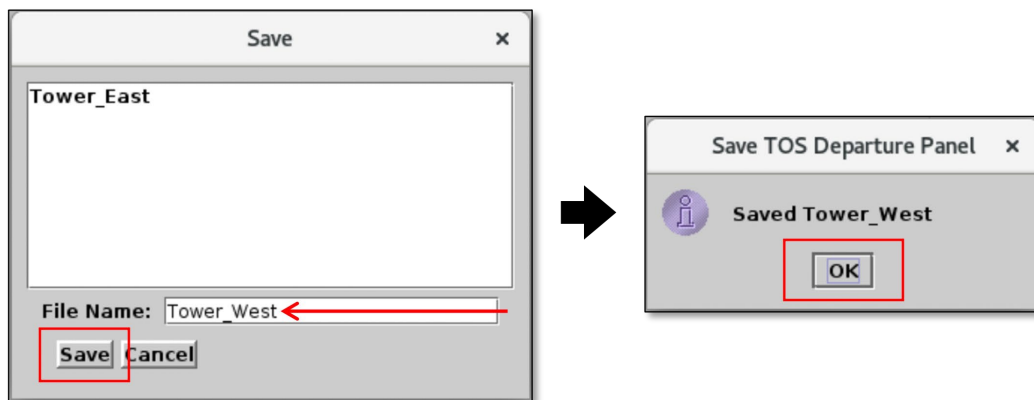


Figure 5.56. TOS Departure Table: Save a table configuration.

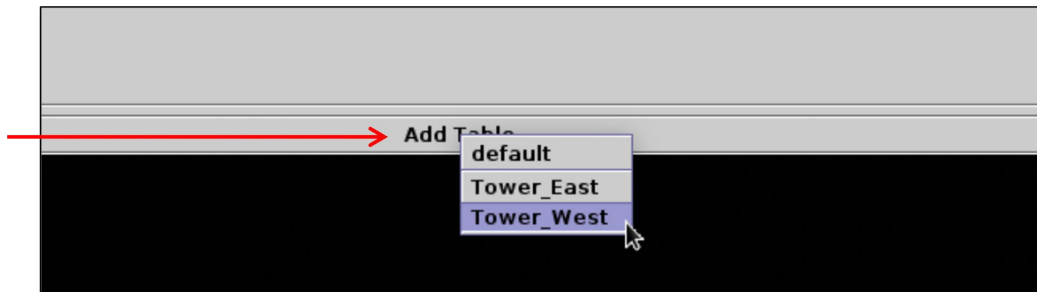


Figure 5.57. Create a TOS Departure Table using a previously saved configuration setting (in this example, “Tower\_West”).

### 5.4.6.5 TOS Departure Table Properties

Use “TOS Departure Table Properties” (Figure 5.40) to select the number of visible rows in a TOS Departure Table.

#### To change TOS Departure Table Properties:

**Step 1:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**Step 2:** Select the “TOS Departure Table Properties” icon (Figure 5.40).

**Step 3:** Select “Show All Rows” to display all rows in a table.

**Alternatively:** Enter the maximum number of rows to display (e.g., “10” in Figure 5.58). Use the vertical scroll bar to view flights outside of the visible window.

**Step 4:** Select “Apply” to save the change (Figure 5.58).

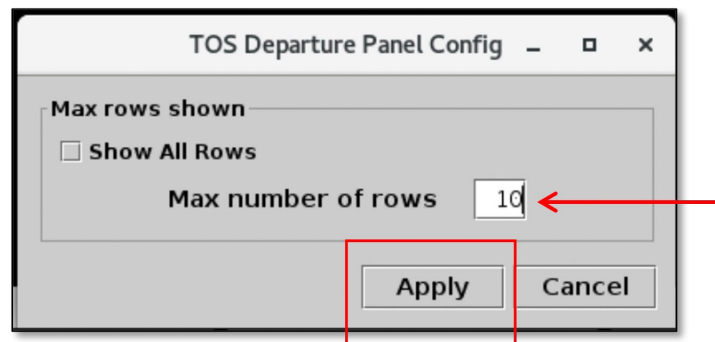


Figure 5.58. TOS Departure Table: Properties.

## 5.4.7 TOS Departure Table: Search

Use the “Search” function to search for flights in TOS Departure Tables. Search criteria are listed in Table 5.9.

Table 5.9. TOS Departure Table: Search Criteria

Search Criteria	Example
<b>Departure Flights</b>	
Flight number	1456
Air Carrier	AAL
Call Sign	AAL1456
Tail Number	N123AB
Destination Airport (3- or 4-character airport code)	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:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**Step 2:** Enter search criteria in the “Search” field (e.g., “North” for flights assigned to the North Departure Gate in Figure 5.59). Flights matching the search criteria are highlighted in TOS Departure Tables, 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) are highlighted.*

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

Metroplex Planner - DFW TOS Operations at 14:51 Z

Search  Clear

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

Flight ID	CPC	Rwy	Dest	Route of Flight	Dep Gate	Dep Fix	ETOT	Top Dep Gate	Top Dep Fix	Top CDR	Top OFF Del Sav	Eligibility State	Coord State
AAL...		E17R	PHL	KDFW.TRYTN3...	EAST	TRRCH	24/15:42	NORTH	AKUNA	DFWPHJ3	0	Potential	Not Submitted
ENY...		E18L	CRP	KDFW.NELYN6...	SOUTH	NELYN	24/15:42	WEST	RBBIT	DFWCRP1W	0	Potential	Not Submitted
ASH...		E17R	XNA	KDFW.AKUNA9...	NORTH	AKUNA	24/15:57	WEST	PGLET	DFWXNA1W	0	Potential	Not Submitted
AAL...		E17R	GSP	KDFW.FORCK2...	EAST	HANUH	24/15:18	NORTH	AKUNA	DFWGSP1N	0	Potential	Not Submitted
ENY...		E18L	LBB	KDFW.KATZZ2...	WEST	ROOOO	24/15:52	NORTH	LOWGN	DFWLBB1N	0	Potential	Not Submitted
ASH...		E17R	HOU	KDFW.ARDIA7...	SOUTH	ARDIA	24/15:11	EAST	THHOR	DFWHOU1E	0	Potential	Not Submitted
AAL... Y		E17R	IND	KDFW.AKUNA9...	NORTH	AKUNA	24/15:28	EAST	ZERLU	DFWIND0P	0	Potential	Not Submitted
ENY...		E18L	AMA	KDFW.HUDAD...	WEST	PGLET	24/15:44	NORTH	LOWGN	DFWAMA1N	0	Potential	Not Submitted
AAL...		E17R	MKE	KDFW.AKUNA9...	NORTH	AKUNA	24/15:38	EAST	ZERLU	DFWMKE1E	0	Potential	Not Submitted
AAL... Y		E17R	DCA	KDFW.TRYTN3...	EAST	TRRCH	24/15:43	NORTH	AKUNA	DFWDCA1N	0	Potential	Not Submitted
ASH...		E17R	HOU	KDFW.ARDIA7...	SOUTH	ARDIA	24/15:56	WEST	RBBIT	DFWHOU3W	+1	Potential	Not Submitted
AAL...		E17R	BOS	KDFW.AKUNA9...	NORTH	AKUNA	24/15:46	EAST	ZERLU	DFWBOSLT	0	Potential	Not Submitted
ASH...		E18L	MAF	KDFW.WSTEX2...	WEST	RBBIT	24/15:26	SOUTH	NELYN	DFWMAF1S	0	Potential	Not Submitted
AAL...		E18L	SBA	KDFW.WSTEX2...	WEST	RBBIT	24/15:50	NORTH	LOWGN	DFWSBA1N	0	Potential	Not Submitted
AAL...		E17R	CLT	KDFW.TRYTN3...	EAST	TRRCH	24/15:19	NORTH	AKUNA	DFWCLT1N	0	Potential	Not Submitted
AAL...		E17R	SAV	KDFW.FORCK2...	EAST	HANUH	24/15:27	SOUTH	DARTZ	DFWSAV1S	0	Potential	Not Submitted
AAL...		E18L	COS	KDFW.LOWGN...	NORTH	LOWGN	24/16:11					Potential	Not Submitted
AAL...		E17R	MSN	KDFW.AKUNA9...	NORTH	AKUNA	24/15:20	EAST	ZERLU	DFWMSN1E	0	Potential	Not Submitted
AAL... Y		E18L	ABQ	KDFW.HRPER3...	WEST	TYGGR	24/16:16					Potential	Not Submitted
AAL... Y		E18L	FAT	KDFW.KATZZ2...	WEST	ROOOO	24/15:29	NORTH	LOWGN	DFWFAT1N	0	Potential	Not Submitted
AAL... Y		E17R	BWI	KDFW.FORCK2...	EAST	HANUH	24/15:31	NORTH	AKUNA	DFWBWJ3	0	Potential	Not Submitted
AAL...		E18L	OKC	KDFW.BLECO8...	NORTH	BLECO	24/16:13					Potential	Not Submitted
AAL...		E17R	IAD	KDFW.TRYTN3...	EAST	TRRCH	24/16:20					Potential	Not Submitted
AAL...		E17R	ATL	KDFW.FORCK2...	EAST	HANUH	24/15:21	NORTH	AKUNA	DFWATL1N	0	Potential	Not Submitted
ASH...		E18L	ICT	KDFW.BLECO8...	NORTH	BLECO	24/15:49	WEST	PGLET	DFWICT1W	0	Potential	Not Submitted

Add Table

Figure 5.59. TOS Departure Table: Search results highlighted in cyan (in this example, flights assigned to the “North” Departure Gate).

## 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 (Figure 5.60) when TOS Submissions are active (Section 3.1.11.1 for a description of how to activate/inactivate TOS Submissions):

- **TOS Flight Menu** (discussed in Section 5.5)
- **Scratch Pad** (Section 5.4.8.1)
- **Flight Operator** versions of the Metroplex Planner:
  - **Submit a TOS Route** (Section 5.4.8.2)
  - **Undo Submit** (Section 5.4.8.3)
  - **Exclude from TOS** (Section 5.4.8.6)
  - **Undo Exclude** (Section 5.4.8.7).
- **ATC** versions of the Metroplex Planner:
  - **Approve TOS Route** (Section 5.4.8.4)
  - **Undo Approve** (Section 5.4.8.5)

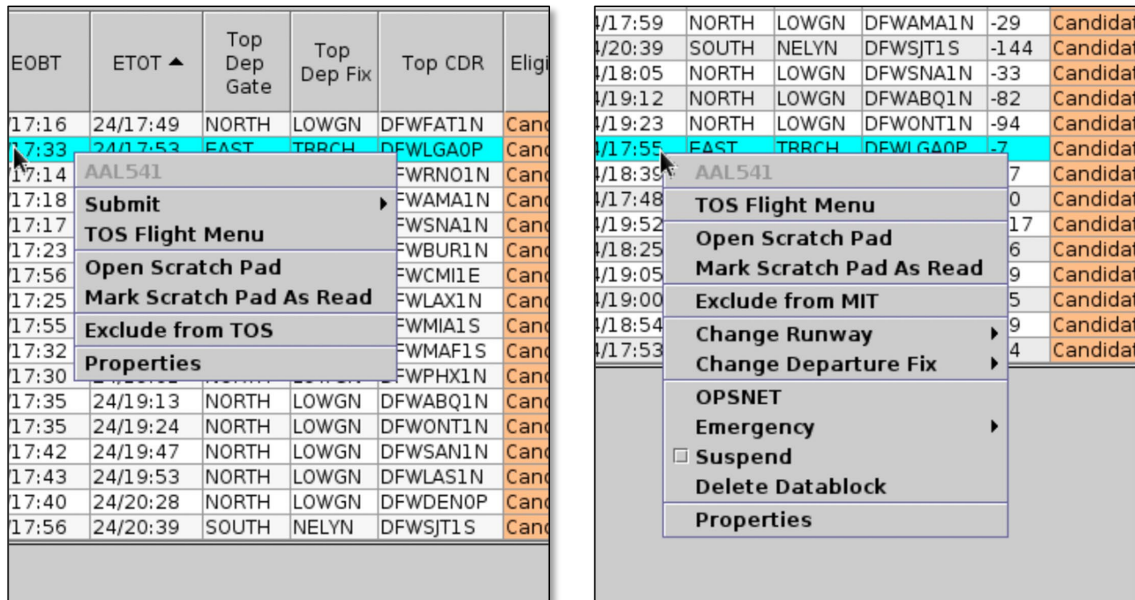


Figure 5.60. Example Right-click Menus: Flight Operator (left) and ATC (right).

Other right-click menu options, not related specifically to TOS operations (e.g., Change Runway), are described in Section 7.



### 5.4.8.1 Scratch Pad

Use the Scratch Pad to enter notes about a flight that appears in the TOS Departure Table. The Scratch Pad is available for any flight in the TOS Departure Table, regardless of TOS status (i.e., Eligibility State is Candidate, Potential, Excluded, or Expired).

#### To add a Scratch Pad entry:

*Note: This option is only available when TOS Submissions are active (Section 3.1.11.1) and the flight appears in the TOS Departure Table.*

**Step 1:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**Step 2:** In the TOS Departure Table, right-click on a flight.

**Step 3:** Select “Open Scratch Pad” from the right-click menu (Figure 5.61).

**Note: When a flight is included in the TOS Departure Table, “Open Scratch Pad” is also available as a right-click menu option on the Timeline and in the TOS Flight Menu (right-click on any row in the TOS Flight Menu; Figure 5.61).**

**Step 4:** Enter text in the Scratch Pad field:

In this example, the Flight Operator has submitted a TOS reroute for this flight. ATC uses the Scratch Pad to explain why they are not able to approve this TOS submission (“Unable due to upcoming terminal restrictions.” in Figure 5.62).

**Step 5:** Select “Apply” to save and share the entry (Figure 5.62).

**Note: Scratch Pad entries are automatically shared with other users.**

**Alternatively:** Select “Clear” to clear the text box. Select “Cancel” to close the Scratch Pad window without saving/sending any changes.

**Note: Scratch Pad entries are displayed in the “Scratch Pad” column in the TOS Departure Table (Figure 5.63). New messages are highlighted in green in the recipient’s interface (Figure 5.63). If more than one Scratch Pad entry is made for a flight, only the most recent entry is displayed in the table.**

**Step 6 (Optional):** To remove the green highlight, right-click on the flight and select “Mark Scratch Pad as Read” from the menu (Figure 5.64).

**Note: To send additional messages and view the history of entries for this flight (Figure 5.65), open the Scratch Pad by selecting “Open Scratch Pad” from the right-click menu.**

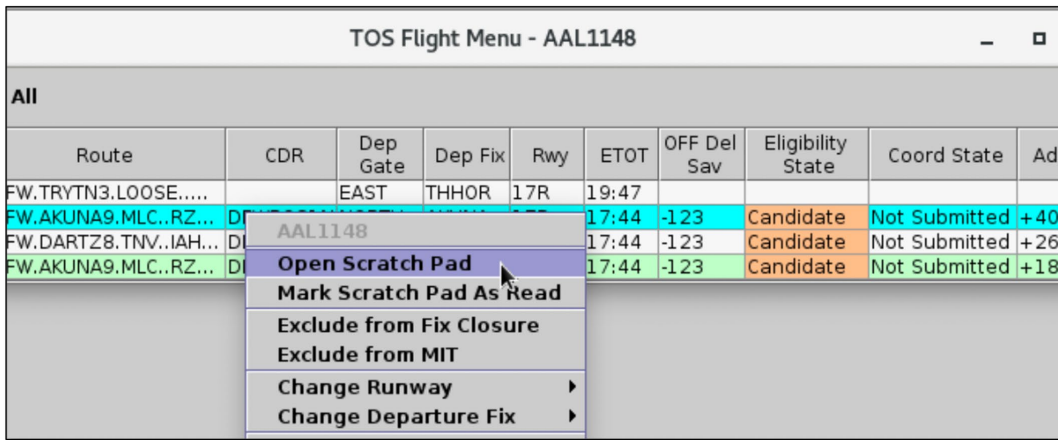
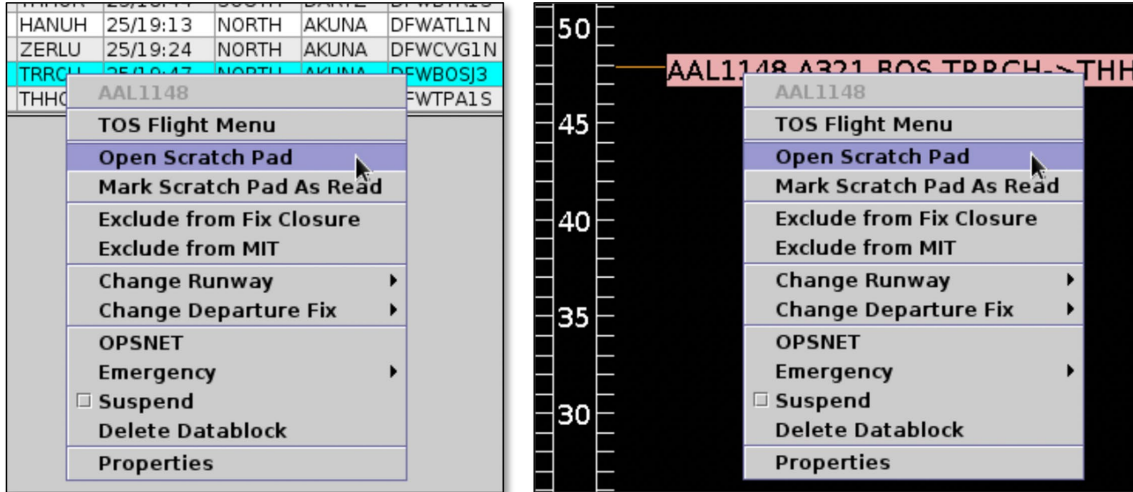


Figure 5.61. Access the Scratch Pad from the right-click menu in the TOS Departure Table, Timeline, or TOS Flight Menu.

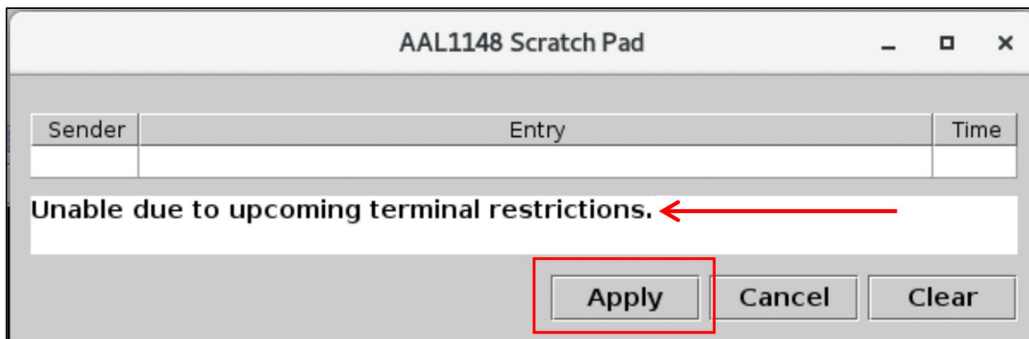


Figure 5.62. Scratch Pad: Text entry. In this example, ATC uses the Scratch Pad to explain to the Flight Operator why they are not able to approve a TOS submission.



Flight Operator - AAL TOS Operations at 17:10 Z							
Eligibility State = Candidate							
Dep Fix	EOBT ▲	ETOT	Scratch Pad	Top Dep Gate	Top Dep Fix	Top C	
THHOR	25/17:18	25/18:00		SOUTH	DARTZ	DFWBTR	
ZERLU	25/17:21	25/17:54		NORTH	AKUNA	DFWCVA	
TRRCH	25/17:30	25/18:29	Unable due to upcoming terminal restrictions.	NORTH	AKUNA	DFWBOJ	
THHOR	25/17:30	25/19:03		SOUTH	DARTZ	DFWTPA	
ZERLU	25/17:31	25/18:46		NORTH	AKUNA	DFWLIT	
HANUH	25/17:32	25/18:40		NORTH	AKUNA	DFWCAE	
TRRCH	25/17:33	25/19:09		NORTH	AKUNA	DFWLGA	
ZERLU	25/17:34	25/19:32		NORTH	AKUNA	DFWSDI	

Figure 5.63. In the recipient's TOS Departure Table, new Scratch Pad messages are highlighted in green. In this example, the new Scratch Pad message from ATC is highlighted in green on the Flight Operator's display.

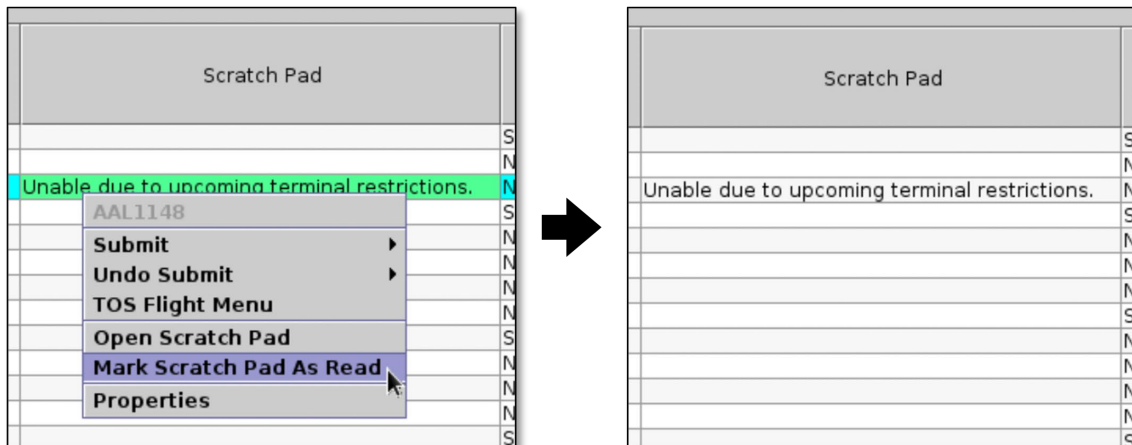


Figure 5.64. Scratch Pad: Select "Mark Scratch Pad as Read" to remove the green highlight.

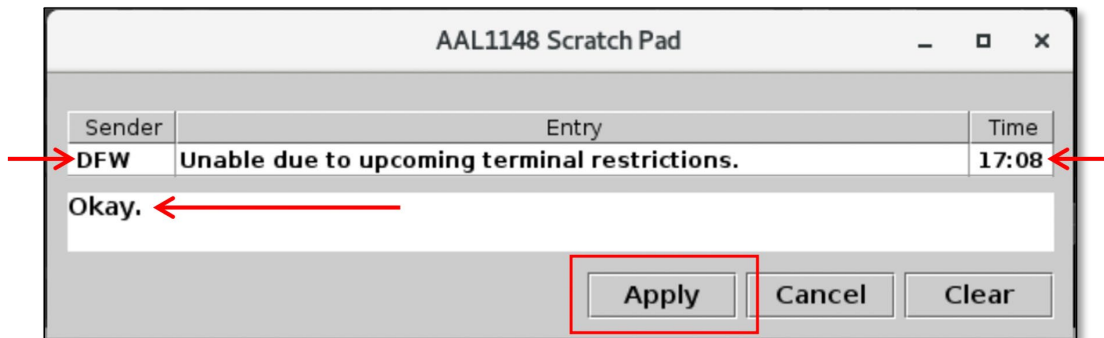


Figure 5.65. Open the Scratch Pad to send additional messages and view previous entries. In this example, the Flight Operator responds to ATC's earlier message.

### 5.4.8.2 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. TOS reroutes can be submitted for flights with an Eligibility State of “Candidate” or “Potential.”

#### To submit a TOS route to ATC (for Flight Operator users):

*Note: This option is only available when TOS Submissions are active (Section 3.1.11.1) and the flight appears in the TOS Departure Table.*

**Step 1:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**Step 2:** In the TOS Departure Table, right-click on a flight.

**Step 3:** Hover over “Submit” to view TOS route options (Figure 5.66).

**Step 4:** Click on a TOS route to submit the reroute 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 5.66).

*Note: “Submit” is also available as a right-click menu option in the TOS Flight Menu (Figure 5.67) and on the Timeline (Figure 5.68).*

*Note: More than one TOS route option can be submitted for a single flight.*

The screenshot shows a software window titled "Flight Operator - AAL TOS Operations at 15:22 Z". The window contains a table titled "TOS Departure - Eligibility State = Candidate". The table has columns for Flight ID, Rwy, Dest, Route of Flight, Dep Gate, EOBT, Top Total Delay Savings, TMI Info, Eligibility State, Coord State, and File. A right-click menu is open over the row for flight AAL383, showing options: Submit, TOS Flight Menu, Scratch Pad, Exclude from TOS, and Properties. The "Submit" option is expanded to show several route options with their respective eligibility states and delay savings.

Flight ID	Rwy	Dest	Route of Flight	Dep Gate	EOBT	Top Total Delay Savings	TMI Info	Eligibility State	Coord State	File
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	E17R	LGA	RCK2.FORCK.....	EAST	16/15:21	-38	35M FixClsd	Candidate	Not Submitted	Pu
ENY3309	E17R	LGA	DFWIAD1N	Candidate	ETOT=15:29	DelaySavings=-23		Candidate	Not Submitted	Pu
ENY3311	E17R	LGA	DFWIADVS	Potential	ETOT=15:29	DelaySavings=-23		Candidate	Not Submitted	Pu
AAL2550	E17R	LGA	DFWIADJ3	Potential	ETOT=15:29	DelaySavings=-23		Candidate	Not Submitted	Sci
AAL2368	E17R	LGA	DFWIAD1S	Potential	ETOT=15:29	DelaySavings=-23		Candidate	Not Submitted	Sci
AAL1853	E17R	LGA	DFWIAD1S	Potential	ETOT=15:29	DelaySavings=-23		Candidate	Not Submitted	Pu
AAL1180	E17R	LGA	SSH2.ZALEA.....	EAST	16/15:25	-45	35M	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 5.66. 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...		DFWIAD1N				Candidate	ETOT=15:34 DelaySavings=-88 ublished
AAL383	KDFW.DART28.T...		SOUTH	17R	1326	-88	Potential	Not Submitted

Right-click menu options: AAL383, Submit, Scratch Pad, Exclude from TOS

Figure 5.67. TOS routes can also be submitted from the TOS Flight Menu right-click menu.

Timeline view showing flight route: AAL383 IAD TRPCH 17R

Right-click menu options: AAL383, Submit, TOS Flight Menu, Scratch Pad, Exclude from TOS, Properties

Submit menu details:

- DFWIAD1N Candidate ETOT=15:29 DelaySavings=-23
- DFWIADVS Potential ETOT=15:29 DelaySavings=-23
- DFWIADJ3 Potential ETOT=15:29 DelaySavings=-23
- DFWIAD1S Potential ETOT=15:29 DelaySavings=-23

Figure 5.68. TOS routes can also be submitted from the Timeline right-click menu.

Information about each TOS route is displayed in the “Submit” menu:

- City-pair/CDR (e.g., DFWIAD1N)
- Eligibility State (i.e., Candidate or Potential)
- Estimated Takeoff Time (ETOT) (*hhmm*)
- OFF Del Sav (*mm*; negative values represent Delay Savings).

If a “top” route has been identified for the flight, it is displayed on the first row (e.g., “DFWIAD1N” in Figure 5.68).

Upon submission of a TOS Route:

- In the TOS Departure Table, the *flight's* Coordination State changes from “Not Submitted” to “FO Submitted” (Figure 5.69).

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	DFWI
ENY3349	E17R	MSY	KDFW.MRSSH...	EAST	16/15:18	Candidate	Not Submitted	DFWI
AAL383	E17R	IAD	KDFW.TRYTN...	EAST	16/15:19	Candidate	FO Submitted	DFWI
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 5.69. 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 5.70).

Flight ID	Route	CDR	Dep Gate	Rwy	Eligibility State	Coord State	Add nm	T Del
AAL383	KDFW.AKUNA7.MLC..RZC...	DFWIAD1N	NORTH	17R	Candidate	FO Submitted	+25	-5
AAL383	KDFW.DARTZ8.TNV..IAH...	DFWIAD1S	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 5.70. 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 5.71).



Figure 5.71. On the timeline, a “T” highlighted in white indicates that the Flight Operator has submitted one or more TOS routes for that flight.

- If ATC has enabled visual TOS Alerts (Section 3.6.2), the ATC facility is notified of the submission (Figure 5.72).

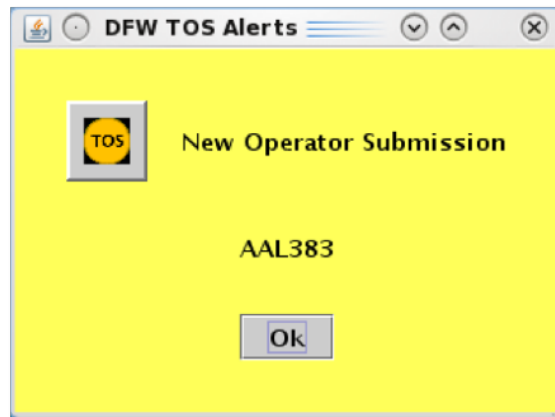


Figure 5.72. TOS Submission pop-up alert in the ATC interface.

### 5.4.8.3 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 TOS route submission.

#### **To undo a TOS Route Submission (for Flight Operator users):**

*Note: This option is only available when TOS Submissions are active (Section 3.1.11.1) and the flight appears in the TOS Departure Table.*

**Step 1:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**Step 2:** In the TOS Departure Table, right-click on a flight — flights with one or more submitted routes have a Coordination State of “FO Submitted.”

**Step 3:** Hover over “Undo Submit” to view the submitted route(s) (Figure 5.73).

**Step 4:** Click on a route to cancel the submission (for example, the “DFWIAD1N” route in Figure 5.73).

*Note: “Undo Submit” is also available as a right-click menu option in the TOS Flight Menu (Figure 5.74) and on the Timeline (Figure 5.75).*

*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	DCA	KDFW.TRYTN3.LOOSE....	EAST	16/15:19	-30	35M FixClsd	Candidate	FO Submitt
AAL320	E17R	DCA	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	DCA	KDFW.TRYTN3.LOOSE....	EAST	16/15:21	-30	35M FixClsd	Candidate	Not Submit
AAL2550	E17R	DCA	KDFW.TRYTN3.LOOSE....	EAST	16/15:24	-74	35M	Candidate	Not Submit
AAL2368	E17R	DCA	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	DCA	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

Figure 5.73. 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.L						Potential	Not Submitted

Figure 5.74. “Undo Submit” is also available on the TOS Flight Menu right-click menu.

Timeline view showing flight AAL383 IAD TRCH 17R T. The right-click menu includes options: Submit, Undo Submit (highlighted), TOS Flight Menu, Scratch Pad, and Properties. The 'Undo Submit' option shows details: DFWIAD1N Candidate ETOT=15:29 DelaySavings=-31.

Figure 5.75. “Undo Submit” is also available on the Timeline right-click menu.

#### 5.4.8.4 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. Approving a TOS reroute in the Metroplex Planner informs both the ATD-2 scheduler and the Flight Operator that the flight will be rerouted.

##### **To approve a TOS Route (for ATC users):**

*Note: This option is only available when TOS Submissions are active (Section 3.1.11.1) and the flight appears in the TOS Departure Table.*

**Step 1:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**Step 2:** In the TOS Departure Table, right-click on a flight — flights with one or more submitted routes have a Coordination State of “FO Submitted” (Figure 5.76).

**Step 3:** Hover over “Approve” to view the submitted route(s) (Figure 5.76).

**Step 4:** Click on a route to approve the TOS reroute (for example, the “DFWIAD1N” route in Figure 5.76).

*Note: “Approve” is also available as a right-click menu option in the TOS Flight Menu (Figure 5.77) and on the Timeline (Figure 5.78).*

*Note: A flight can have only one approved TOS route at a time. To approve a different route, start by using “Undo Approve” (see Section 5.4.8.5).*

*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	AKUNA	KDFW.DARTZ8.TNV.J87.L...	EAST	16/15:19	Candidate	FO Submitted	DFWIAD1N	-38
AAL2316	E1	AKUNA	KDFW.DARTZ8.TNV.J87.L...	EAST	16/15:39	Candidate	Not Submitted	DFWRIC1N	-139
AAL320	E1	AKUNA	KDFW.DARTZ8.TNV.J87.L...	EAST	16/15:22	Candidate	Not Submitted	DFWBHM1N	-68
ENY3311	E1	AKUNA	KDFW.DARTZ8.TNV.J87.L...	EAST	16/15:26	Candidate	Not Submitted	DFWDCA1N	-102
AAL1310	E1	AKUNA	KDFW.DARTZ8.TNV.J87.L...	EAST	16/15:26	Candidate	Not Submitted	DFWBTR1S	-110
ENY3319	E1	AKUNA	KDFW.DARTZ8.TNV.J87.L...	EAST	16/15:40	Candidate	Not Submitted	DFWTPA1S	-152
AAL2353	E1	AKUNA	KDFW.DARTZ8.TNV.J87.L...	EAST	16/15:25	Candidate	Not Submitted	DFWBWJ3	-62
AAL2368	E1	AKUNA	KDFW.DARTZ8.TNV.J87.L...	EAST	16/15:25	Candidate	Not Submitted	DFWBWJ3	-62

Figure 5.76. TOS Departure Table Right-Click Menu: Approve a TOS route.

Flight ID	Route	CDR	Dep Gate	Rwy	Eligibility State	Coord State	Add nm	Term Delay OFF	Total Delay OFF
AAL383	KDFW.TRYTN3.LOOSE.M...		EAST	17R				+85	+90
AAL383	KDFW.AKUNA7.MLC.RZC...	DFWIAD1N	NORTH	17R	Candidate	FO Submitted	+75	-3	+2
AAL383	KDFW.DARTZ8.TNV.IAH...	DFV			Initial	Not Submitted	+276	-3	+2
AAL383	KDFW.AKUNA7.MLC.RZC...	DFV			Initial	Not Submitted	+293	-3	+2
AAL383	KDFW.DARTZ8.TNV.J87.L...	DFV			Initial	Not Submitted	+293	-3	+2

Figure 5.77. TOS routes can also be approved from the TOS Flight Menu right-click menu.

Flight ID	Route	CDR	Dep Gate	Rwy	Eligibility State	Coord State	Add nm	Term Delay OFF	Total Delay OFF
AAL383	KDFW.AKUNA7.MLC.RZC...	DFWIAD1N	NORTH	17R	Candidate	FO Submitted	+75	-3	+2

Figure 5.78. 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 5.79).

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	DFWMA
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 5.79. 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 5.80).

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	
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 5.80. TOS Flight Menu: Coordination State changes to “ATC Approved.”

- On the Timeline, a “T” highlighted in *green* is displayed next to the flight’s datablock (Figure 5.81).
- 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 5.81). See Section 3.6.1 for a description of how to configure the display of fixes on the timeline and map.

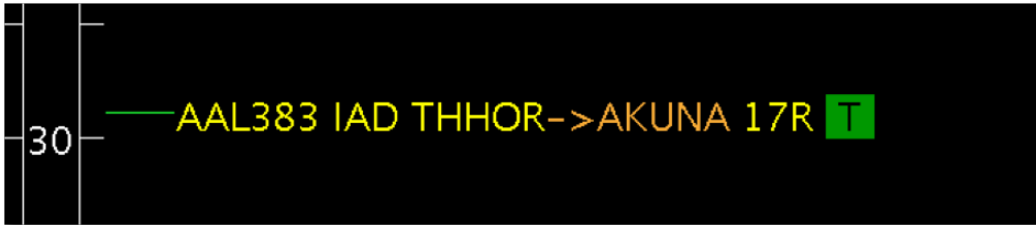


Figure 5.81. On the timeline, a “T” highlighted in green indicates that ATC has approved a TOS route for the flight. The Departure Fix of the original route (e.g., THHOR) and of the new TOS reroute (e.g., AKUNA) are both displayed.

- If the Flight Operator has enabled visual TOS Alerts (see Section 3.6.2), they are notified of the TOS approval (Figure 5.82).



Figure 5.82. TOS Approval pop-up alert in the Flight Operator interface.

### 5.4.8.5 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 a route approval. Because a flight can have only one approved TOS route at a time, use “Undo Approve” to change the approved route.

#### **To undo a TOS Route Approval (for ATC users):**

*Note: This option is only available when TOS Submissions are active (Section 3.1.11.1) and the flight appears in the TOS Departure Table.*

**Step 1:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**Step 2:** In the TOS Departure Table, right-click on a flight — flights with an approved reroute have a Coordination State of “ATC Approved” (Figure 5.83).

**Step 3:** Hover over “Undo Approve” to view the approved route (Figure 5.83).

**Note: A flight can have only one approved TOS route at a time.**

**Step 4:** Click on the approved route to cancel the approval (for example, the “DFWIAD1N” route in Figure 5.83).

**Note: “Undo Approve” is also available as a right-click menu option in the TOS Flight Menu (Figure 5.84) and on the Timeline (Figure 5.85).**

**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	DFWM
AAL383			AKUNA... NORTH		16/15:19	Candidate	ATC Approved	DFW
AAL2			ACK	EAST	16/15:29	Candidate	Not Submitted	DFWF
AAL1			DFWIAD1N			Candidate	ETOT=15:33 DelaySavings=-70	FWD
ENY3			SSH...	EAST	16/15:26	Candidate	Not Submitted	DFWE
AAL2			SSH...	EAST	16/15:40	Candidate	Not Submitted	DFWT
AAL2			TN...	EAST	16/15:25	Candidate	Not Submitted	DFWE
AAL1			SSH...	EAST	16/15:44	Candidate	Not Submitted	DFWM
ENY3			HH...	EAST	16/15:21	Candidate	Not Submitted	DFWC
AAL1			HH...	EAST	16/15:25	Candidate	Not Submitted	DFWE

Figure 5.83. TOS Departure Table Right-Click Menu: Undo a route approval.

**TOS Flight Menu - AAL383**

All

Flight ID	Route	CDR	Dep Gate	Rwy	Eligibility State	Coord State	Add nm	Term Delay OFF	Total Delay OFF
AAL383	KDFW.TRYTN3.LOOSE.M...		EAST	17R				+77	+82
AAL383	KDFW.AKUNA7.MLC..RZC		DFWIAD1N	NORTH	Candidate	ATC Approved	+75	-3	+2
AAL383	KDFW.DARTZ8.TNV..IAH				Potential	Not Submitted	+276	-3	+2
AAL383	KDFW.AKUNA7.MLC..RZC		DFWIAD1N		Candidate	ETOT=15:35 DelaySavings=-80			
AAL383	KDFW.DARTZ8.TNV..J87.I				Potential	Not Submitted	+293	-3	+2

Figure 5.84. “Undo Approve” is also available on the TOS Flight Menu right-click menu.

AAL383 IAD THOR 17R T

25

20

AAL383			DFWIAD1N		Candidate	ETOT=15:33 DelaySavings=-54
--------	--	--	----------	--	-----------	-----------------------------

Figure 5.85. “Undo Approve” is also available on the Timeline right-click menu.

### 5.4.8.6 Exclude from TOS (for Flight Operator users)

*\*Note: This menu option is only available in the Flight Operator versions of the MP.*

Flight Operators can use the right-click menu to exclude a flight from TOS operations.

#### To exclude a flight from TOS rerouting: (for Flight Operator users)

*Note: This option is only available when TOS Submissions are active (Section 3.1.11.1) and the flight appears in the TOS Departure Table.*

**Step 1:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**Step 2:** In the TOS Departure Table, right-click on a flight.

**Step 3:** Select “Exclude from TOS” (Figure 5.86).

**Note:** “Exclude from TOS” is also available as a right-click menu option on the Timeline and in the TOS Flight Menu (Figure 5.86).

**Step 4 (Optional):** Enter a note about why the flight is excluded in the Scratch Pad (e.g., “WX on rte” in Figure 5.87). Select “Apply” to save and share the entry with users at other facilities, for example, the ATC Tower.

**Note:** Scratch pad entries are automatically shared with other users.

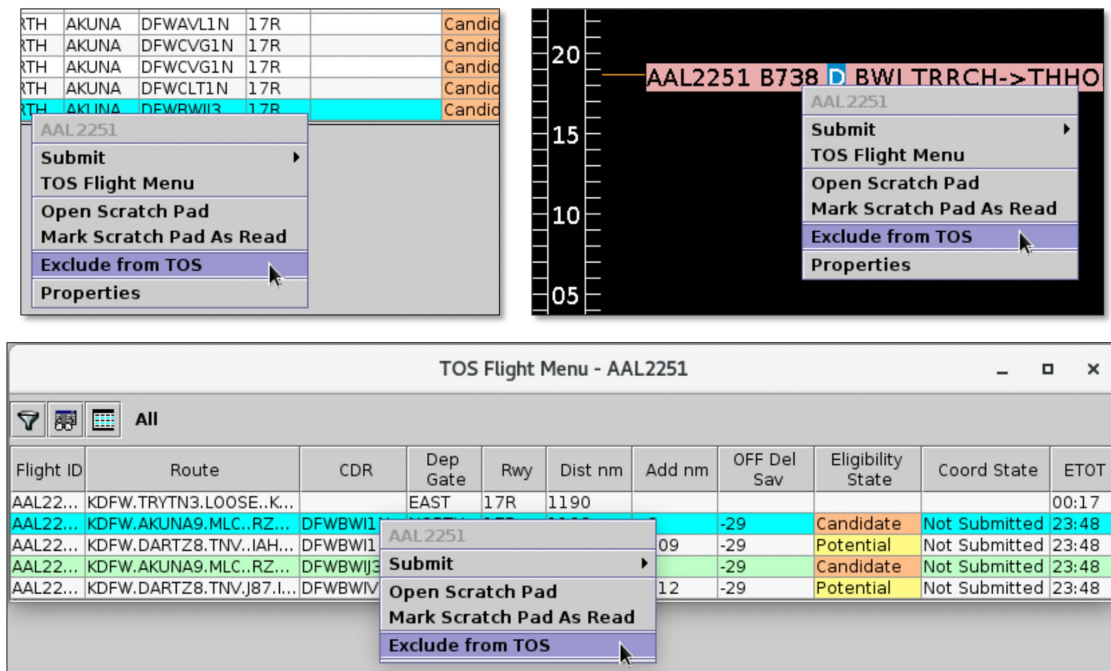


Figure 5.86. Access “Exclude from TOS” from the right-click menu in the TOS Departure Table, Timeline, or TOS Flight Menu.



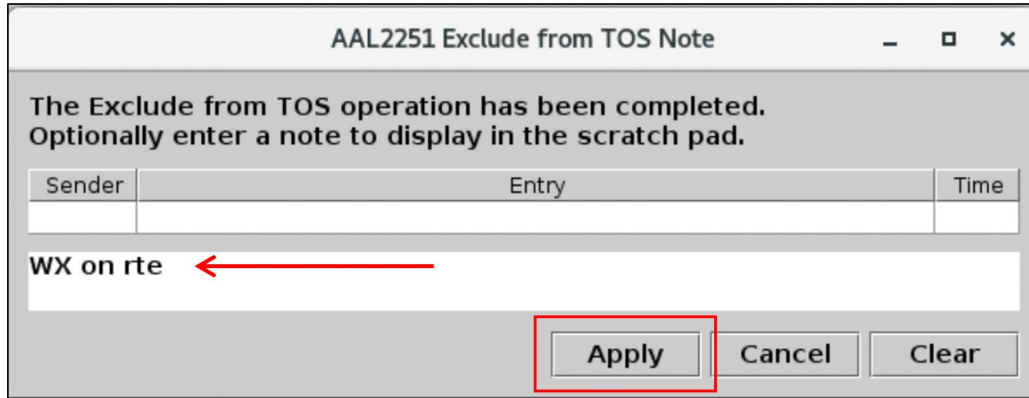


Figure 5.87. Exclude from TOS: Enter a scratch pad note (optional). Scratch pad entries are automatically shared with other users.

Scratch Pad entries are displayed in the “Scratch Pad” column in the TOS Departure Table (Figure 5.88). See Section 5.4.8.1 for more information about the Scratch Pad.

Upon excluding a flight from TOS:

- In the TOS Departure Table, the *flight’s* Eligibility State and Coordination State change to “Excluded” and “FO Excluded”, respectively (Figure 5.88).

Flight Operator - AAL TOS Operations at 22:52 Z							
Eligibility State = Candidate							
Top Dep Gate	Top Dep Fix	Top CDR	Top Rwy	Scratch Pad	Eligibility State	Coord State ▼	Top ETC
ORTH	AKUNA	DFWPIT1N	17R		Candidate	Not Submitted	23:5
ORTH	AKUNA	DFWLGAJ3	17R		Candidate	Not Submitted	23:4
OUTH	DARTZ	DFWMIA1S	17R		Candidate	Not Submitted	23:4
ORTH	AKUNA	DFWAVL1N	17R		Candidate	Not Submitted	23:4
ORTH	AKUNA	DFWDCA1N	17R		Candidate	Not Submitted	23:5
ORTH	AKUNA	DFWCVG1N	17R		Candidate	Not Submitted	23:5
ORTH	AKUNA	DFWCVG1N	17R		Candidate	Not Submitted	23:1
ORTH	AKUNA	DFWCLT1N	17R	WX on rte	Excluded	FO Excluded	23:4

Figure 5.88. In the TOS Departure Table, a flight excluded from TOS operations by the Flight Operator has an Eligibility State and Coordination State of “Excluded” and “FO Excluded”, respectively. Entries made in the Scratch Pad are displayed in the “Scratch Pad” column and are shared with other users. In this example, the Flight Operator entered, “WX on rte” after excluding the flight from TOS operations.

- In the TOS Flight Menu, *each route's* Eligibility State and Coordination State change to “Excluded” and “FO Excluded”, respectively (Figure 5.89).

Flight ID	Route	CDR	Dep Gate	Rwy	Dist nm	Add nm	OFF Del Sav	Eligibility State	Coord State	ETOT
AAL22...	KDFW.TRYTN3.LOOSE..K...		EAST	17R	1190			Excluded	FO Excluded	23 15
AAL22...	KDFW.AKUNA9.MLC..RZ...	DFWBW11N	NORTH	17R	1198	+8	-27	Excluded	FO Excluded	23 48
AAL22...	KDFW.DARTZ8.TNV..IAH...	DFWBW11S	SOUTH	17R	1399	+209	-27	Excluded	FO Excluded	23 48
AAL22...	KDFW.AKUNA9.MLC..RZ...	DFWBW113	NORTH	17R	1193	+3	-27	Excluded	FO Excluded	23 48
AAL22...	KDFW.DARTZ8.TNV.J87.I...	DFWBW1VS	SOUTH	17R	1402	+212	-27	Excluded	FO Excluded	23 48

Figure 5.89. In the TOS Flight Menu, each route has an Eligibility State and Coordination State of “Excluded” and “FO Excluded”, respectively.

### 5.4.8.7 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 (for Flight Operator users):

*Note: This option is only available when TOS Submissions are active (Section 3.1.11.1) and the flight appears in the TOS Departure Table.*

**Step 1:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**Step 2:** In the TOS Departure Table, right-click on the flight — flights that have been excluded from TOS operations have an Eligibility State of “Excluded” and a Coordination State of “FO Excluded” (Figure 5.90).

**Step 3:** Select “Undo Exclude from TOS” from the menu (Figure 5.90).

**Note:** “Undo Exclude from TOS” is also available as a right-click menu option on the Timeline (Figure 5.90) and in the TOS Flight Menu (click on any row in the TOS Flight Menu; Figure 5.90).

**Note:** After selecting “Undo Exclude from TOS”, the flight returns to its previous state (e.g., Eligibility State and Coordination State are “Candidate and “Not Submitted”, respectively in Figure 5.91).



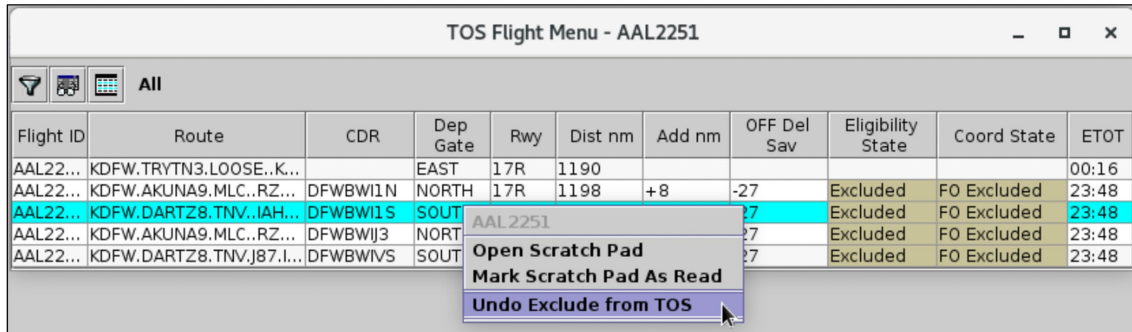
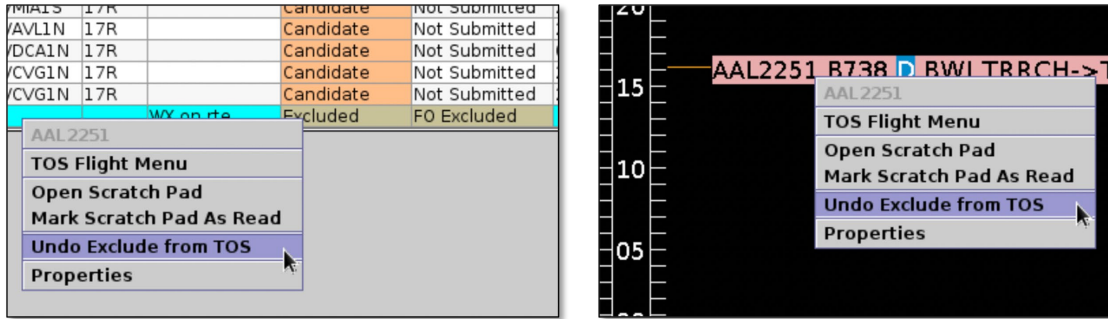


Figure 5.90. Access “Undo Exclude from TOS” from the right-click menu in the TOS Departure Table, Timeline, or TOS Flight Menu.

Flight Operator - AAL TOS Operations at 22:54 Z

State = FO Excluded OR Eligibility State = Candidate

Dep Fix	EOBT	ETOT	Top Dep Gate	Top Dep Fix	Top CDR	Top Rwy	Scratch Pad	Eligibility State	Coord State
IANUH	27/23:40	28/00:34	NORTH	AKUNA	DFWPIT1N	17R		Candidate	Not Submitted
RRCH	27/23:34	28/00:03	NORTH	AKUNA	DFWLGAJ3	17R		Candidate	Not Submitted
IANUH	27/23:35	28/00:21	SOUTH	DARTZ	DFWMIA1S	17R		Candidate	Not Submitted
ERLU	27/23:33	28/00:14	NORTH	AKUNA	DFWAVL1N	17R		Candidate	Not Submitted
RRCH	27/23:42	28/00:38	NORTH	AKUNA	DFWDCA1N	17R		Candidate	Not Submitted
RRCH	27/23:39	28/00:24	NORTH	AKUNA	DFWCVG1N	17R		Candidate	Not Submitted
ERLU	27/23:02	27/23:25	NORTH	AKUNA	DFWCVG1N	17R		Candidate	Not Submitted
RRCH	27/23:38	28/00:17	NORTH	AKUNA	DFWBWJ3	17R	WX on rte	Candidate	Not Submitted

Figure 5.91. After selecting “Undo Exclude from TOS”, the flight returns to its previous state. In this example, the flight returned to Eligibility State and Coordination State of “Candidate” and “Not Submitted” respectively.

## 5.5 TOS Flight Menu

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

Individual routes for a single flight are displayed in a TOS Flight Menu (Figure 5.92). The TOS Flight Menu is primarily used to compare a flight’s current route and its TOS reroute options.

TOS Flight Menus are available only when TOS Submissions are active (see Section 3.1.11.1 for a description of how to activate/inactivate TOS Submissions using the TOS Operation tab.)

Flight ID	Route	CDR	Dep Gate	Dep Fix	ETOT	Rwy	OFF Del Sav	Add nm	Eligibility State	Coord State
AAL2306	KDFW.ZACHH3.B...		EAST	THH0R	22:37	17R				
AAL2306	KDFW.AKUNA9.M...	DFWBOS1N	NORTH	AKUNA	21:50	17R	-46	+49	Candidate	Not Submitted
AAL2306	KDFW.AKUNA9.M...	DFWBOSJ3	NORTH	AKUNA	21:50	17R	-46	+27	Candidate	Not Submitted
AAL2306	KDFW.DARTZ8.T...	DFWBOS1S	SOUTH	DARTZ	21:50	17R	-46	+272	Potential	Not Submitted

Figure 5.92. TOS Flight Menu.

### To open a TOS Flight Menu:

*Note: This option is only available when TOS Submissions are active (Section 3.1.11.1) and the flight appears in the TOS Departure Table.*

**Step 1:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**Step 2:** In the TOS Departure Table, right-click on a flight.

**Step 3:** Select “TOS Flight Menu” from the menu (Figure 5.93, left).

*Note: “TOS Flight Menu” is also available as a right-click menu option on the Timeline (Figure 5.93, right).*

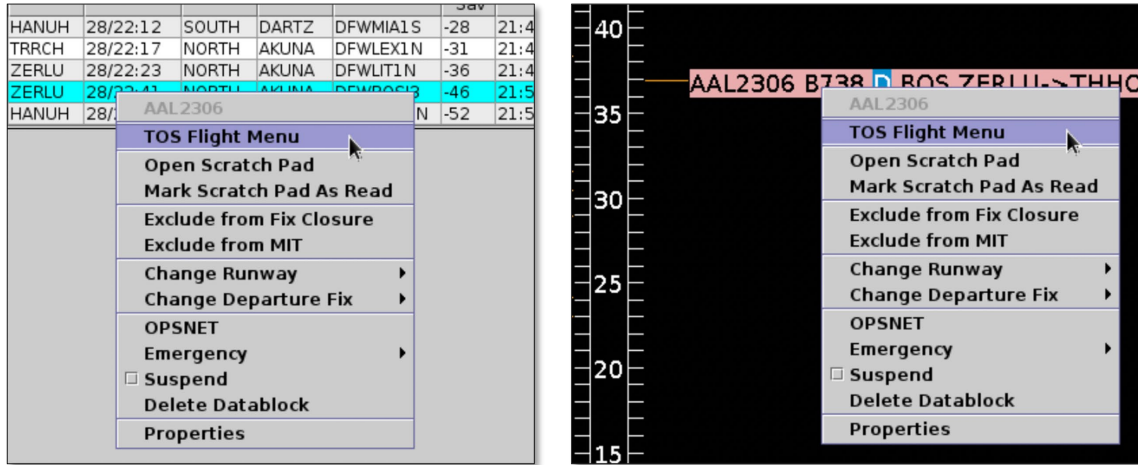


Figure 5.93. Access the TOS Flight Menu from the right-click menu in the TOS Departure Table (left) or the timeline (right).

### 5.5.1 TOS Flight Menu: Routes

In the TOS Flight Menu, the flight’s current filed departure route is displayed on the first row of the table (Figure 5.94). The current filed route *remains on the first row* regardless of how the table is sorted or filtered.

#### First row: Current Filed Route

TOS Flight Menu - AAL2306											
Flight ID	Route	CDR	Dep Gate	Dep Fix	ETOT	Rwy	OFF Del Sav	Add nm	Eligibility State	Coord State	
AAL2306	KDFW.ZACHH3.B...		EAST	THHOR	22:37	17R					
AAL2306	KDFW.AKUNA9.M...	DFWBOS1N	NORTH	AKUNA	21:50	17R	-46	+49	Candidate	Not Submitted	
AAL2306	KDFW.AKUNA9.M...	DFWBOSJ3	NORTH	AKUNA	21:50	17R	-46	+27	Candidate	Not Submitted	
AAL2306	KDFW.DARTZ8.T...	DFWBOS1S	SOUTH	DARTZ	21:50	17R	-46	+272	Potential	Not Submitted	

Figure 5.94. TOS Flight Menu: The current filed route is displayed on the first row.

TOS routes are displayed below the current filed route. TOS routes may include routes with an Eligibility State of Potential, Candidate, Excluded, or Expired. In Figure 5.95, for example, the flight has two “Candidate” TOS routes and one “Potential” TOS route.

## Following rows: TOS routes

Flight ID	Route	CDR	Dep Gate	Dep Fix	ETOT	Rwy	OFF Del Sav	Add nm	Eligibility State	Coord State
AAL2306	KDFW.ZACHH3.B...		EAST	THHOR	22:37	17R				
AAL2306	KDFW.AKUNA9.M...	DFWBOS1N	NORTH	AKUNA	21:50	17R	-46	+49	Candidate	Not Submitted
AAL2306	KDFW.AKUNA9.M...	DFWBOSJ3	NORTH	AKUNA	21:50	17R	-46	+27	Candidate	Not Submitted
AAL2306	KDFW.DARTZ8.T...	DFWBOS1S	SOUTH	DARTZ	21:50	17R	-46	+272	Potential	Not Submitted

Figure 5.95. TOS Flight Menu: TOS routes (Candidate, Potential, Excluded, or Expired) are displayed below the current filed route.

The “top” TOS route is highlighted in light green (Figure 5.96). See Section 5.4.4 for a description of how the “top” TOS route is identified.

## Highlighted in green: “Top” TOS Route

Flight ID	Route	CDR	Dep Gate	Dep Fix	ETOT	Rwy	OFF Del Sav	Add nm	Eligibility State	Coord State
AAL2306	KDFW.ZACHH3.B...		EAST	THHOR	22:37	17R				
AAL2306	KDFW.AKUNA9.M...	DFWBOS1N	NORTH	AKUNA	21:50	17R	-46	+49	Candidate	Not Submitted
AAL2306	KDFW.AKUNA9.M...	DFWBOSJ3	NORTH	AKUNA	21:50	17R	-46	+27	Candidate	Not Submitted
AAL2306	KDFW.DARTZ8.T...	DFWBOS1S	SOUTH	DARTZ	21:50	17R	-46	+272	Potential	Not Submitted

Figure 5.96. TOS Flight Menu: The “top” TOS route is highlighted in light green.

## 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: This option is only available when TOS Submissions are active (Section 3.1.11.1) and the flight appears in the TOS Departure Table.*

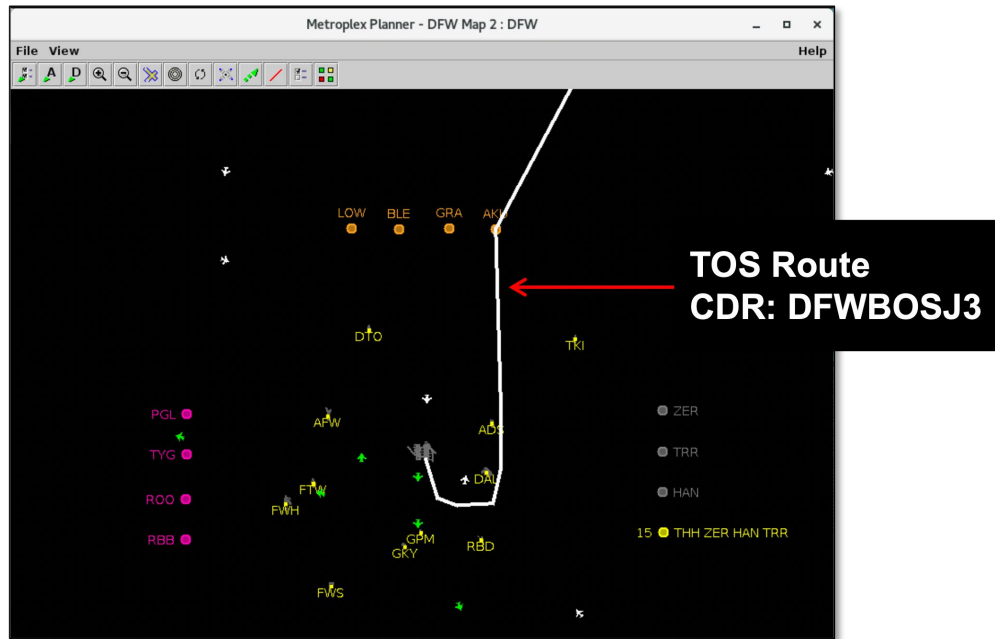
**Step 1:** On the Toolbar, select “TOS” (Figure 5.31) to open the TOS Operations window.

**Step 2:** Click on a row in the TOS Flight Menu. Once selected, the row is highlighted in cyan (e.g., the DFWBOSJ3 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). See Section 4.5.2.3 to enable the display of TOS routes on the map.**

**Alternatively:** Click the same row again to deselect the route.

Flight ID	Route	CDR	Dep Gate	Dep Fix	ETOT	Rwy	OFF Del Sav	Add nm	Eligibility State	Coord State
AAL1366	KDFW.ZACHH3.B...		EAST	THHOR	01:23	17R				
AAL1366	KDFW.AKUNA9.M...	DFWBOS1N	NORTH	AKUNA	00:12	17R	-71	+49	Candidate	Not Submitted
AAL1366	KDFW.AKUNA9.M...	DFWBOSJ3	NORTH	AKUNA	00:12	17R	-71	+27	Candidate	Not Submitted
AAL1366	KDFW.DARTZ8.T...	DFWBOS1S	SOUTH	DARTZ	00:12	17R	-71	+272	Potential	Not Submitted



**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 5.4.5). However, the *current filed* 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, filter criteria are displayed on the toolbar next to the icons. When the table is not being filtered and all flights are shown, “All” is displayed (Figure 5.98).

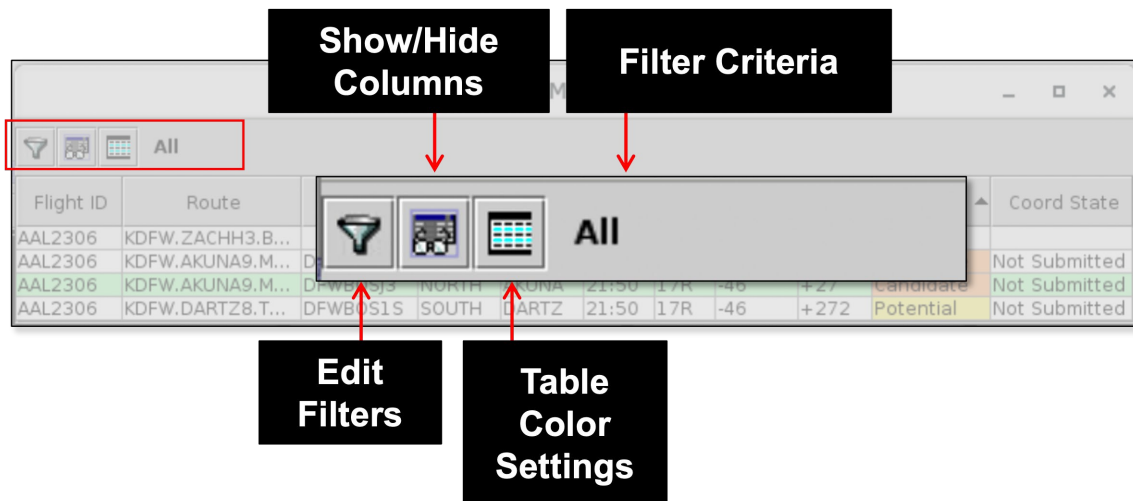


Figure 5.98. TOS Flight Menu: Toolbar.

#### 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**

<b>Field</b>	<b>Description</b>	<b>Options</b>
Add nm	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).  <b>Predicted Aggregate Delay Savings =</b> <ul style="list-style-type: none"> <li>• Predicted Delay Savings for the flight rerouted on a <i>TOS route</i>, plus</li> <li>• Predicted Delay Savings for all subsequent departures scheduled to takeoff within one hour.</li> </ul> <b>Negative</b> value represents <i>reduced</i> delay (i.e., <i>Delay Savings</i> ). <b>Positive</b> 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> ]
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>
Dep Gate	Terminal-area Departure Gate	Enter or select from dropdown list.
Eligibility State	TOS Route Eligibility State	Enter or Select: <i>Potential Candidate</i> <i>Excluded</i> <i>Expired</i>

IN Delay	<p>Predicted arrival delay, on the <i>filed</i> route (in minutes):</p> <p>= (ETOT on the <i>filed</i> route + enroute time including wind miles) –  <b>Scheduled In-Block Time (SIBT).</b></p> <p><b>Negative</b> value represents <i>earlier</i> arrival.  <b>Positive</b> value represents <i>later</i> arrival.</p>	[mm]
	<p>Predicted arrival delay, on the <i>TOS route</i> (in minutes):</p> <p>= <b>IN Delay</b> on the <i>filed</i> route +  <b>IN Delay Savings</b> on the <i>TOS route</i>.</p> <p><b>Negative</b> value represents <i>earlier</i> arrival.  <b>Positive</b> value represents <i>later</i> arrival.</p>	[mm]
IN Del Sav	<p>Predicted <b>IN Delay Savings</b> on the <i>TOS route</i> (in minutes):</p> <p>= <b>OFF Delay Savings</b> on the <i>TOS route</i> + flight time difference.</p> <p>Note: Flight time difference is calculated as: (<i>TOS route</i> distance – <i>filed</i> route distance) / <i>filed</i> speed.</p> <p><b>Negative</b> value represents <i>earlier</i> arrival.  <b>Positive</b> value represents <i>later</i> arrival.</p>	[mm]
OFF Delay	<p>The delay (in minutes) that the flight is predicted to encounter, <b>at the runway</b>, on the <i>TOS route</i> caused by both:</p> <ol style="list-style-type: none"> <li>1. Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>2. Predicted delay from <b>terminal-area restrictions</b> being passed back to the surface.</li> </ol> <p>= <b>Estimated Takeoff Time (ETOT)</b> on the <i>TOS route</i> –  <b>Undelayed Takeoff Time (UTOT)</b> on the <i>filed</i> route.</p>	[mm]
	For the <i>filed</i> route:	[mm]



	= <b>Estimated Takeoff Time (ETOT)</b> on the <i>filed route</i> – <b>Undelayed Takeoff Time (UTOT)</b> on the <i>filed route</i> .	
OFF Del Sav	Predicted <b>OFF Delay Savings</b> on the <i>TOS route</i> (in minutes):  = <b>OFF Delay</b> on the <i>TOS route</i> – <b>OFF Delay</b> on the <i>current/filed route</i> .  <b>Negative</b> value represents <i>reduced</i> delay (i.e., <i>Delay Savings</i> ). <b>Positive</b> value represents <i>additional</i> delay.	[mm]
Prob Del Sav > RTC	For the <i>TOS route</i> :  Probability that predicted <b>OFF Delay Savings</b> will be <i>greater than</i> the <b>Relative Trajectory Cost (RTC)</b> .	[0–100%]
Prob Del Sav > 0	For the <i>TOS route</i> :  Probability that predicted <b>OFF Delay Savings</b> will be <i>greater than</i> 0 (zero) minutes.	[0–100%]
RTC	Relative Trajectory Cost (RTC) <i>for the TOS route</i> .  RTC is the cost (in minutes) to fly the TOS route as compared to the original route. RTC is expressed in terms of minutes of surface delay.  The RTC is used as a threshold value used to determine when a TOS route becomes more advantageous to fly than the filed route.  The RTC is computed based on the following factors: <ul style="list-style-type: none"> <li>• <i>CDR (TOS route)</i> distance minus <i>filed route</i> distance.</li> <li>• Cost ratio (specific to each Flight Operator).</li> <li>• Filed speed.</li> </ul>	[mm]

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
----- TOS -----	
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., DFWLGAIN).
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> . <ul style="list-style-type: none"> <li>• <b>Not Submitted:</b> The Flight Operator has not submitted the route to ATC.</li> <li>• <b>FO (Flight Operator) Submitted:</b> The Flight Operator has submitted the route to ATC.</li> <li>• <b>ATC Approved:</b> ATC has approved the route. ATC is expected to amend the flight plan using the revised route.</li> <li>• <b>Reroute Filed:</b> The flight plan has been amended according to the route option approved by ATC.</li> </ul>
Dep Fix	Departure flight’s assigned fix.
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> . <ul style="list-style-type: none"> <li>• <b>Potential:</b> For this route, the predicted Delay Savings is <i>less than</i> the route’s Relative Trajectory Cost (RTC).</li> <li>• <b>Candidate:</b> For this route, the predicted Delay Savings is <i>greater than or equal to</i> the route’s Relative Trajectory Cost (RTC).</li> <li>• <b>Excluded:</b> The route is not eligible for TOS rerouting because of Flight Operator or ATC exclusions.</li> <li>• <b>Expired:</b> The route is not eligible for TOS rerouting because it is expired (used in Center TOS Approval mode to prevent</li> </ul>

	TOS submissions within x minutes of p-time). A route expires when the “Time to Expiration” countdown timer reaches 0 (zero) minutes.
EDFT	Estimated Departure Fix Time (EDFT). Predicted Departure Fix crossing time, accounting for: <ol style="list-style-type: none"> <li>1. Undelayed taxi time, plus</li> <li>2. Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>3. Predicted delay from <b>terminal-area restrictions</b>.</li> </ol>
ETOT	Estimated Takeoff Time (ETOT) generated for TOS routes. Predicted takeoff time, accounting for: <ol style="list-style-type: none"> <li>1. Undelayed taxi time, plus</li> <li>2. Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>3. Predicted delay from <b>terminal-area restrictions</b> being passed back to the surface.</li> </ol>
RTC	Relative Trajectory Cost (RTC).  RTC is the cost (in minutes) to fly the TOS route as compared to the original route. RTC is expressed in terms of minutes of surface delay.  The RTC is used as a threshold value used to determine when a TOS route becomes more advantageous to fly than the filed route. <ul style="list-style-type: none"> <li>• When predicted OFF 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.”</li> <li>• When predicted OFF Delay Savings (in minutes) for a TOS route is <i>less than</i> the RTC value, the route’s Eligibility Status is “Potential.”</li> </ul> The RTC is computed based on the following factors: <ul style="list-style-type: none"> <li>• <i>CDR (TOS route)</i> distance minus <i>Filed</i> route distance</li> <li>• Cost ratio (specific to each Flight Operator)</li> <li>• Filed speed</li> </ul>
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.
----- TOS: Delay -----	
IN Delay	Predicted arrival delay, on the <i>filed</i> route (in minutes):

	<p>= (ETOT on the <i>filed</i> route + enroute time including wind miles) – <b>Scheduled In-Block Time (SIBT)</b>.</p> <p><b>Negative</b> value represents <i>earlier</i> arrival.  <b>Positive</b> value represents <i>later</i> arrival.</p>
	<p>Predicted arrival delay, on the <i>TOS route</i> (in minutes):</p> <p>= <b>IN Delay</b> on the <i>filed</i> route +  <b>IN Delay Savings</b> on the <i>TOS route</i>.</p> <p><b>Negative</b> value represents <i>earlier</i> arrival.  <b>Positive</b> value represents <i>later</i> arrival.</p>
OFF Delay	<p>The delay (in minutes) that the flight is predicted to encounter, <b>at the runway</b>, on the <i>TOS route</i> caused by both:</p> <ol style="list-style-type: none"> <li>1. Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>2. Predicted delay from <b>terminal-area restrictions</b> being passed back to the surface.</li> </ol> <p>= <b>Estimated Takeoff Time (ETOT)</b> on the <i>TOS route</i> – <b>Undelayed Takeoff Time (UTOT)</b> on the <i>filed</i> route.</p>
	<p>For the <i>filed route</i>:</p> <p>= <b>Estimated Takeoff Time (ETOT)</b> on the <i>filed route</i> – <b>Undelayed Takeoff Time (UTOT)</b> on the <i>filed</i> route.</p>
Dep Fix Delay	<p>The predicted delay (in minutes), <b>at the departure fix</b>, caused by both:</p> <ol style="list-style-type: none"> <li>1. Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>2. Predicted delay from <b>terminal-area restrictions</b>.</li> </ol> <p>= <b>Estimated Departure Fix Time (EDFT)</b> – <b>Undelayed Departure Fix Time (UDFT)</b>.</p>
----- TOS: Delay Savings -----	
IN Del Sav	<p>Predicted <b>IN Delay Savings</b> on the <i>TOS route</i> (in minutes):</p> <p>= <b>OFF Delay Savings</b> on the <i>TOS route</i> + flight time difference.</p> <p>Note: Flight time difference is calculated as: (<i>TOS route</i> distance – <i>filed</i> route distance) / <i>filed</i> speed.</p> <p><b>Negative</b> value represents <i>earlier</i> arrival.</p>

	<b>Positive</b> value represents <i>later</i> arrival.
OFF Del Sav	<p>Predicted Delay Savings for a given TOS route (in minutes).</p> <p>= Predicted <b>OFF Delay</b> (for a given TOS route) – Predicted <b>OFF Delay</b> (for the current/filed route).</p> <p><b>Negative</b> value represents <i>reduced</i> delay (i.e., <i>Delay Savings</i>).  <b>Positive</b> value represents <i>additional</i> delay.</p>
Prob Del Sav > RTC	<p>For the <i>TOS route</i>:</p> <p>Probability that predicted <b>OFF Delay Savings</b> will be <i>greater than</i> the <b>Relative Trajectory Cost (RTC)</b>. (0–100%)</p>
Prob Del Sav > 0	<p>For the <i>TOS route</i>:</p> <p>Probability that predicted <b>OFF Delay Savings</b> will be <i>greater than</i> 0 (zero) minutes. (0–100%)</p>
----- TOS: Aggregate Delay Savings -----	
<p>Agg Del Sav</p> <p><i>*Varies by version of the Metroplex Planner</i></p>	<p>Sum of predicted Delay Savings (in minutes).</p> <p><b>Predicted Aggregate Delay Savings =</b></p> <ul style="list-style-type: none"> <li>• Predicted Delay Savings for the flight rerouted on a <i>TOS route</i>, plus</li> <li>• Predicted Delay Savings for all subsequent departures scheduled to takeoff within one hour.</li> </ul> <p><b>Negative</b> value represents <i>reduced</i> delay (i.e., <i>Delay Savings</i>).  <b>Positive</b> value represents <i>additional</i> delay.</p> <p><i>*Options can include: Airport, all airports in the TRACON, Airline, Air Carrier (Mainline), or Major Air Carrier (Fleet).</i></p>

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 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 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**

<b>Field</b>	<b>Description</b>	<b>Options</b>
Add nm	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>	<p>Sum of predicted Delay Savings (in minutes).</p> <p><b>Predicted Aggregate Delay Savings =</b></p> <ul style="list-style-type: none"> <li>• Predicted Delay Savings for the flight rerouted on a <i>TOS route</i>, plus</li> <li>• Predicted Delay Savings for all subsequent departures scheduled to takeoff within one hour.</li> </ul> <p><b>Negative</b> value represents <i>reduced</i> delay (i.e., <i>Delay Savings</i>).</p> <p><b>Positive</b> value represents <i>additional</i> delay.</p> <p><i>*Options can include: Airport, all airports in the TRACON, Airline, Air Carrier (Mainline), or Major Air Carrier (Fleet).</i></p>	[ <i>mm</i> ]
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</i> <i>Excluded</i>

		<i>Expired</i>
IN Delay	<p>Predicted arrival delay, on the <i>filed</i> route (in minutes):</p> <p>= (ETOT on the <i>filed</i> route + enroute time including wind miles) –  <b>Scheduled In-Block Time (SIBT).</b></p> <p><b>Negative</b> value represents <i>earlier</i> arrival.  <b>Positive</b> value represents <i>later</i> arrival.</p>	[mm]
	<p>Predicted arrival delay, on the <i>TOS route</i> (in minutes):</p> <p>= <b>IN Delay</b> on the <i>filed</i> route +  <b>IN Delay Savings</b> on the <i>TOS route</i>.</p> <p><b>Negative</b> value represents <i>earlier</i> arrival.  <b>Positive</b> value represents <i>later</i> arrival.</p>	[mm]
IN Del Sav	<p>Predicted <b>IN Delay Savings</b> on the <i>TOS route</i> (in minutes):</p> <p>= <b>OFF Delay Savings</b> on the <i>TOS route</i> +  flight time difference.</p> <p>Note: Flight time difference is calculated as: (<i>TOS route</i> distance – <i>filed</i> route distance) / <i>filed</i> speed.</p> <p><b>Negative</b> value represents <i>earlier</i> arrival.  <b>Positive</b> value represents <i>later</i> arrival.</p>	[mm]
OFF Delay	<p>The delay (in minutes) that the flight is predicted to encounter, <b>at the runway</b>, on the <i>TOS route</i>, caused by both:</p> <ol style="list-style-type: none"> <li>1. Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>2. Predicted delay from <b>terminal-area restrictions</b> being passed back to the surface.</li> </ol> <p>= <b>Estimated Takeoff Time (ETOT)</b> on the <i>TOS route</i> –  <b>Undelayed Takeoff Time (UTOT)</b> on the <i>filed</i> route.</p>	[mm]
	For the <i>filed</i> route:	[mm]

	= <b>Estimated Takeoff Time (ETOT)</b> on the <i>filed route</i> – <b>Undelayed Takeoff Time (UTOT)</b> on the <i>filed route</i> .	
OFF Del Sav	Predicted Delay Savings for a given TOS route (in minutes).  = Predicted <b>OFF Delay</b> (for a given TOS route) – Predicted <b>OFF Delay</b> (for the current/filed route)  <b>Negative</b> value represents <i>reduced</i> delay (i.e., <i>Delay Savings</i> ). <b>Positive</b> value represents <i>additional</i> delay.	[mm]
Prob Del Sav > RTC	For the <i>TOS route</i> :  Probability that predicted <b>OFF Delay Savings</b> will be <i>greater than</i> the <b>Relative Trajectory Cost (RTC)</b> .	[0–100%]
Prob Del Sav > 0	For the <i>TOS route</i> :  Probability that predicted <b>OFF Delay Savings</b> will be <i>greater than</i> 0 (zero) minutes.	[0–100%]
RTC	Relative Trajectory Cost (RTC) <i>for the TOS route</i> .  RTC is the cost (in minutes) to fly the TOS route as compared to the original route. RTC is expressed in terms of minutes of surface delay.  The RTC is used as a threshold value used to determine when a TOS route becomes more advantageous to fly than the filed route.  The RTC is computed based on the following factors: <ul style="list-style-type: none"> <li>• <i>CDR (TOS route)</i> distance minus <i>filed route</i> distance.</li> <li>• Cost ratio (specific to each Flight Operator).</li> <li>• Filed speed.</li> </ul>	[mm]

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 5.4.8.1)
- **Flight Operator** version of the Metroplex Planner:
  - **Submit a TOS route** (Section 5.4.8.2)
  - **Undo Submit** (Section 5.4.8.3)
  - **Exclude from TOS** (Section 5.4.8.6)
  - **Undo Exclude** (Section 5.4.8.7)
- **ATC** version of the Metroplex Planner:
  - **Approve a TOS route** (Section 5.4.8.4)
  - **Undo Approve** (Section 5.4.8.5)
- **Properties** (Section 7.1.13)

## 6 Metroplex Planner: Timelines

A timeline displays information about individual departure and arrival flights to create a visual/spatial representation of traffic demand relative to time (Figure 6.1). A vertical timeline is displayed in the middle of the timeline window. Each flight is represented by a configurable datablock connected to the timeline by a leader line.

Each column is labeled, filtered, and color-coded according to user preference (e.g., filtered for a particular set of runways or departure fixes). More than one timeline window can be open at the same time and each can be configured independently of the others.

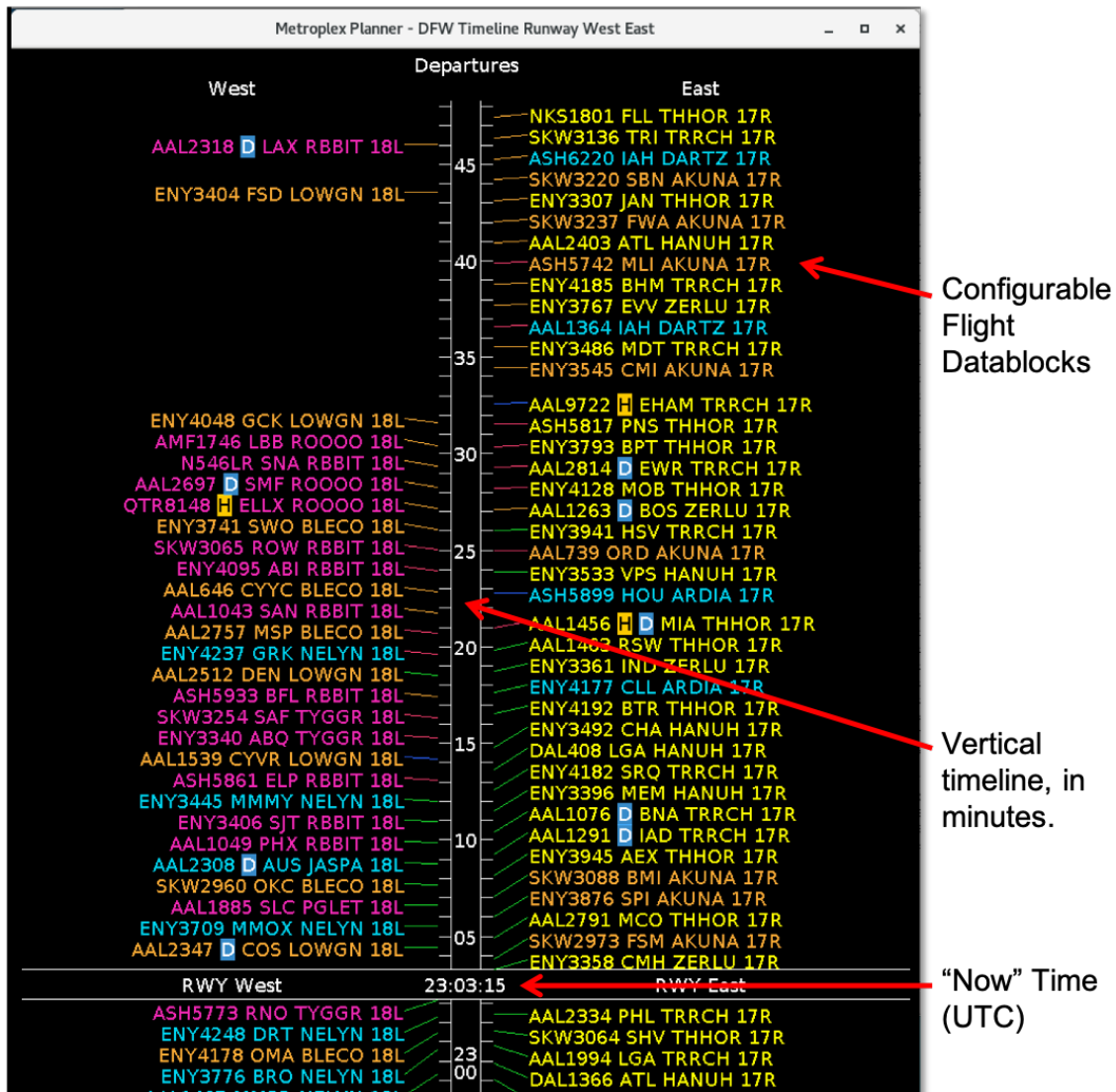


Figure 6.1. Timeline.

## 6.1 Timeline: Reference Point

Flights are positioned along the timeline based on their predicted 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 (in Figure 6.2, “Runway” is the selected Reference Point). In this example, flights *above* “Now” time at the Reference Point are expected to takeoff/land; flights *below* the Reference Point have already departed/landed.

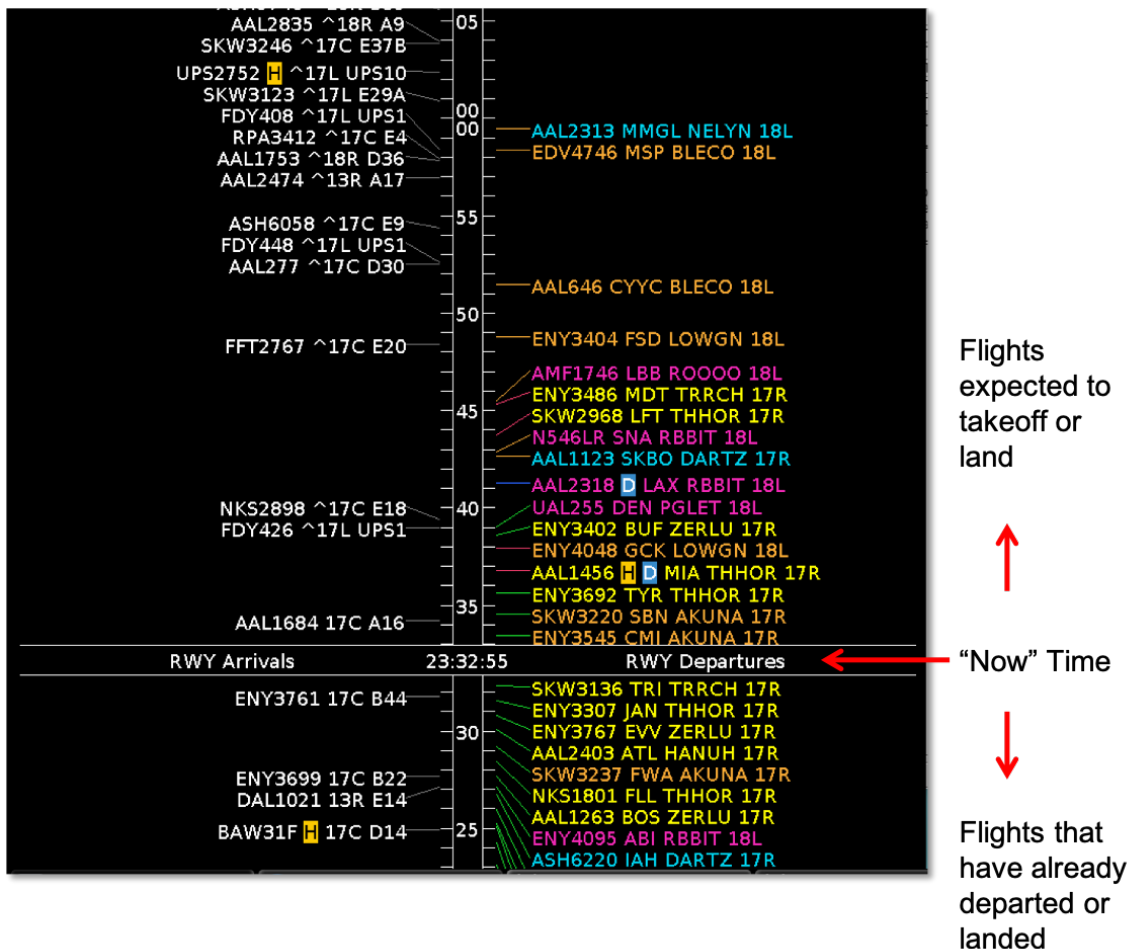


Figure 6.2. Timeline: Reference Point (in this example, Runway).

Each of the four reference points is described below. See Section 6.6.4.2 for a description of how to change the Reference Point.

### 6.1.1 Runway

When “Runway” is selected as the Reference Point, flights are positioned along the timeline based on the scheduler’s prediction of:

- **Arrivals:** Landing time (ON time).
- **Departures:** Takeoff time (OFF time) based on the flight’s expected pushback time and predicted taxi times.

### 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:

- **Arrivals:** Arrival fix crossing time.
- **Departures:** Departure fix crossing time.

### 6.1.3 Parking Gate

When “Parking Gate” is selected as the Reference Point, flights are positioned along the timeline based on the scheduler’s prediction of:

- **Arrivals:** Arrival time at the gate (IN time).
- **Departures:** Pushback time (OUT time).

### 6.1.4 Spot

When “Spot” is selected as the Reference Point, flights are positioned along the timeline based on the scheduler’s prediction of:

- **Arrivals:** Crossing the spot to enter the Ramp area.
- **Departures:** Crossing the spot to leave the Ramp area and enter the AMA.

## 6.2 Timeline: Leader Lines

A leader line connects 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 described in Table 6.1. Colors are pre-defined and are not configurable.

**Table 6.1. Leader Line Color Information**

<b>Leader Line Color</b>	<b>Description (Flight Status)</b>
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).

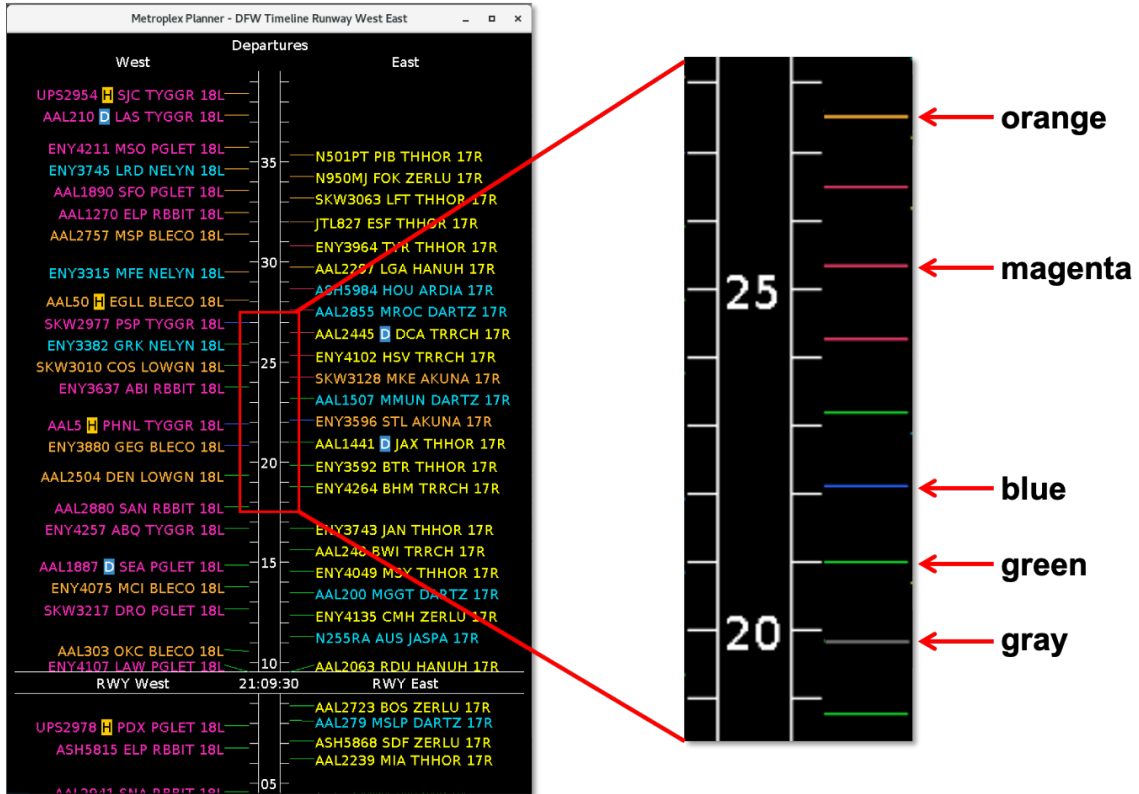


Figure 6.3. Timeline: Leader lines connect flight datablocks to the timeline and are color-coded based on flight status.

## 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:** Use the mouse to 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).

**Note:** Select multiple flights at the same time by holding the Shift key.

**Alternatively:** Use the mouse to right-click on the background of the timeline (i.e., anywhere not on a datablock) to deselect the flight.

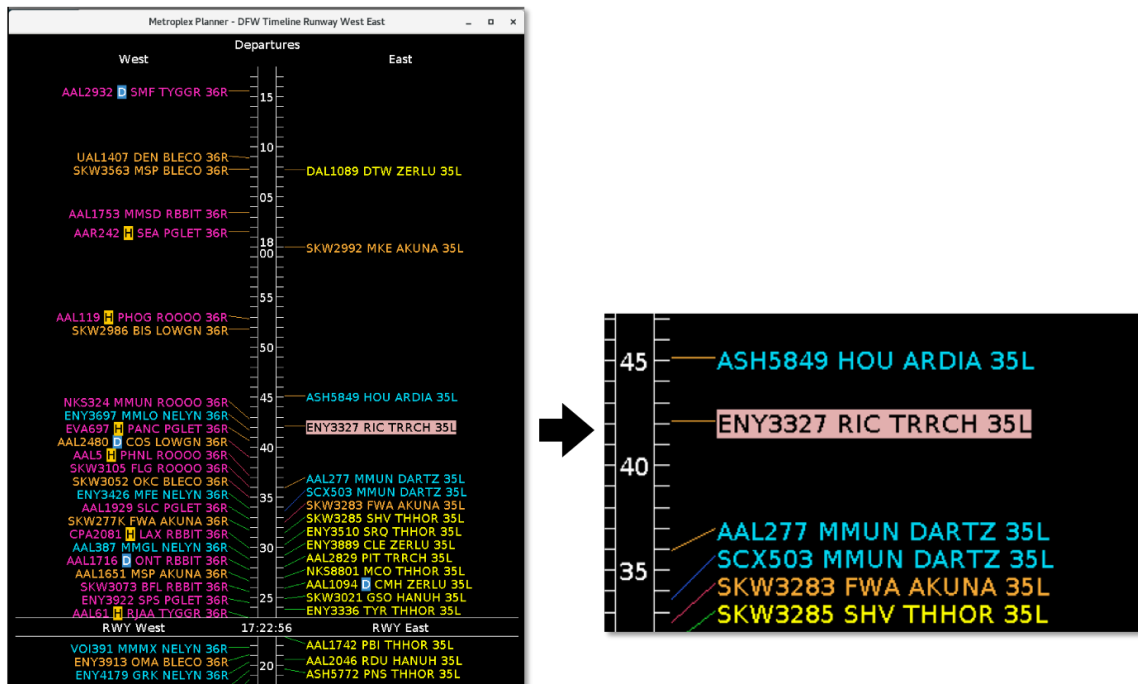


Figure 6.4. Timeline: Selected flight with highlighted datablock.

## 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 the vertical timeline in the middle of the timeline window (Figure 6.5, left).

**Step 2:** Drag the timeline:

- **Down** to view flights further into the future (see depiction in Figure 6.5), or
- **Up** to view flights further into the past.

**Note:** *When the timeline is moved down/up, the start and end times at the top and bottom of the visible window change, but the length (duration) of the visible time window (e.g., 60 minutes) remains constant.*

**Note:** *When the timeline is moved down/up, “Now” time at the Reference Point also moves. If moved far enough, “Now” time may no longer be displayed in the visible timeline window (Figure 6.5 right).*



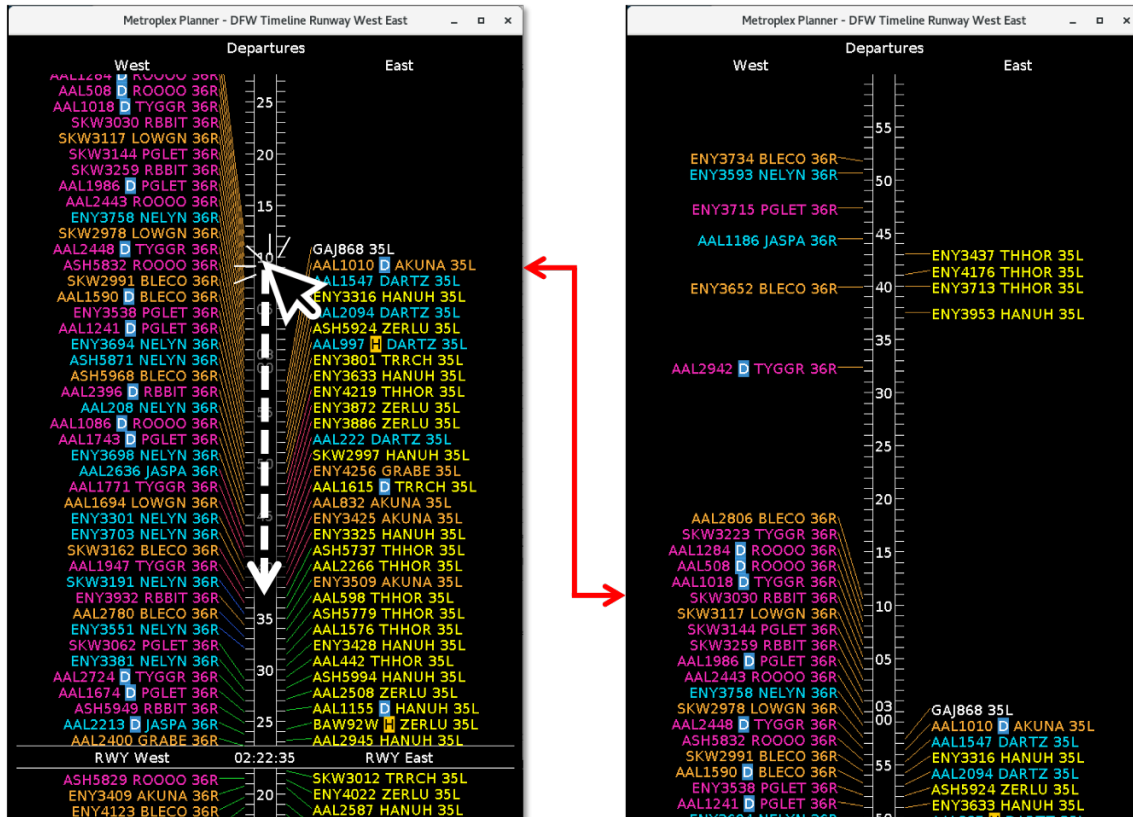


Figure 6.5. Click and hold the timeline, then drag the timeline to move forward and backward in time. In the example, the timeline is dragged *down* to move it further into the *future*.

## 6.5 Timeline: Flight Right-Click Menu

Right-click on a flight to open the flight menu (Figure 6.6). Right-click options are described in Section 7.

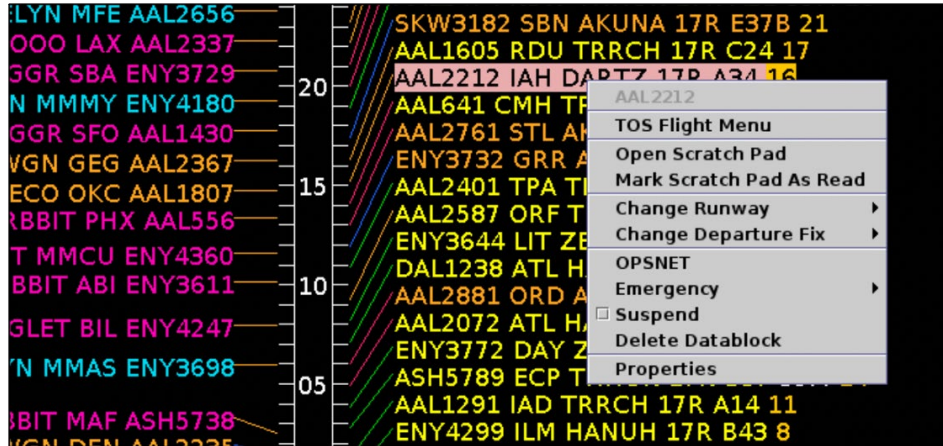


Figure 6.6. Flight right-click menu.

## 6.6 Timeline: Background Right-Click Menu

Right-click on the background of the timeline (i.e., anywhere not on a datablock) for options to manage and configure the timeline.

### 6.6.1 Reset Interval

Once the timeline has been moved in either direction, use “Reset Interval” to reset the “Begin At” and “End At” times to those defined in the Timeline Settings window (see Section 6.6.4.7 for a description of how to set the Begin and End times).

#### To reset the Timeline interval:

**Step 1:** Use the mouse to right-click on the background of the timeline (i.e., anywhere not on a datablock).

**Step 2:** Select “Reset Interval” (Figure 6.7) to reset the “Begin At” and “End At” times to those defined in the Timeline Settings window.

**Note:** “Reset Interval” is available as an option on the right-click menu only after the timeline has been moved up or down.

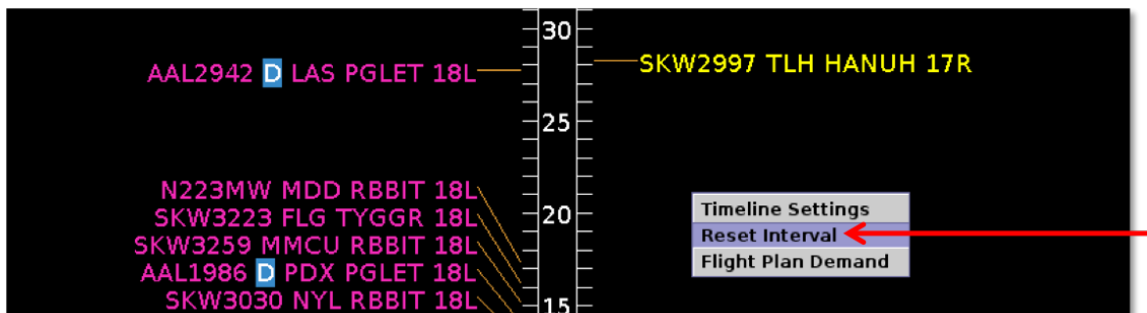


Figure 6.7. Timeline right-click Menu: Reset Interval.

### 6.6.2 Flight Plan Demand

Use the “Flight Plan Demand” tool 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 View Settings window:**

**Step 1:** Use the mouse to right-click on the background of the timeline (i.e., anywhere not on a datablock).

**Step 2:** Select “Flight Plan Demand” (Figure 6.8) to open the Flight Plan Demand View Settings window.

**Step 3:** Select “Show Flight Plan Demand” (Figure 6.9).

**Note:** *The same Flight Plan Demand parameters are applied to all open timeline windows.*

*\*Instructions for Rolling and Fixed Time Periods are continued below ...*

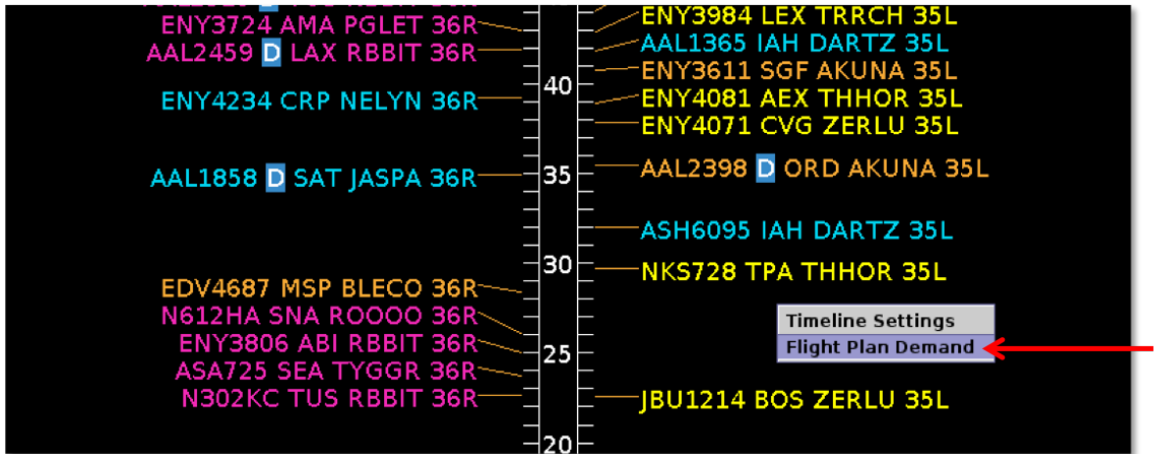


Figure 6.8. Timeline right-click menu: Flight Plan Demand.

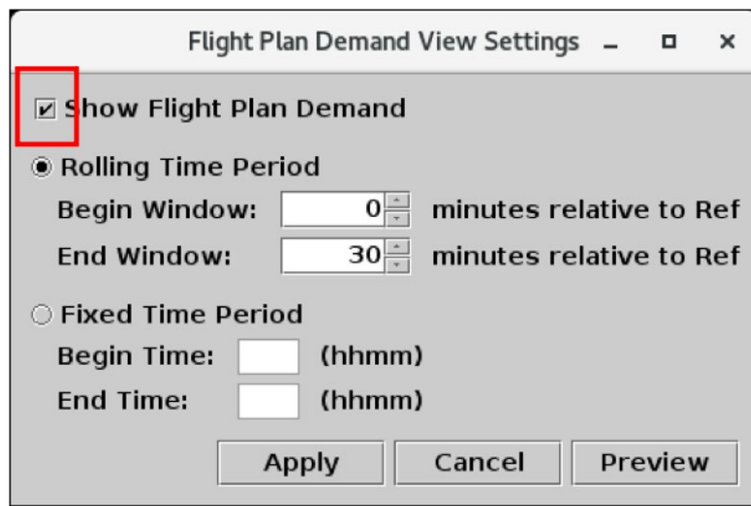


Figure 6.9. Flight Plan Demand View Settings.

**To create a Flight Plan Demand with a *Rolling* Time Period:**

*\*Instructions continued from above.*

**Step 4:** Select “Rolling Time Period” (Figure 6.10).

**Step 5:** Enter “Begin Window” and “End Window” values, expressed in minutes relative to the Reference Point. In Figure 6.10 and Figure 6.11, the window begins 5 min *below*, and ends 10 min *above*, “Now” time.

**Note:** In the “Begin Window” and “End Window” fields, 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), or
- 0 (zero) minutes for “Now” time at the Reference Point.

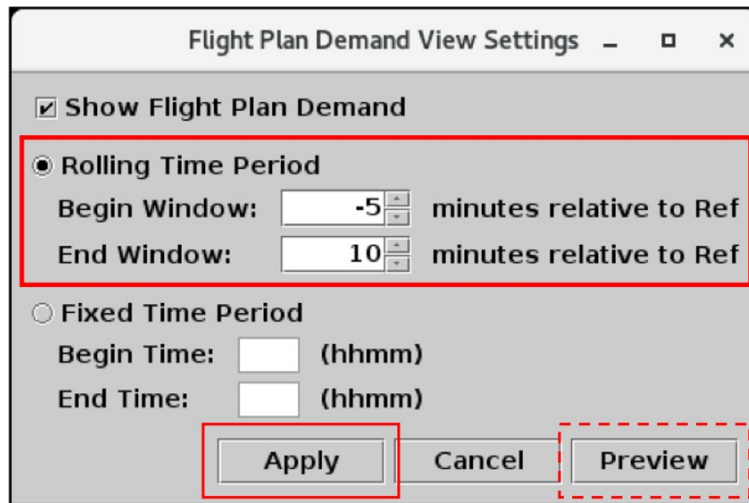
The “End” value must be greater than the “Begin” value.

**Note:** Enter a maximum time window of +/- 2 hours, that is:

- The minimum value in the “Begin Window” field is -120 min.
- The maximum value in the “End Window” field is 120 min.

**Step 6:** 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 6.10).

**Alternatively:** Select “Cancel” to close the Settings window without saving the changes (Figure 6.10).



**Figure 6.10. Flight Plan Demand View Settings: Rolling Time Period.**

As shown on the timeline in Figure 6.10, the window *above* “Now” time is outlined in **white** and *below* “Now” time, in the past, is outlined in **magenta**.

The ratio of arrival flights (white) to departure flights (green) in the demand window is displayed at the bottom of each column. Flights *above* “Now” time are counted separately from those *below* “Now” time (outlined in magenta).

In Figure 6.11, for example, in the *right* column, 5 arrivals and 5 departures are *expected* to land/takeoff in the next 10 minutes. Four arrivals and 2 departures have *already* landed/taken off in the past 5 minutes (outlined in magenta).

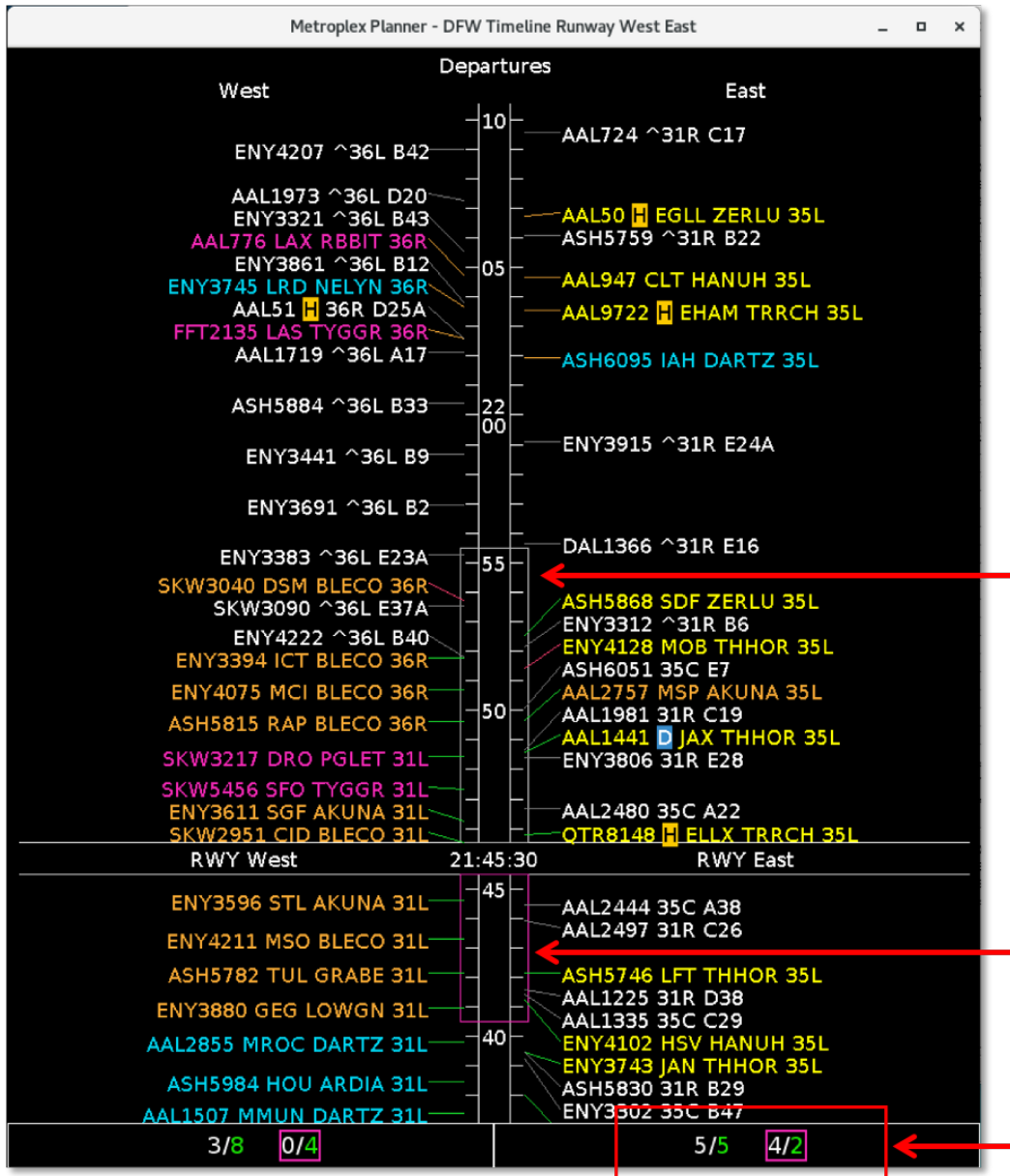


Figure 6.11. Flight Plan Demand with a *Rolling* Time Period. In this example, 10 min above “Now” time (outlined in white) and 5 min below “Now” time (outlined in magenta).

## To create a Flight Plan Demand with a *Fixed Time Period*:

*\*Instructions continued from above.*

**Step 4:** Select “Fixed Time Period” (Figure 6.12).

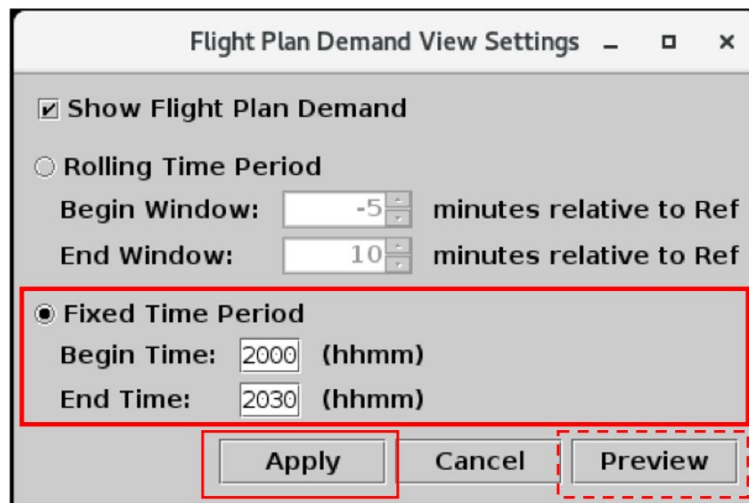
**Step 5:** Enter “Begin Time” and “End Time” values, expressed in *hhmm* UTC. In Figure 6.12 and Figure 6.13, the window begins at 2000 and ends at 2030 UTC.

**Note:** “Begin Time” must be earlier than “End Time.”

**Note:** Enter a maximum time window of +/- 2 hours from now “Now” time.

**Step 6:** 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 6.12).

**Alternatively:** Select “Cancel” to close the Settings window without saving the changes (Figure 6.12).



The screenshot shows a dialog box titled "Flight Plan Demand View Settings". It has three radio button options: "Show Flight Plan Demand" (checked), "Rolling Time Period", and "Fixed Time Period" (selected). Under "Rolling Time Period", there are two spinners: "Begin Window" set to -5 and "End Window" set to 10, both labeled "minutes relative to Ref". Under "Fixed Time Period", there are two spinners: "Begin Time" set to 2000 and "End Time" set to 2030, both labeled "(hhmm)". At the bottom, there are three buttons: "Apply", "Cancel", and "Preview". A red solid box highlights the "Fixed Time Period" section, and a red dashed box highlights the "Apply", "Cancel", and "Preview" buttons.

Figure 6.12. Flight Plan Demand View Settings: *Fixed Time Period*.

A *fixed* demand window moves with the timeline as time passes. In Figure 6.13, for example, the window begins at 2000 UTC and ends at 2030 UTC. In Figure 6.13 (left), the window is above “Now” time, in the future. As described in the previous section, the window *above* “Now” time is outlined in **white**.

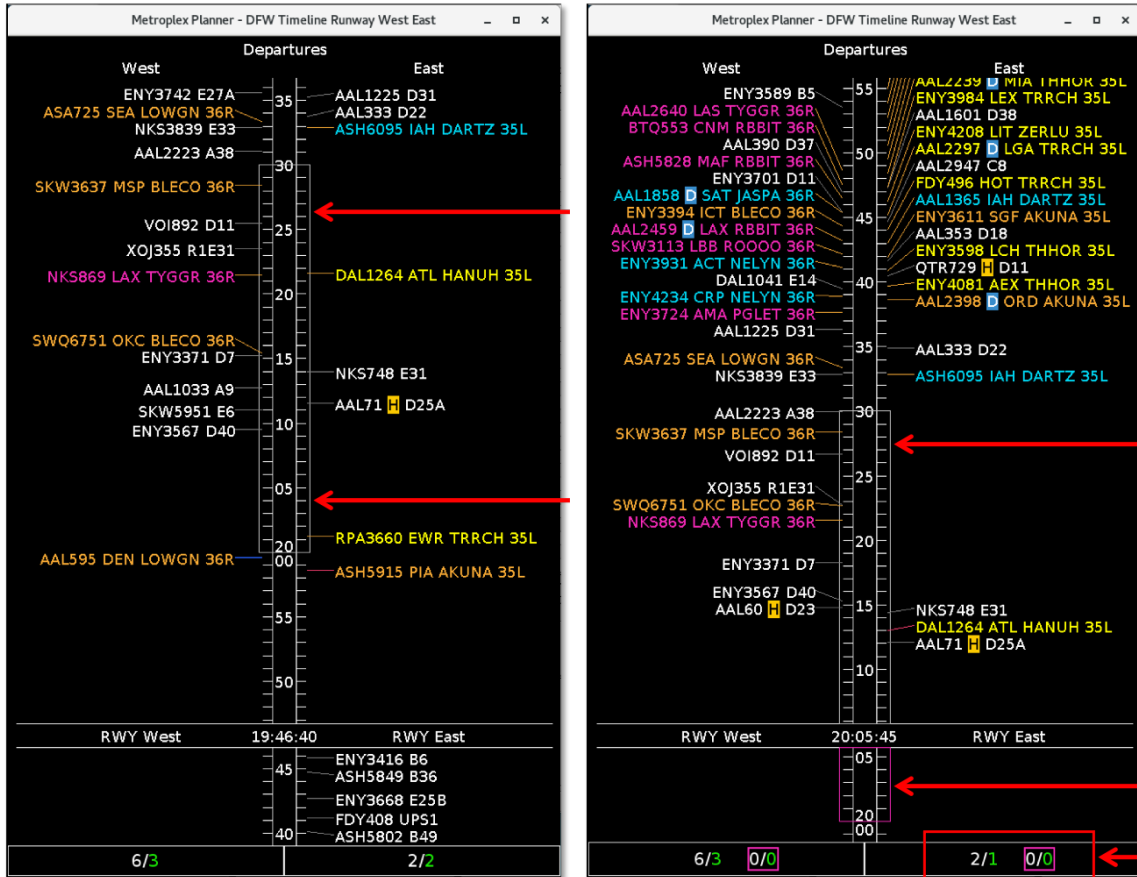
As time passes, the demand window eventually passes “Now” time (Figure 6.13, right). The portion of the window *below* “Now” time, in the past, is outlined in **magenta**.

As described in the previous section, the ratio of arrival flights (white) to departure flights (green) in the demand window is displayed at the bottom of each column. Flights



above “Now” time are counted separately from those below “Now” time (outlined in magenta).

In Figure 6.13 (right), for example, in the *right* column, 2 arrivals and 1 departure are *expected* in land/takeoff. Zero arrivals and 0 departures have *already* landed/taken off (outlined in magenta).



**Figure 6.13. Flight Plan Demand with a Fixed Time Period. In this example, 2000 UTC to 2030 UTC. A fixed window that starts in the future (left) eventually passes “Now” time (right) and will eventually drop out of the visible timeline window.**



**To remove the Flight Plan Demand from the Timeline:**

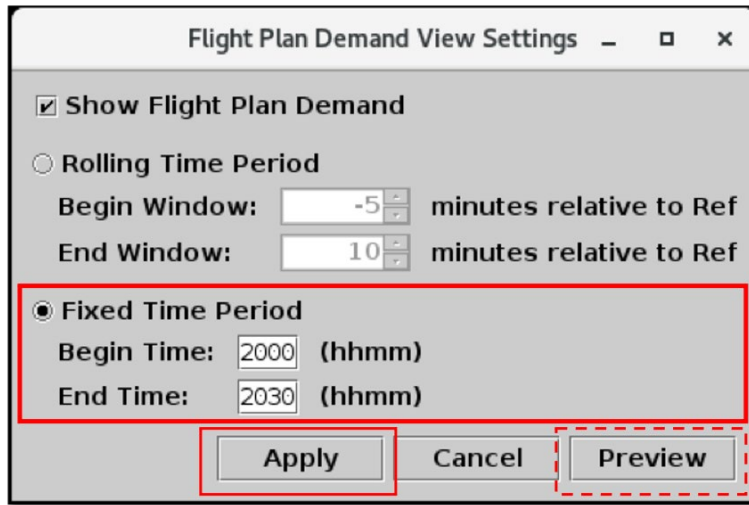
**Step 1:** Use the mouse to right-click on the background of the timeline (i.e., anywhere not on a datablock).

**Step 2:** Select “Flight Plan Demand” (Figure 6.8) to open the Flight Plan Demand View Settings window.

**Step 3:** Deselect “Show Flight Plan Demand” (Figure 6.14).

**Note:** *If multiple Timeline windows are open, the Flight Plan Demand is removed from all timelines.*

**Step 4:** Select “Apply” to apply the change and close the Settings window (Figure 6.14).



**Figure 6.14. Flight Plan Demand View Settings: Uncheck “Show Flight Plan Demand” to remove from the timeline.**

### 6.6.3 Schedule Configuration Change

Use “Schedule Configuration Change” to open the Runway Utilization tab on the TM Actions Panel. See Section 3.1.8 for a full description of the Runway Utilization tab.

**To open the Runway Utilization tab (from the Timeline):**

**Step 1:** Use the mouse to right-click on the vertical timeline in the middle of the timeline window (Figure 6.15).

**Step 2:** Select “Schedule Config Change” (Figure 6.15) to open the Runway Utilization tab in the TM Actions panel (Figure 6.16).

**Note:** *Runway Utilization and Airport Configuration changes are indicated at their start time along the timeline by “CC”, in red (Figure 6.17).*

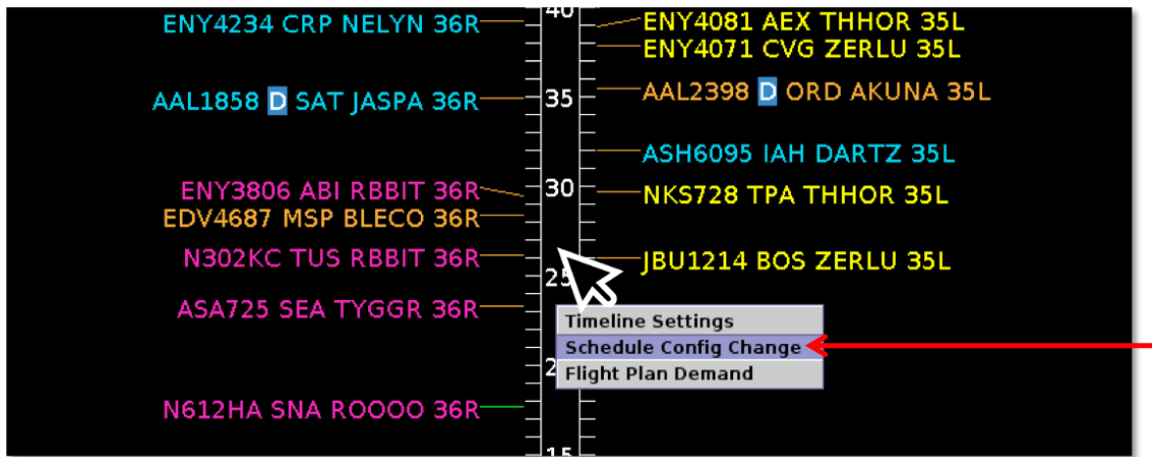


Figure 6.15. Timeline Right-Click Menu: Schedule Config Change (click on the timeline itself).

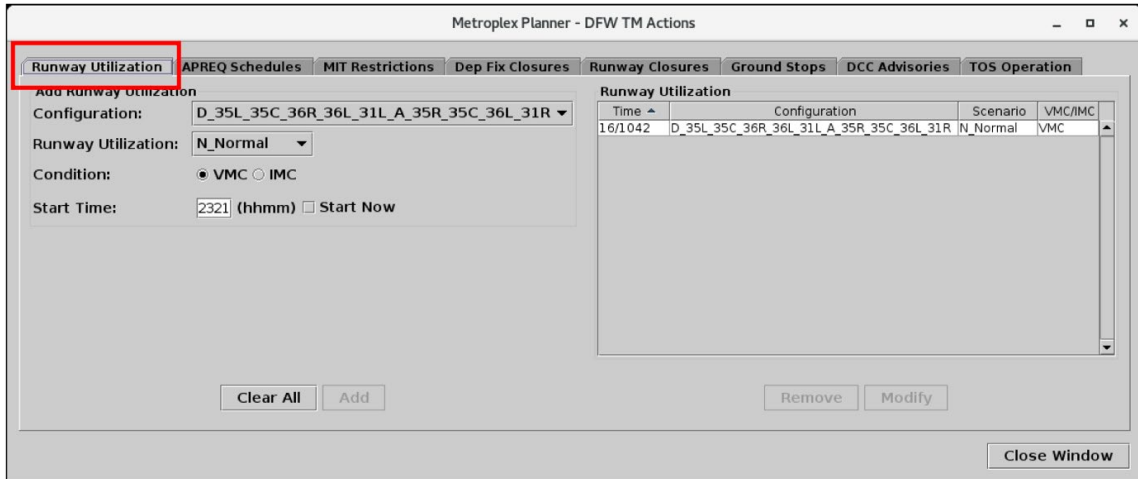


Figure 6.16. TM Actions Panel: Runway Utilization tab.

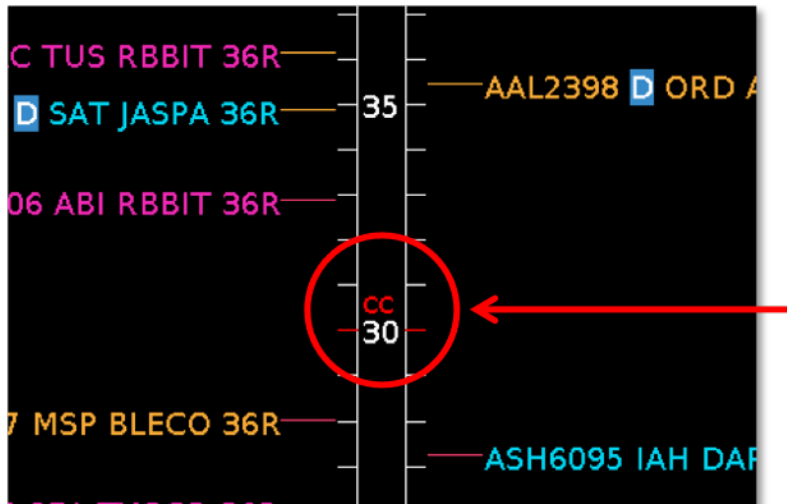


Figure 6.17. Timeline: Runway Utilization and Airport Configuration changes are indicated at their start time along the timeline by “CC”, for “Configuration Change”, in red.

## 6.6.4 Timeline Settings

Use the “Timeline Settings” window to configure the timeline reference point, filters, flight information, time window, labels, and color schemes (Figure 6.19).

**To open the Timeline Settings window:**

**Step 1:** Use the mouse to right-click on the background of the timeline (i.e., anywhere not on a datablock) (Figure 6.18).

**Step 2:** Select “Timeline Settings” (Figure 6.18) to open the Timeline Settings window (Figure 6.19).

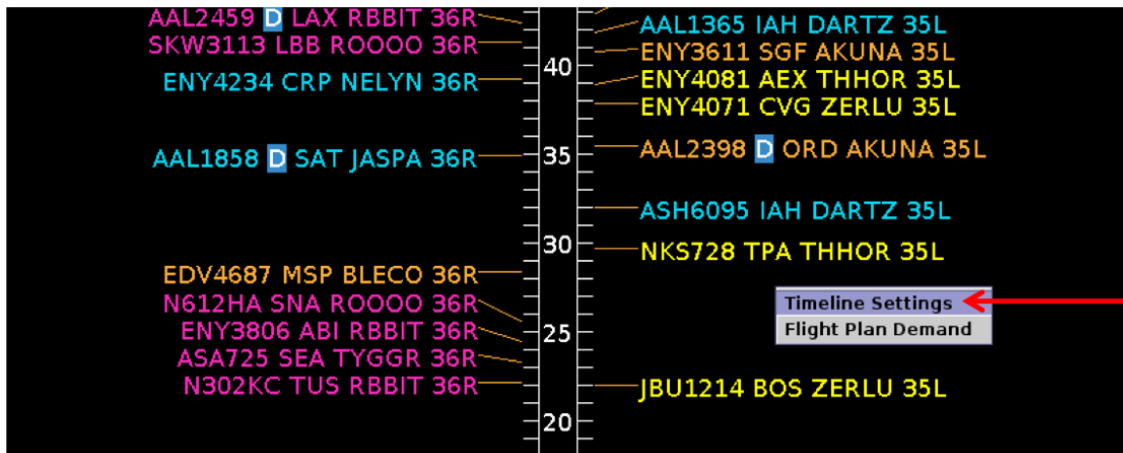


Figure 6.18. Timeline Right-Click Menu: Timeline Settings.

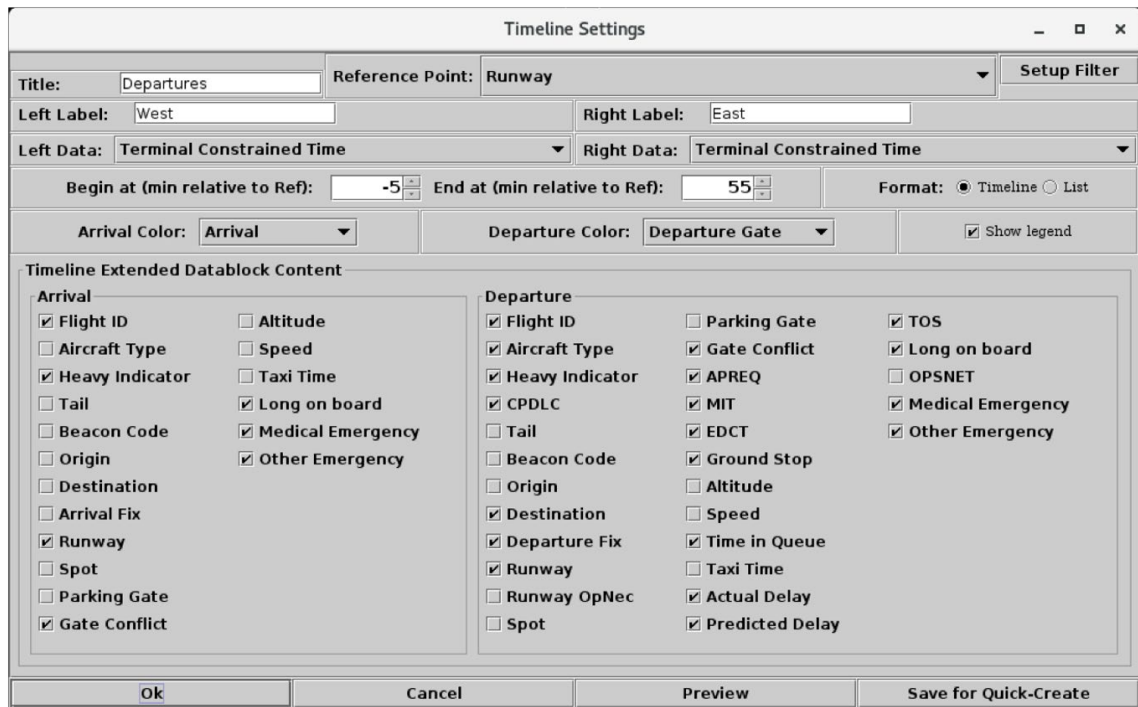


Figure 6.19. Timeline Settings window.

#### 6.6.4.1 Save for Quick Create

Use “Save for Quick Create” to save the current timeline configuration (Figure 6.20). The saved configuration can be accessed when creating a new timeline window.

The Save for Quick Create function is intended to save the configuration settings of a particular window, in this case, the timeline. See Section 3.6.5 for a description of how to save the configuration settings of *all* windows in the Metroplex Planner interface.

## To save timeline settings using Save for Quick Create:

**Step 1:** Use the mouse to right-click on the background of the timeline (i.e., anywhere not on a datablock).

**Step 2:** Select “Timeline Settings” (Figure 6.18).

**Step 3:** Select “Save for Quick Create” to save the current timeline configuration (Figure 6.20).

**Step 4:** Enter a file name (for example, “Tower” in Figure 6.21, left).

**Step 5:** Select “Save” (Figure 6.21, left).

**Step 6:** At the prompt, select “OK” to acknowledge that the file has been saved (Figure 6.21, right).

**Step 7:** Select “Ok” or “Cancel” to close the Settings window (Figure 6.20).

**Note:** A previously saved file can be overwritten by selecting the existing file name (“Tower” in Figure 6.22, left) and reselecting “Save.” At the prompt, select “Yes” to confirm that the file should be overwritten (Figure 6.22, right).

The screenshot shows the 'Timeline Settings' dialog box. The 'Title' is 'Departures', 'Reference Point' is 'Runway', 'Left Label' is 'West', and 'Right Label' is 'East'. Both 'Left Data' and 'Right Data' are set to 'Terminal Constrained Time'. The 'Begin at (min relative to Ref):' is -5 and 'End at (min relative to Ref):' is 55. The 'Format' is set to 'Timeline'. 'Arrival Color' is 'Arrival' and 'Departure Color' is 'Departure Gate'. The 'Show legend' checkbox is checked. 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, Departure Fix, Runway, Runway OpNec, Spot, Parking Gate, Gate Conflict, APREQ, MIT, EDCT, Ground Stop, Altitude, Speed, Time in Queue, Taxi Time, Actual Delay, and Predicted Delay. The 'TOS' checkbox is checked. The 'Long on board' checkbox is checked. The 'Medical Emergency' checkbox is checked. The 'Other Emergency' checkbox is checked. The 'Ok' and 'Save for Quick-Create' buttons are highlighted with red boxes.

Figure 6.20. Timeline Settings: Save for Quick Create.

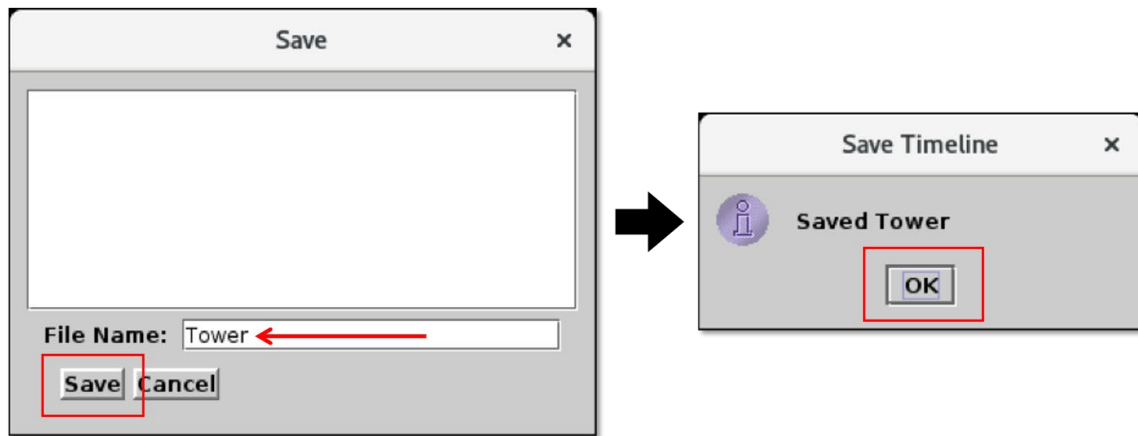


Figure 6.21. Timeline Settings: Save for Quick Create. Enter file name (in this example, “Tower”).

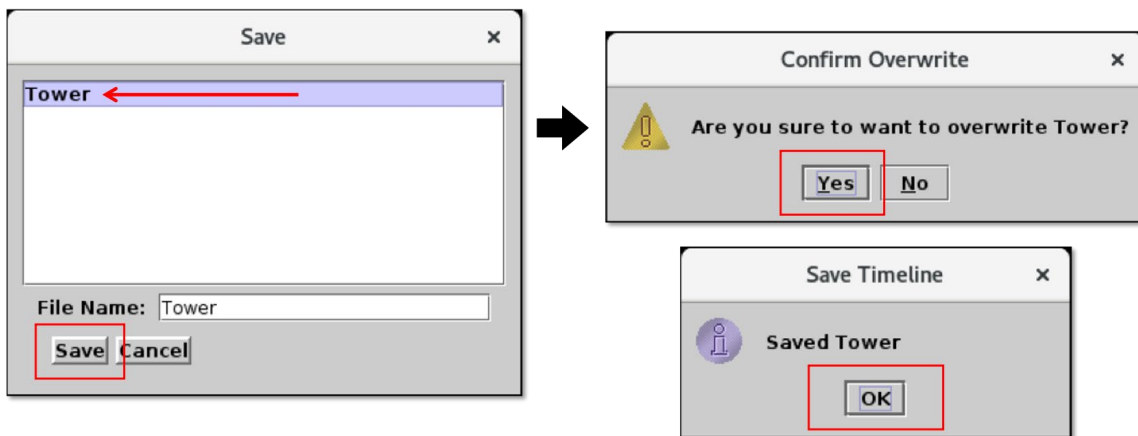


Figure 6.22. Timeline Settings: Save for Quick Create. Overwrite a previously saved file.

**To open a saved timeline configuration:**

- Step 1:* On the Toolbar, select “Create” (Figure 6.23).
- Step 2:* Select “Create Timeline” (Figure 6.23).
- Step 3:* Select the reference point (Runway, Arr/Dep Fix, Parking Gate, or Spot) of the saved timeline configuration. In this example, the reference point of the saved configuration was “Runway” (Figure 6.23).
- Step 4:* Select the name of the saved configuration (e.g., “Tower” in Figure 6.23).

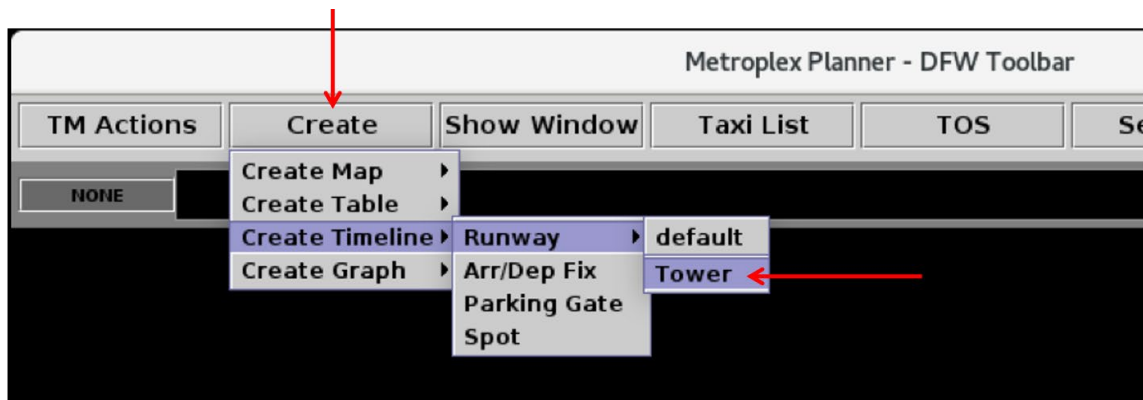


Figure 6.23. Create a Timeline using a saved configuration (in this example, “Tower”).

### 6.6.4.2 Reference Point

Use the Timeline Settings window to change the Reference Point at “Now” time. Select from one of four locations: Runway, Arr/Dep Fix, Parking Gate, or Spot (see Section 6.1 for a description of the reference point).

#### To change the timeline Reference Point:

**Step 1:** Use the mouse to right-click on the background of the timeline (i.e., anywhere not on a datablock).

**Step 2:** Select “Timeline Settings” (Figure 6.18).

**Step 3:** Select the “Reference Point” dropdown menu to select a reference point:

- Runway (selected in Figure 6.24)
- Arr/Dep Fix
- Parking Gate
- Spot

**Note:** The selected reference point applies to both sides of a timeline.

**Step 4:** Select “Preview” to view the pending changes on the timeline before closing the Settings window or “Ok” to apply the changes and close the Settings window (Figure 6.24).

**Alternatively:** Select “Cancel” to close the Settings window without saving the changes (Figure 6.24).

**Note:** The selected reference point is automatically displayed on the reference point line at “Now” time (in Figure 6.25, “RWY”).



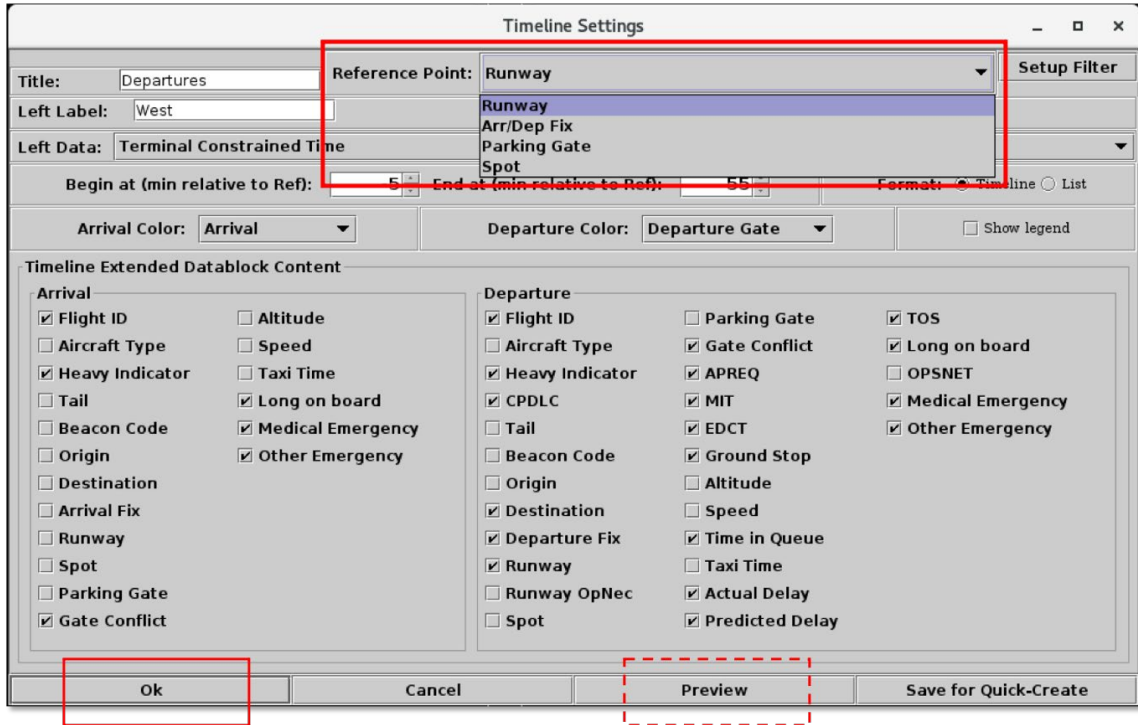


Figure 6.24. Timeline Settings: Reference Point. In this example, “Runway” is selected.

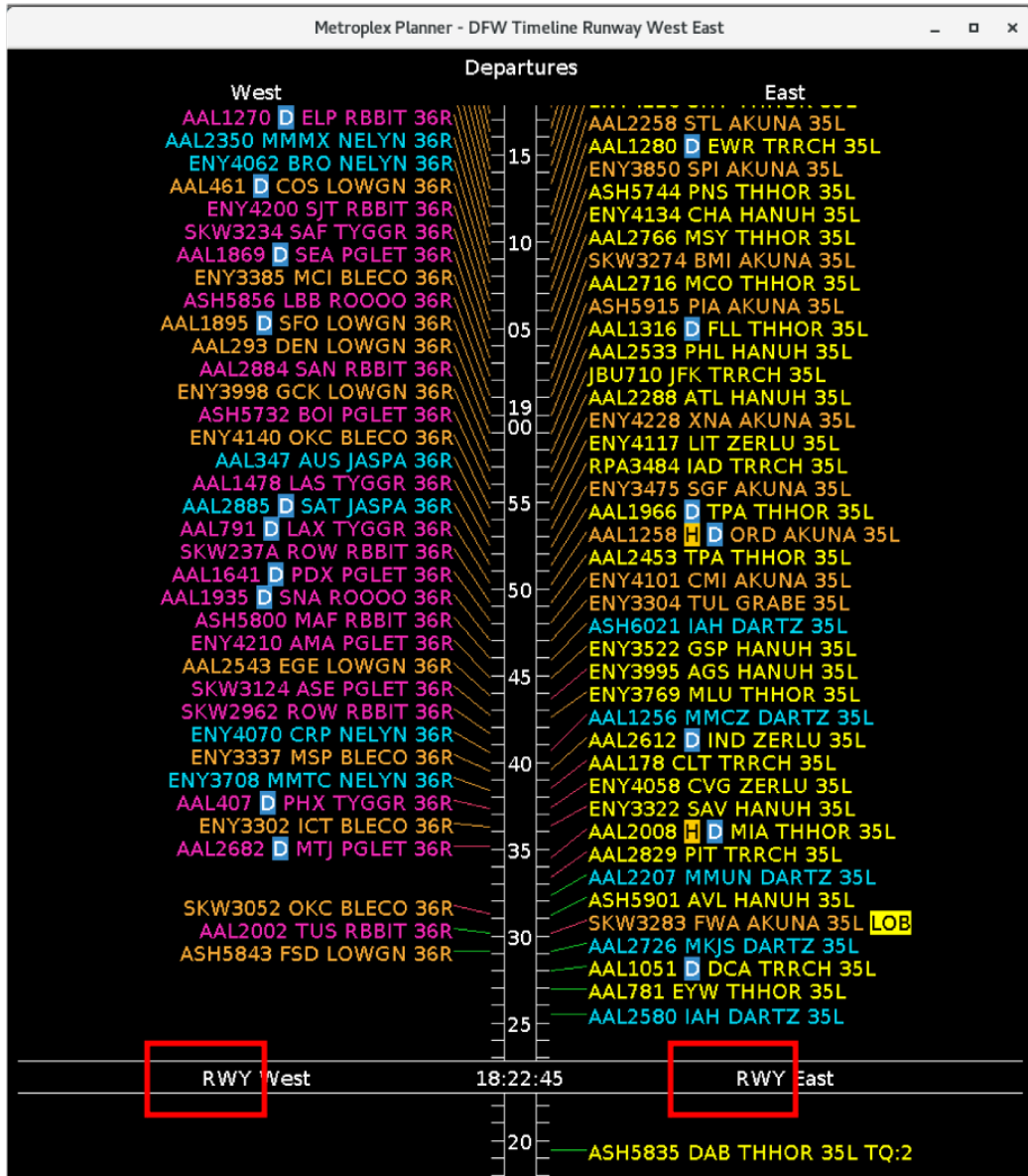


Figure 6.25. The selected reference point is automatically displayed on the reference point line next to “Now” time. In this example, “RWY.”

### 6.6.4.3 Title

Use the Timeline Settings window to edit the timeline title. Until the title is manually changed, the title field defaults to the selected reference point (e.g., Runway, Arr/Dep Fix, Parking Gate, or Spot.). In Figure 6.26, the default title is “Runway” because runway is the selected as the reference point.

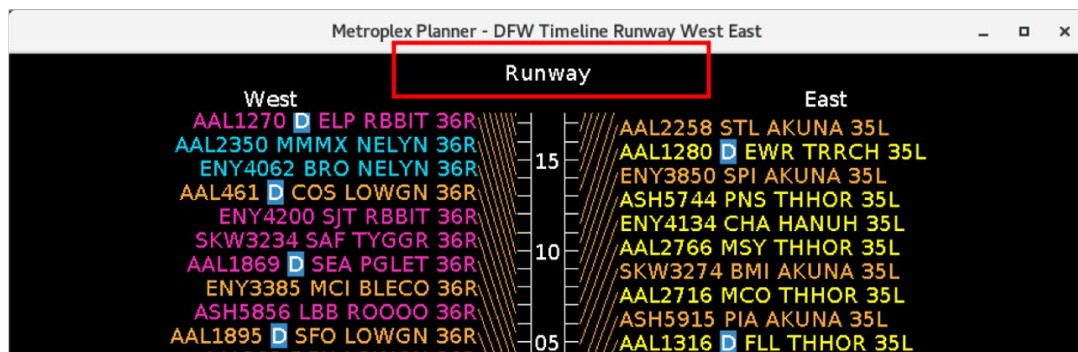
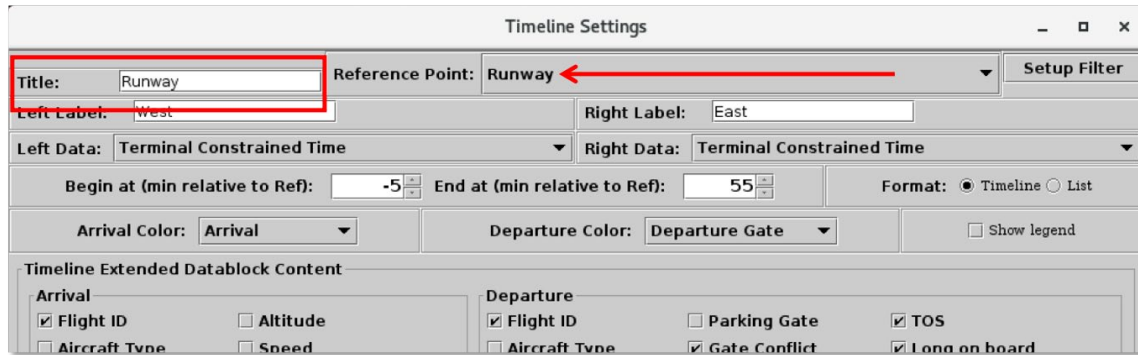


Figure 6.26. Until manually changed, the default timeline title is the selected Reference Point (in this example, “Runway”).

### To change the Timeline Title:

- Step 1:** Use the mouse to right-click on the background of the timeline (i.e., anywhere not on a datablock).
- Step 2:** Select “Timeline Settings” (Figure 6.18).
- Step 3:** Enter a new title in the "Title" text box (in Figure 6.27, the new title is “Departures”).
- Step 4:** Select “Preview” to view the pending changes on the timeline before closing the Settings window or “Ok” to apply the changes and close the Settings window (Figure 6.27).
- Alternatively:** Select “Cancel” to close the Settings window without saving the changes (Figure 6.27).
- Note:** *The revised title is displayed on the timeline (in Figure 6.28, “Departures”).*

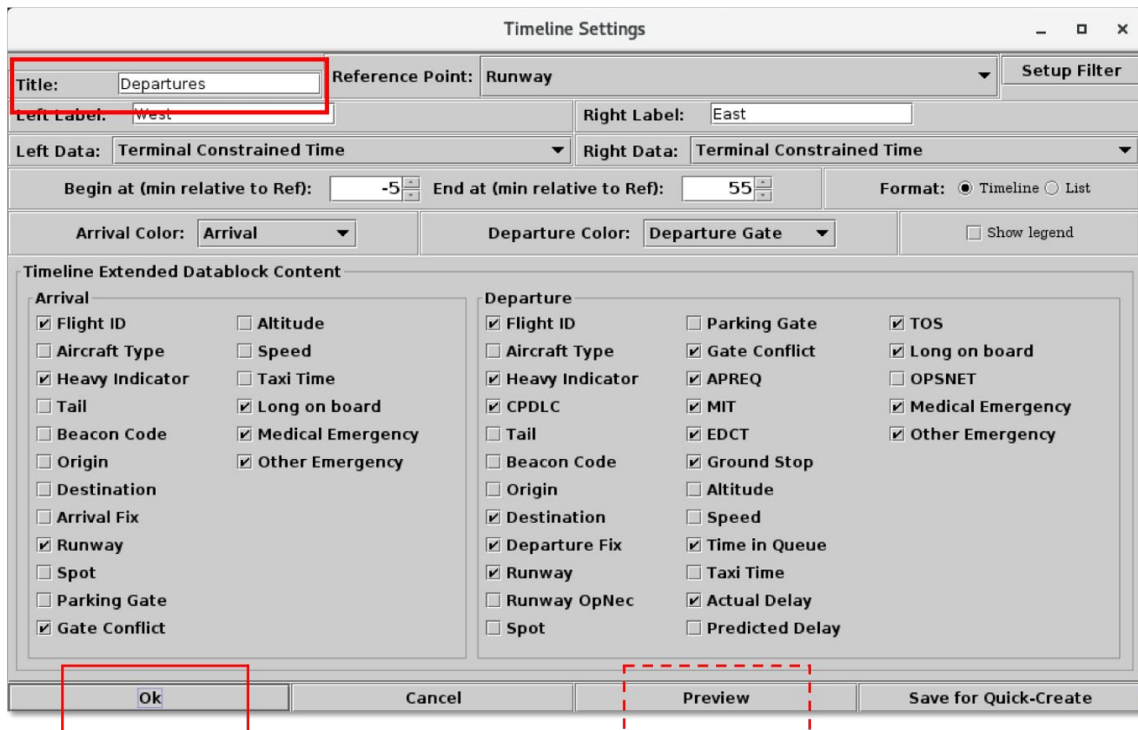


Figure 6.27. Timeline: Edit title. In this example, “Departures.”

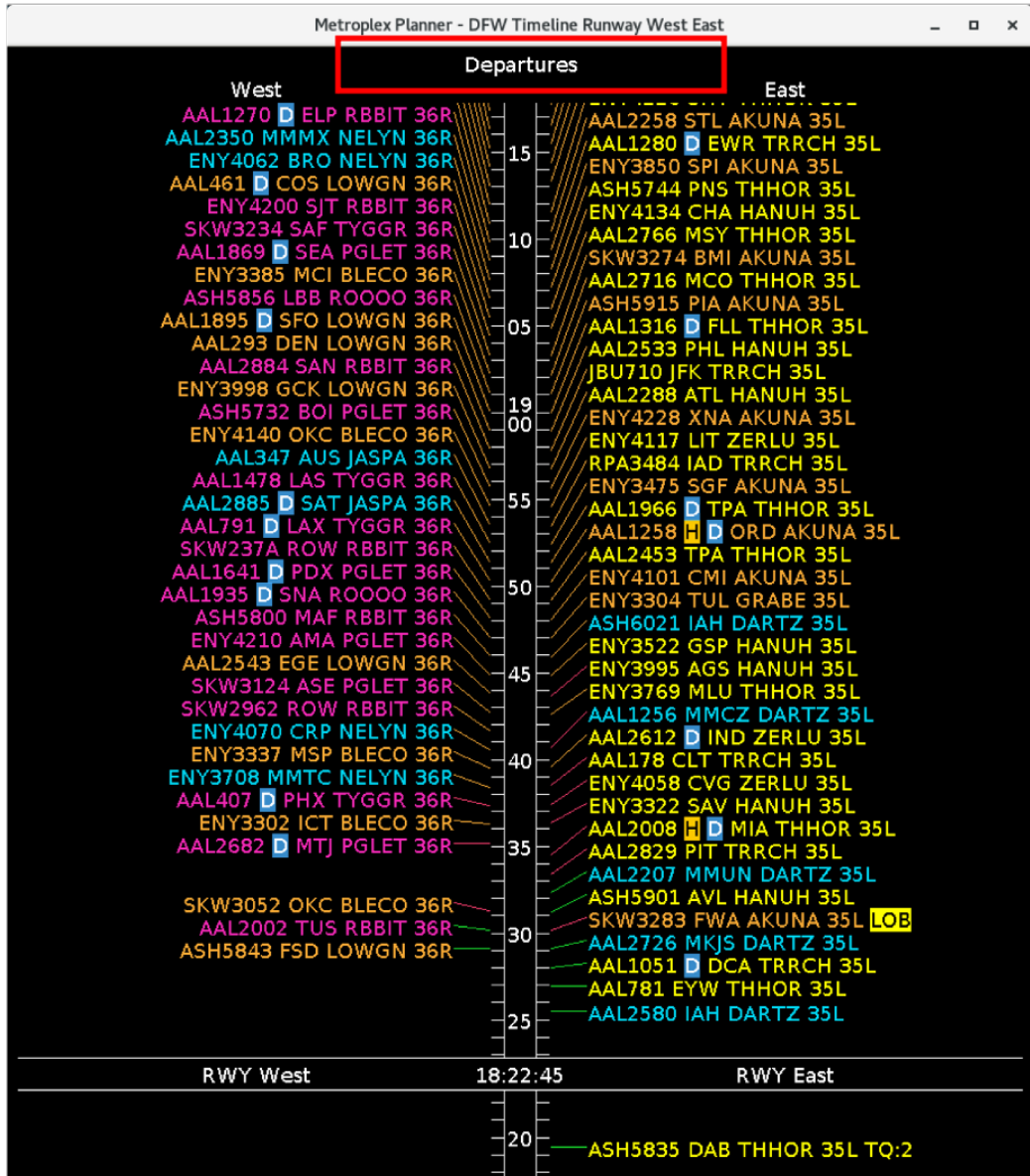


Figure 6.28. Timeline: Revised timeline title. In this example, “Departures.”

### 6.6.4.4 Labels

Use the Timeline Settings window to edit the left and right timeline labels. The labels are displayed in two places: At the top each of each column (Figure 6.29, top) and on the reference point line at “Now” time (Figure 6.29, bottom).

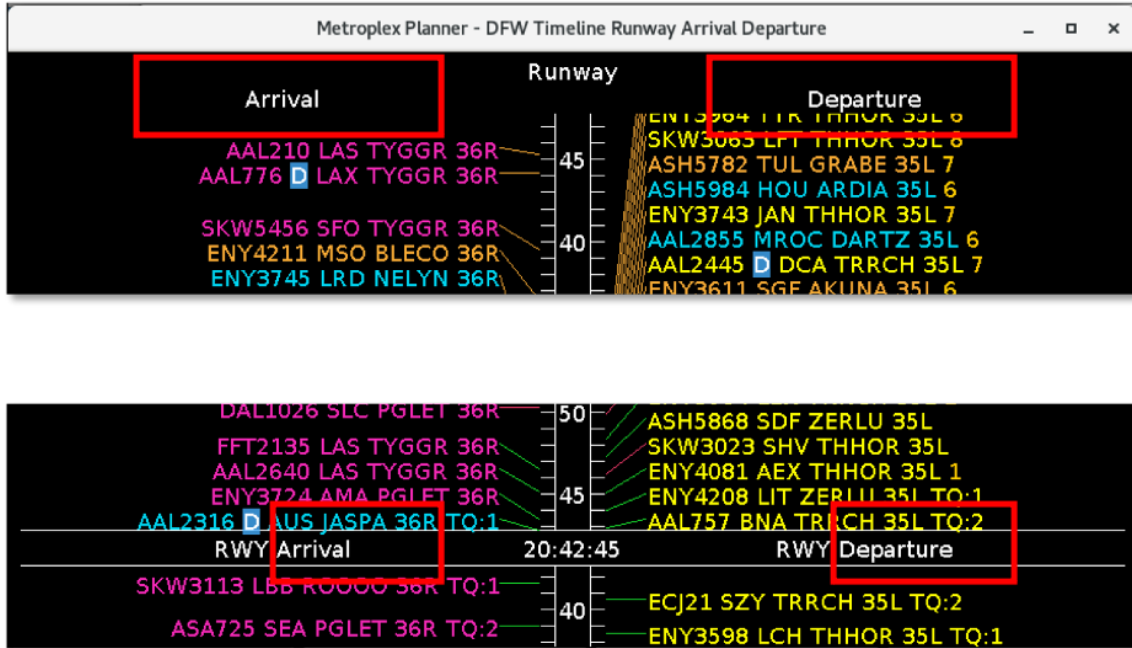


Figure 6.29. Timeline left/right labels are displayed at the top of each column and on the reference point line at “Now” time. In this example, the left/right labels are “Arrival” and “Departure”, respectively.

## To change the Timeline Left/Right Labels:

**Step 1:** Use the mouse to right-click on the background of the timeline (i.e., anywhere not on a datablock).

**Step 2:** Select “Timeline Settings” (Figure 6.18).

**Step 3:** Enter new label names in the “Left Label” field (“West” in Figure 6.30) and “Right Label” field (“East” in Figure 6.30).

**Step 4:** Select “Preview” to view the pending changes on the timeline before closing the Settings window or “Ok” to apply the changes and close the Settings window (Figure 6.30).

**Alternatively:** Select “Cancel” to close the Settings window without saving the changes (Figure 6.30).

**Note:** *The revised left/right labels are displayed at the top of each column and on the reference point line at “Now” time (in Figure 6.31, “West” and “East”).*

The screenshot shows the 'Timeline Settings' dialog box. At the top, the 'Title' is 'Runway' and the 'Reference Point' is 'Runway'. The 'Left Label' field contains 'West' and the 'Right Label' field contains 'East'. Below these are 'Left Data' and 'Right Data' fields, both set to 'Terminal Constrained Time'. The 'Begin at (min relative to Ref)' is '-5' and the 'End at (min relative to Ref)' is '55'. The 'Format' is set to 'Timeline'. The 'Arrival Color' is 'Arrival' and the 'Departure Color' is 'Departure Gate'. The 'Show legend' checkbox is unchecked. The 'Timeline Extended Datablock Content' section has two columns of checkboxes: '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, Departure Fix, Runway, Runway OpNec, Spot, Parking Gate, Gate Conflict, APREQ, MIT, EDCT, Ground Stop, Altitude, Speed, Time in Queue, Taxi Time, Actual Delay, and Predicted Delay. The 'Ok' button is highlighted with a red box, and the 'Preview' button is highlighted with a red dashed box.

Figure 6.30. Timeline Settings: Left and Right Labels.



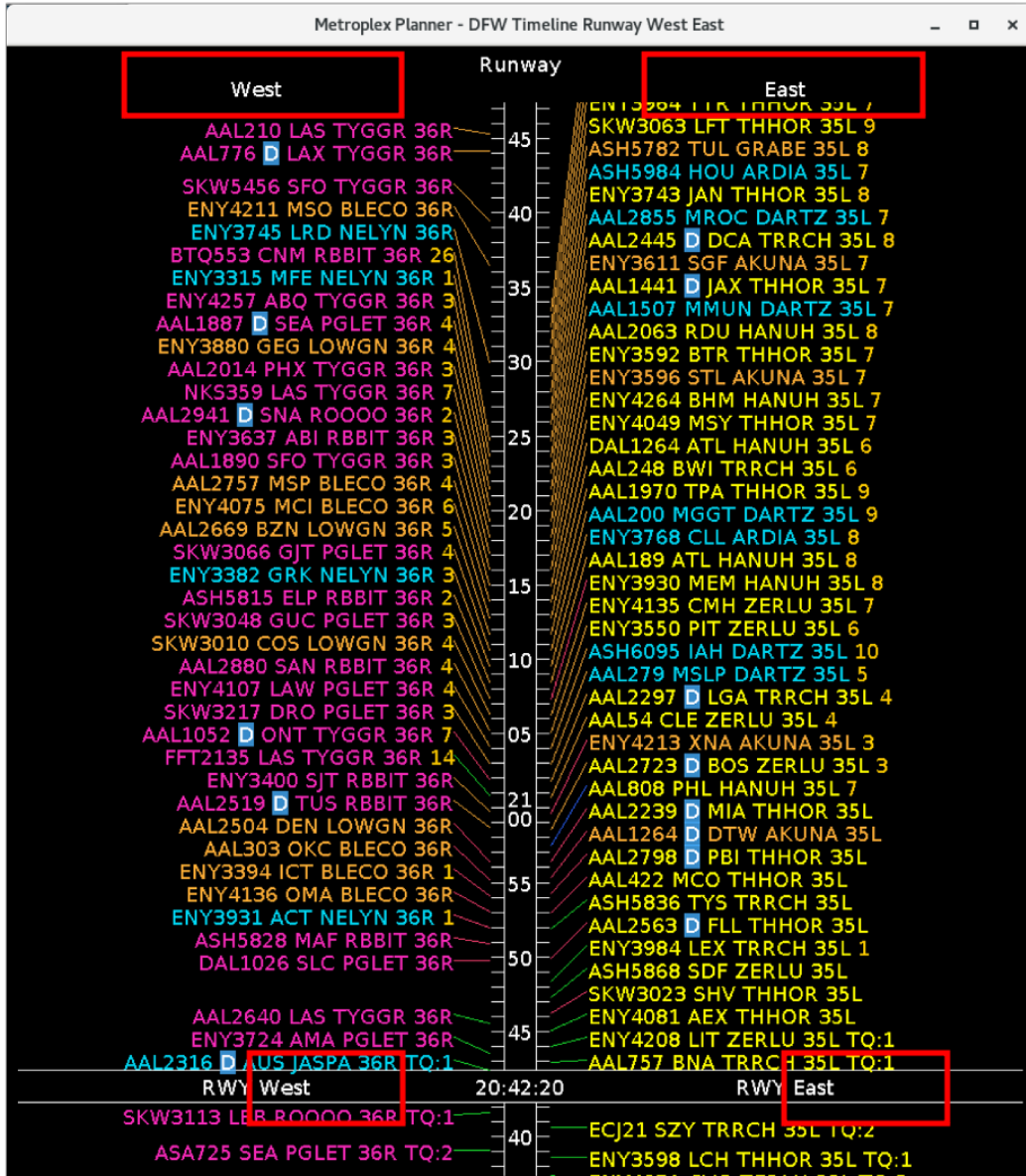


Figure 6.31. Timeline: Revised left/right labels. In this example, “West” and “East”, respectively.

If the left/right label fields in the Timeline Settings window are blank, the left/right label fields on the timeline populate with the filter criteria for that column.

### 6.6.4.5 Filter

Use the Timeline Settings window to filter flights on the timeline. For example, a timeline can be filtered to display east-side runways in the left column and west-side runways in the right column. Variables that can be used to filter the timeline are listed in Table 6.2.

Variables are used in combination with an *operator*, “=” (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**

<b>Field</b>	<b>Description</b>	<b>Options</b>
Airline	Airline code	<i>3-letter airline code or “GA”</i>
Arr/Dep	Arrival or Departure flight	<i>Arrival, Departure</i>
Arr Fix	Arrival Fix	Options vary by TRACON
Coord State	TOS Route Coordination State	<i>Not Submitted, FO Submitted, ATC Approved, Reroute Filed, FO Excluded, ATC Excluded</i>
Dep Fix	Departure Fix	Options vary by TRACON
Dep Gate	Terminal-area departure gate	Options vary by TRACON
Dest	Destination airport	<i>3-letter airport code (US) 4-letter airport code (International)</i>
Destination has APREQ	Destination airport is subject to an APREQ	<i>Yes, No</i>
Eligibility State	TOS Route Eligibility State	<i>Potential Candidate Excluded Expired</i>
Engine Type	Aircraft engine type	<i>Prop, Turbo, Jet</i>
Flight Status	Current flight state	<i>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</i>
Gate	Parking gate	Options vary by Airport
Has Acknowledged APREQ	APREQ release time has been acknowledged in the ATD-2 system	<i>Yes, No</i>
Had EDCT	Flight is subject to an Expect Departure Clearance Time (EDCT)	<i>Yes, No</i>
Has MIT	Flight is subject to a Miles-in-Trail (MIT) restriction	<i>Yes, No</i>
Has Fix MIT	Departure fix is subject to a	<i>Yes, No</i>

	Miles-in-Trail (MIT) restriction	
Has Destination MIT	Destination airport is subject to a Miles-in-Trail (MIT) restriction	<i>Yes, No</i>
Has Jet Route MIT	Jet route is subject to a Miles-in-Trail (MIT) restriction	<i>Yes, No</i>
Is Hidden	Flight designated as hidden	<i>Yes, No</i>
Origin	Origin airport	<i>3-letter airport code (US) 4-letter airport code (International)</i>
Runway	Expected or actual runway	Options vary by Airport
Spot	Ramp spot	Options vary by Airport
Tail	Tail number in the ATD-2 system	<i>Is Set, Not Set</i>
Weight Class	Aircraft weight class	<i>A, B, C, D, E, F</i>

## To filter the Timeline:

- Step 1:** Use the mouse to right-click on the background of the timeline (i.e., anywhere not on a datablock).
- Step 2:** Select “Timeline Settings” (Figure 6.18).
- Step 3:** Select “Set Up Filter” (Figure 6.32).
- Step 4:** Select the “Left” or “Right” tab to filter the left or right side of the timeline (in Figure 6.33, the “Right” tab is selected).
- Step 5:** Select a variable from the dropdown menu in the “Field” column (in Figure 6.33, “Runway” is selected).
- Step 6:** Select “=” (equal to) or “!=” (not equal to) from the dropdown menu in the “Operator” column (in Figure 6.33, “=” is selected).
- Step 7:** Select an option from the dropdown menu, or enter text, in the “Values” column (in Figure 6.33, “DFW:35L” is selected).
- Step 8 (Optional):** Additional filters can be applied by making entries on a new row. Begin new rows by selecting “AND” or “OR” as a qualifier. Select “Add Fields” (Figure 6.33) if more rows are not visible.
- Note:** Follow the same steps to filter the other side of the timeline.
- Step 9:** When complete, select “Ok” to close the Set Up Filter window (Figure 6.33).
- Step 10:** Select “Preview” to view the pending changes on the timeline before closing the Settings window or “Ok” to apply the changes and close the Settings window (Figure 6.32).
- Alternatively:** Select “Cancel” to close the Settings window without saving the changes (Figure 6.32).

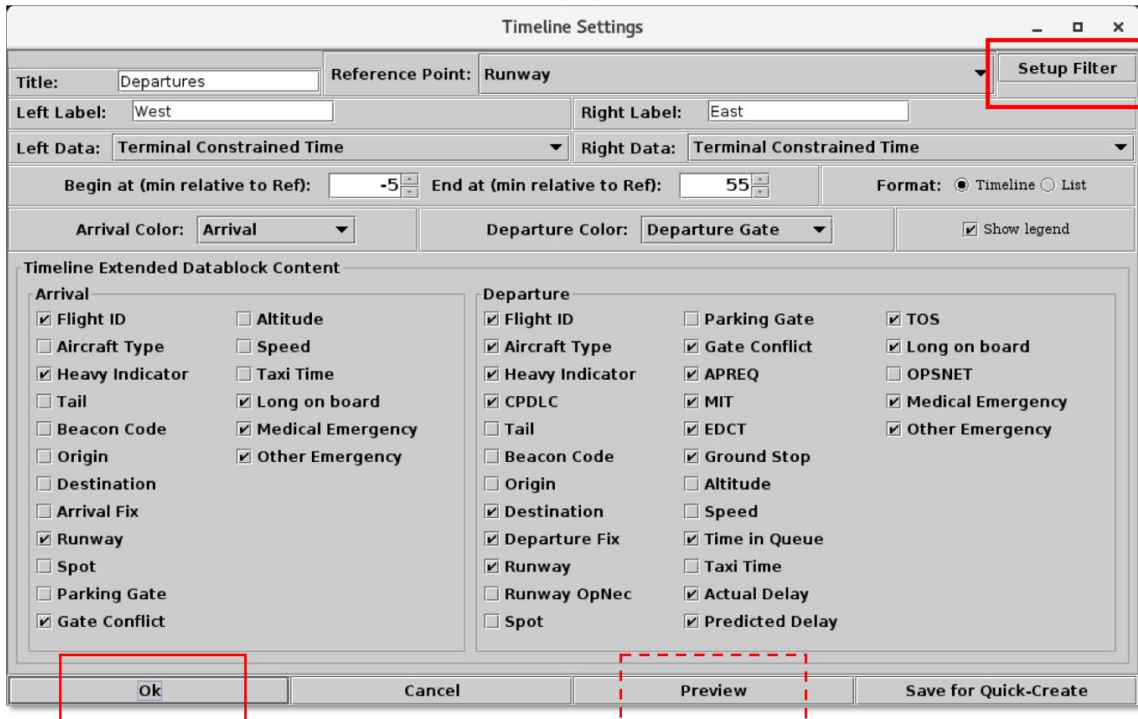


Figure 6.32. Timeline Settings: Set Up Filter.

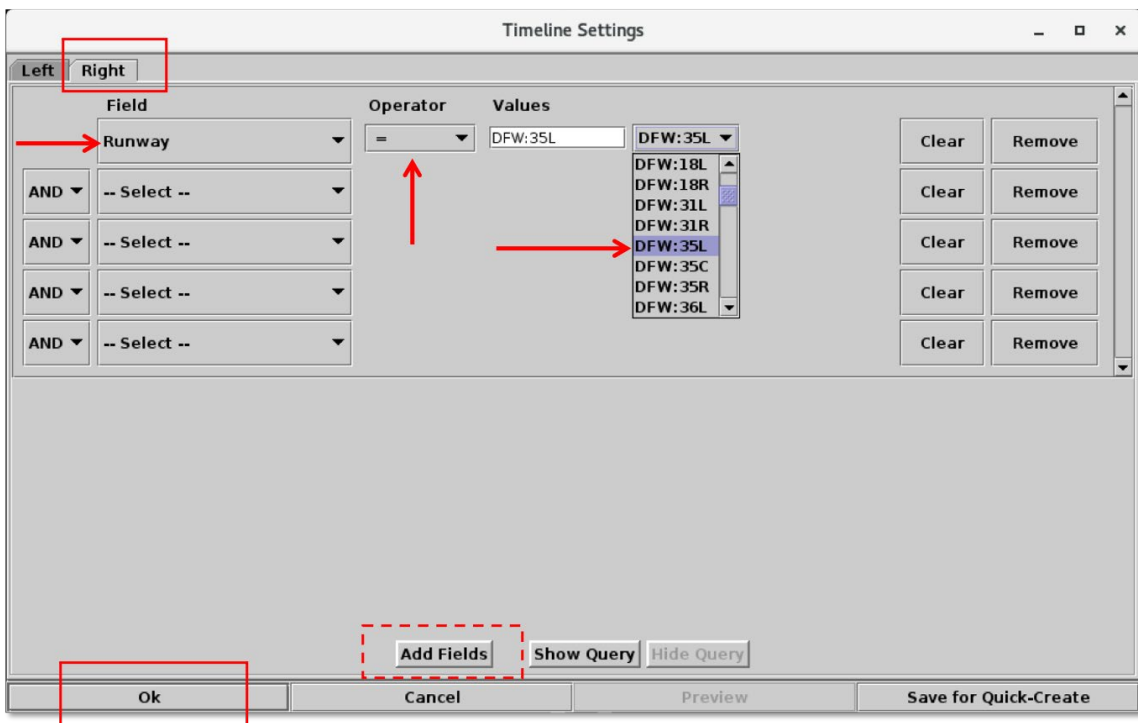


Figure 6.33. Timeline Filter: Based on the filter criteria in this example, on the *right* side of the timeline, only flights assigned to runway 35L will be displayed.

Use the Timeline Settings window to modify, or remove, an existing timeline filter.

### To modify a Timeline Filter:

**Step 1:** Use the mouse to right-click on the background of the timeline (i.e., anywhere not on a datablock).

**Step 2:** Select “Timeline Settings” (Figure 6.18).

**Step 3:** Select “Set Up Filter” (Figure 6.32).

**Step 4 (if applicable):** Use the dropdown menu to modify the selection in the “Field” column.

**Step 5 (if applicable):** Use the dropdown menu to modify the selection in the “Operator” column.

**Step 6 (if applicable):** In the “Values” column, delete the current text, or, select “Clear” to clear the field (Figure 6.34).

**Note:** When “Clear” is selected, only the “Values” field is cleared. Current selections in the “Field” and “Operator” columns are retained.

**Step 7 (If the “Values” field was cleared):** Use the dropdown menu, or enter new text, to update the “Values” field. It is required that this field be populated and not left blank.

**Step 8:** When complete, select “Ok” to close the Set Up Filter window (Figure 6.34).

**Step 9:** Select “Preview” to view the pending changes on the timeline before closing the Settings window or “Ok” to apply the changes and close the Settings window (Figure 6.32).

**Alternatively:** Select “Cancel” to close the Settings window without saving the changes (Figure 6.32).

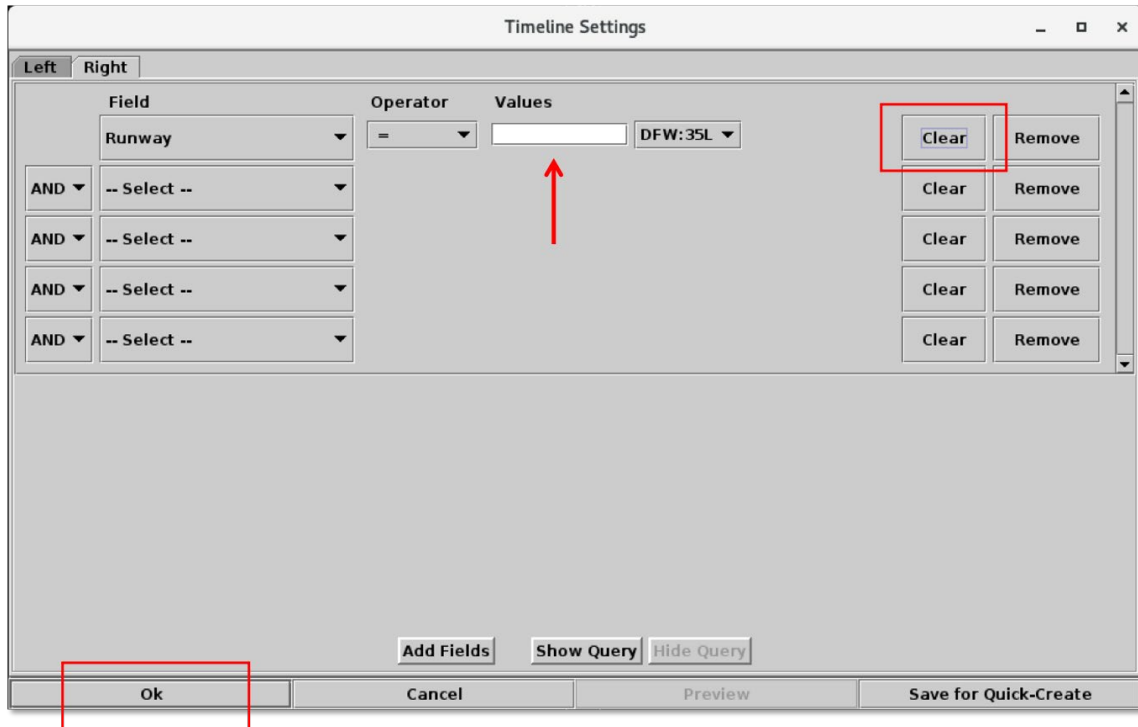


Figure 6.34. Timeline Filter: Modify a filter. Use “Clear” to clear the “Values” field.

### To remove a Timeline Filter:

**Step 1:** Use the mouse to right-click on the background of the timeline (i.e., anywhere not on a datablock).

**Step 2:** Select “Timeline Settings” (Figure 6.18).

**Step 3:** Select “Set Up Filter” (Figure 6.32).

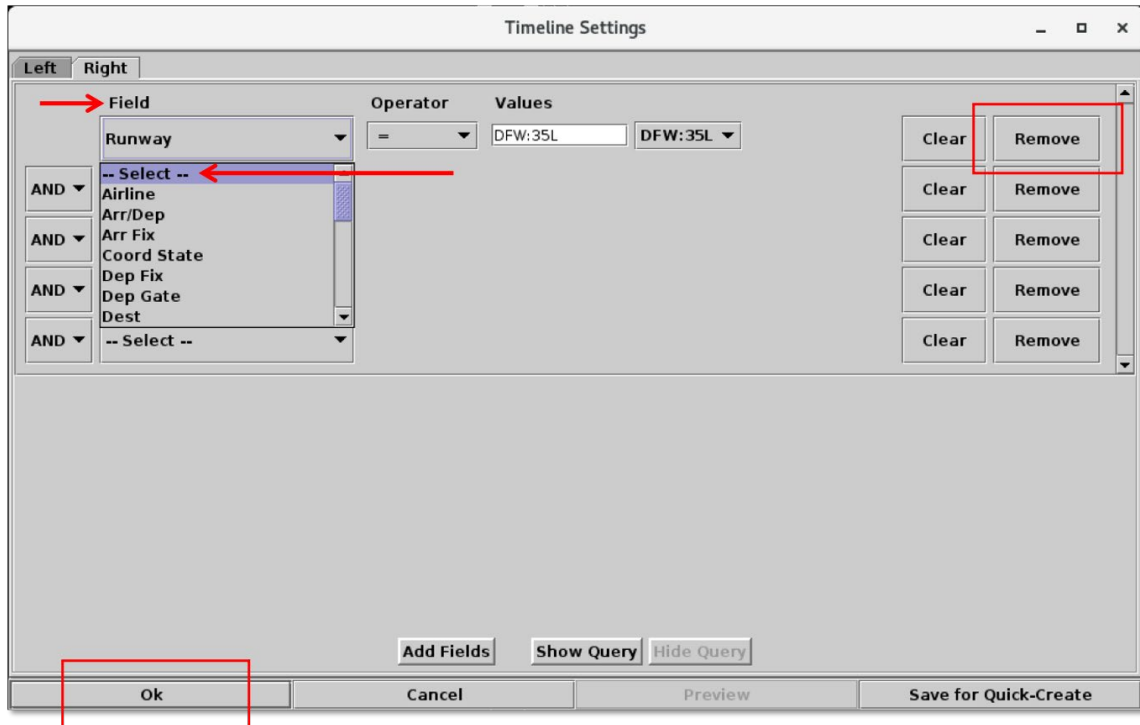
**Step 4:** Select “Remove” to delete an entire row at once (Figure 6.35).

**Alternatively:** Use the dropdown menu in the “Field” column to select the first available line at the top of the list, “--Select--” (Figure 6.35). The Field, Operator, and Values columns, in that row, are reset.

**Step 5:** When complete, select “Ok” to close the Set Up Filter window (Figure 6.35).

**Step 6:** Select “Preview” to view the pending changes on the timeline before closing the Settings window or “Ok” to apply the changes and close the Settings window (Figure 6.32).

**Alternatively:** Select “Cancel” to close the Settings window without saving the changes (Figure 6.32).



**Figure 6.35. Timeline Filter: Remove a filter.**

Note that, adding a new filter or modifying an existing filter, does *not* change the timeline’s “Title” or “Left/Right Labels.” For a description of how to manually edit the Title and Left/Right Labels, see Sections 6.6.4.3 and 0, respectively.

### 6.6.4.6 Left /Right Data Type

A flight is positioned on the timeline based on a prediction of when that flight will reach the reference point: Runway, Arr/Dep Fix, Parking Gate, or Spot (see Section 6.1 for a description of the reference point). Select one of three data computation methods for predicting when a flight is expected to reach the reference point: **Undelayed Time**, **Surface Constrained Time**, or **Terminal Constrained Time**.

Each of the three data types predicts the earliest time at which a flight is expected to reach the reference point; however, each uses different inputs to make that prediction.

- **Undelayed Time** is the earliest time at which a flight can reach the reference point as predicted by the ATD-2 scheduler, 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 scheduler, 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 scheduler, 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.

Not all data types are available for all reference points. Availability for each reference point/data type is shown in Table 6.3.

**Table 6.3. Timeline Data Availability: Reference Point by Left/Right Data Type**

Data Type	Reference Point			
	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>Not Available</i>	<i>Not Available</i>	<i>Departures and Arrivals</i>	<i>Departures only</i>



Use the Timeline Settings window to change the data type on the left and right sides of the timeline.

### To change the Timeline Data Type:

**Step 1:** Use the mouse to right-click on the background of the timeline (i.e., anywhere not on a datablock).

**Step 2:** Select “Timeline Settings” (Figure 6.18).

**Step 3:** Select the “Left Data” or “Right Data” dropdown menu (in Figure 6.36, “Left Data” is selected).

**Step 4:** Select a data type from the dropdown menu:

- Surface Constrained Time
- Terminal Constrained Time (selected in Figure 6.36)
- Undelayed Time

**Note:** *Terminal Constrained Time is most common.*

**Step 5:** Select “Preview” to view the pending changes on the timeline before closing the Settings window or “Ok” to apply the changes and close the Settings window (Figure 6.36).

**Alternatively:** Select “Cancel” to close the Settings window without saving the changes (Figure 6.36).

**Note:** *Because each of the three data types base their prediction on different factors, a flight’s position along the timeline may change when the data type is changed.*

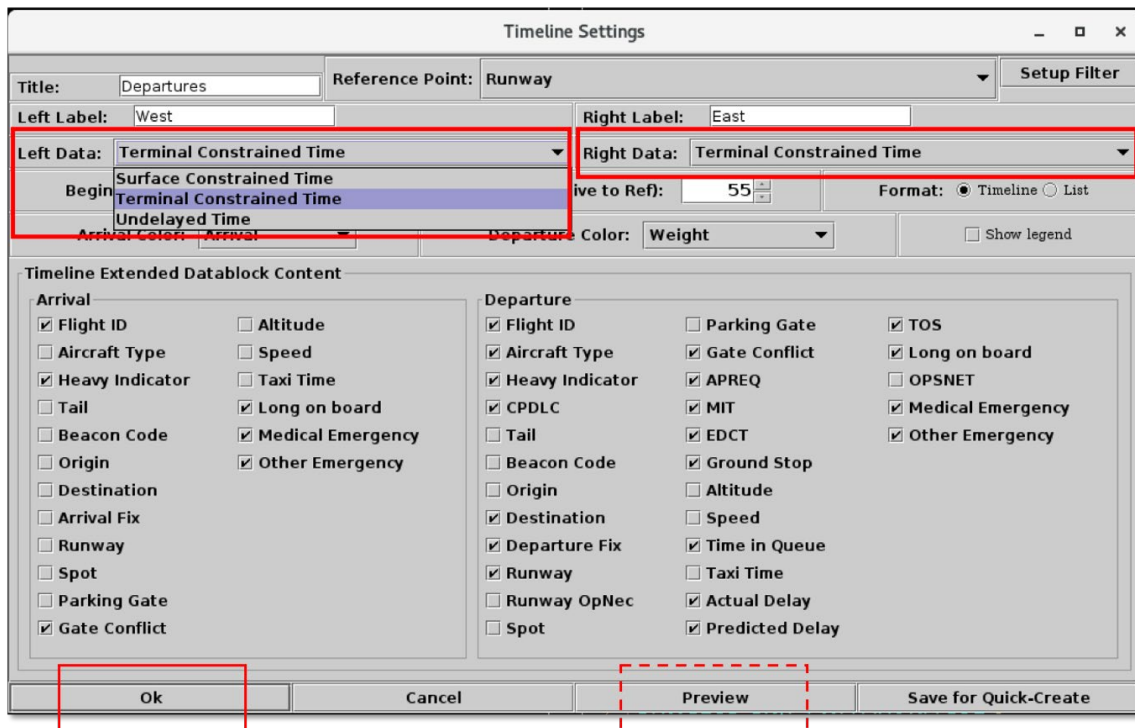


Figure 6.36. Timeline Settings: Left/Right data. In this example, “Terminal Constrained Time” is selected on both sides of the Timeline.

### 6.6.4.7 Begin and End Times

Use the Timeline Settings window to define the begin and end times of the visible timeline window. Begin and End times (in minutes) are relative to “Now” time at the reference point. Use a *negative* number to indicate minutes below “Now” time (i.e., in the past) and a *positive* number to indicate minutes above “Now” time (i.e., in the future).

For example, if the Begin and End times are set to –5 minutes and 55 minutes, respectively, the visible timeline window starts 5 minutes *below* the reference point and ends 55 minute *above* the reference point. In this example, the total duration of the visible timeline window is 60 minutes.

## To change the duration of the Timeline:

**Step 1:** Use the mouse to right-click on the background of the timeline (i.e., anywhere not on a datablock).

**Step 2:** Select “Timeline Settings” (Figure 6.18).

**Step 3:** Enter number of minutes in the:

- “Begin at” field (–5 minutes in Figure 6.37), and
- “End at” field (55 minutes in Figure 6.37).

In this example, the total duration of the visible timeline window is 60 minutes (see an example timeline in Figure 6.38).

**Note:** Depending on user preference, both the “Begin” and “End” 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 value), while the End time is in the future (i.e., positive value), to create a window of time that includes “Now” time at the Reference Point.

However, Begin time must be earlier than End time.

**Step 4:** Select “Preview” to view the pending changes on the timeline before closing the Settings window or “Ok” to apply the changes and close the Settings window (Figure 6.37).

**Alternatively:** Select “Cancel” to close the Settings window without saving the changes (Figure 6.37).

**Alternatively:** Use keyboard shortcuts to increase or decrease the end time:

- ‘Alt +=’ to increase the end time by 5 minutes.
- ‘Alt + -’ to decrease the end time by 5 minutes.

See Section 4.5.3.4 for more Timeline keyboard shortcuts.

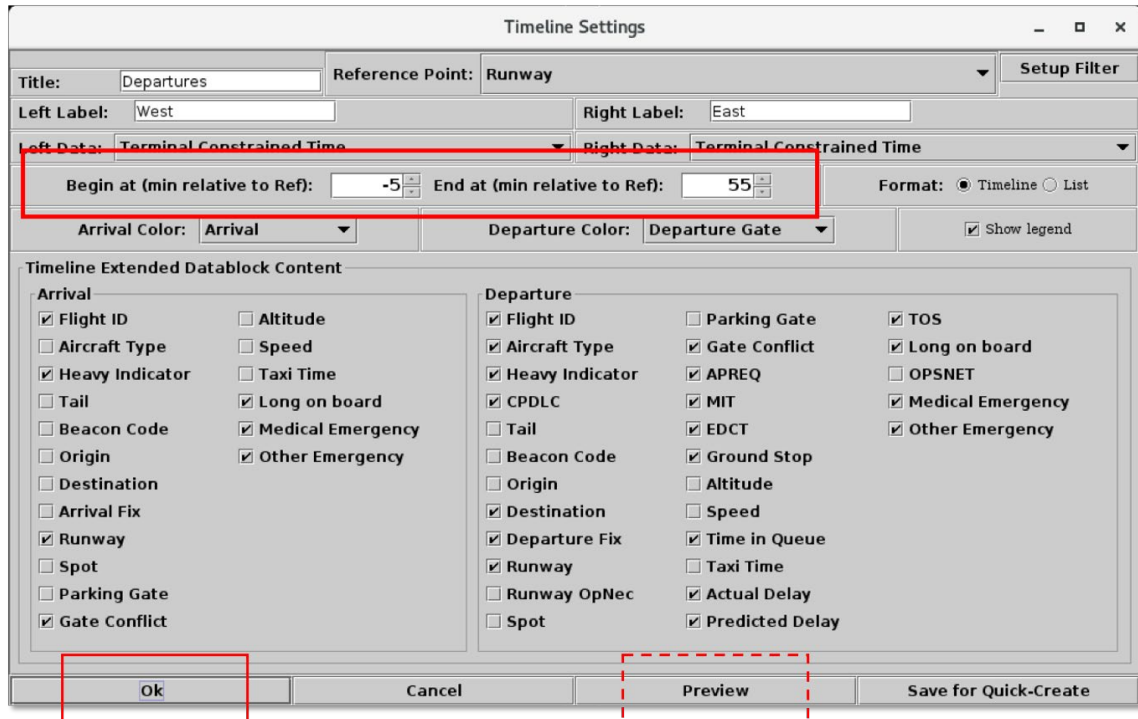


Figure 6.37. Timeline Settings: “Begin at” and “End at” fields (in minutes). In this example, -5 min and 55 min, respectively.

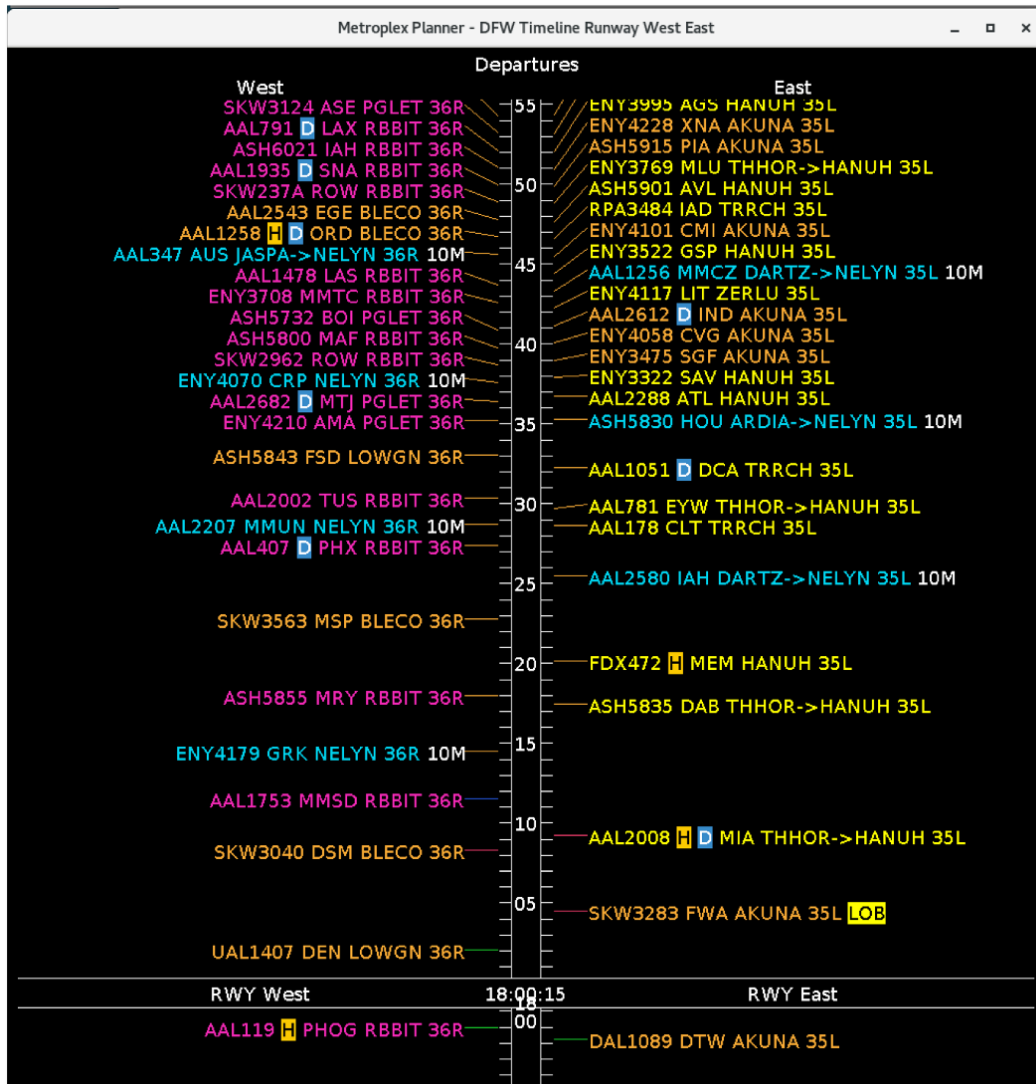


Figure 6.38. The visible timeline window begins at -5 minutes below the reference point (17:55 UTC, in this example) and ends at 55 minutes above the reference point (18:55 UTC, in this example). The duration of the visible timeline window is 60 minutes.

### 6.6.4.8 Format

Use the Timeline Settings window to configure the format of the timeline.

In *Timeline* format (Figure 6.40, left), flights are positioned along the timeline relative to when they are expected to reach the reference point (see Section 6.1 for a description of the reference point).

In *List* format (Figure 6.40, right), flights are displayed in the *order* in which they are expected to reach the reference point, but *without* a visual/spatial representation of the expected duration of time to the reference point.

## To change the Timeline format:

**Step 1:** Use the mouse to right-click on the background of the timeline (i.e., anywhere not on a datablock).

**Step 2:** Select “Timeline Settings” (Figure 6.18).

**Step 3:** In the “Format” field (Figure 6.39), select:

- “Timeline” (see an example in Figure 6.40, left), or
- “List” (see an example in Figure 6.40, right).

**Note:** In “List” format:

- *The option to display flights below the reference point (for example, flights that have already taken off or landed) is not available.*
- *Flight Plan Demand is not available.*

**Step 4:** Select “Preview” to view the pending changes on the timeline before closing the Settings window or “Ok” to apply the changes and close the Settings window (Figure 6.39).

**Alternatively:** Select “Cancel” to close the Settings window without saving the changes (Figure 6.39).

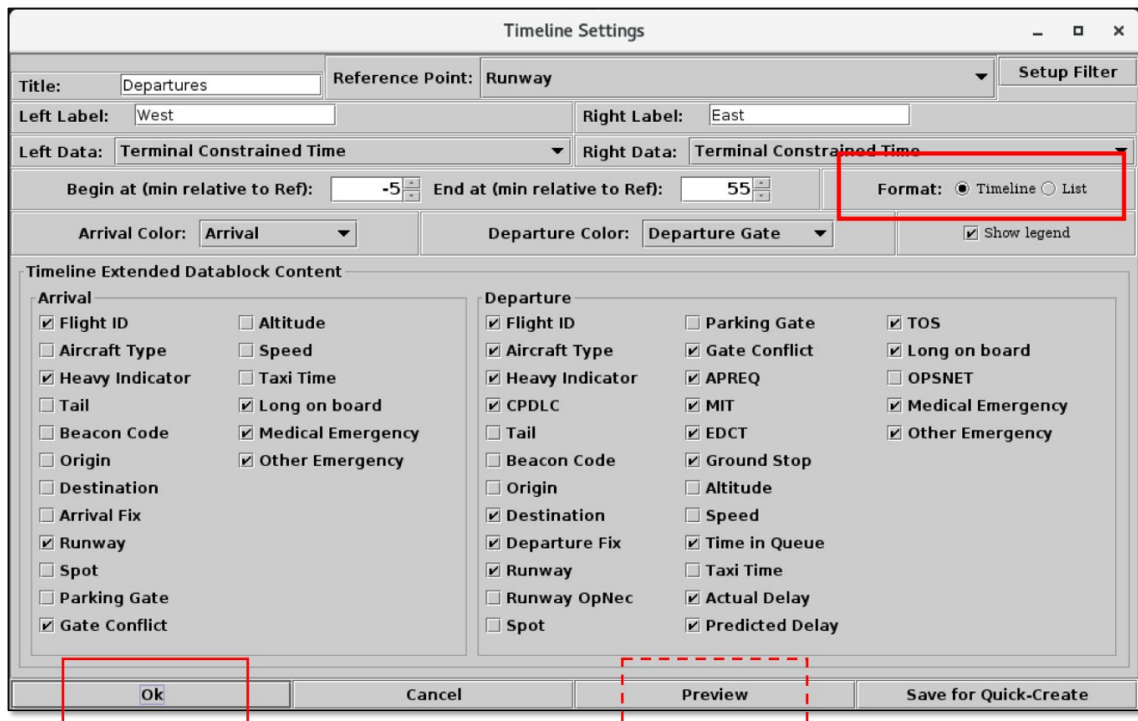


Figure 6.39. Timeline Settings: Format. In this example, the “Timeline” format is selected.

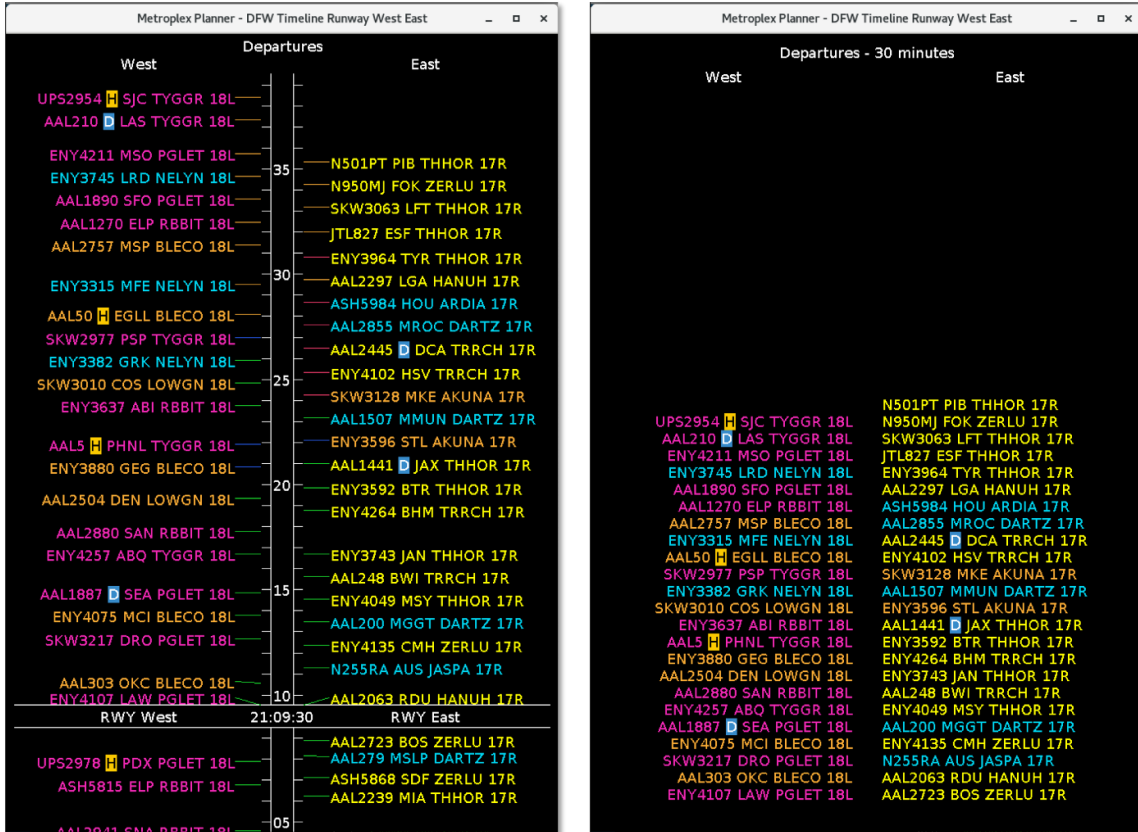


Figure 6.40. Format: Timeline format (left), List format (right).

### 6.6.4.9 Color Scheme

Use the Timeline Settings window to select color schemes for arrival and departure flights. An explanation of the selected arrival and departure color schemes is available in the timeline legend (see Section 6.6.4.10).

#### To change the Color Scheme for Timeline datablocks:

**Step 1:** Use the mouse to right-click on the background of the timeline (i.e., anywhere not on a datablock).

**Step 2:** Select “Timeline Settings” (Figure 6.18).

**Step 3a:** Select the “Arrival Color” dropdown menu to select an arrival color scheme:

- Arrival (selected in Figure 6.41)
- Arrival Fix
- Arrival Runway
- Aircraft Weight

**Step 3b:** Select the “Departure Color” dropdown menu to select a departure color scheme:

- Departure
- Departure Fix
- Departure Gate (selected in Figure 6.42)
- Departure Runway
- Aircraft Weight

**Step 4:** Select “Preview” to view the pending changes on the timeline before closing the Settings window or “Ok” to apply the changes and close the Settings window (Figure 6.41).

**Alternatively:** Select “Cancel” to close the Settings window without saving the changes (Figure 6.41).

**Note:** *Color-coding schemes on the timeline apply to datablocks only. The color of leader lines is determined by flight status (described in Section 6.2) and does not change with color scheme.*

**Note:** *Flights designated as an emergency are shown in red, regardless of selected color scheme.*



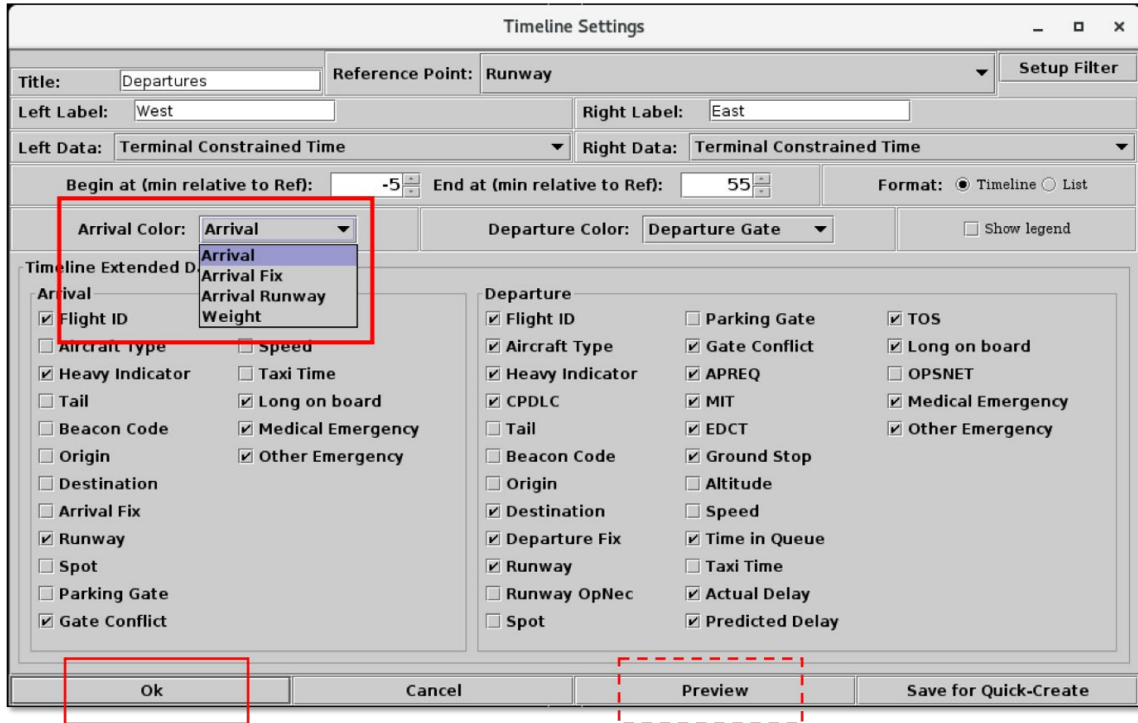


Figure 6.41. Timeline Settings: Arrival Color Schemes. In this example, “Arrival” is selected.

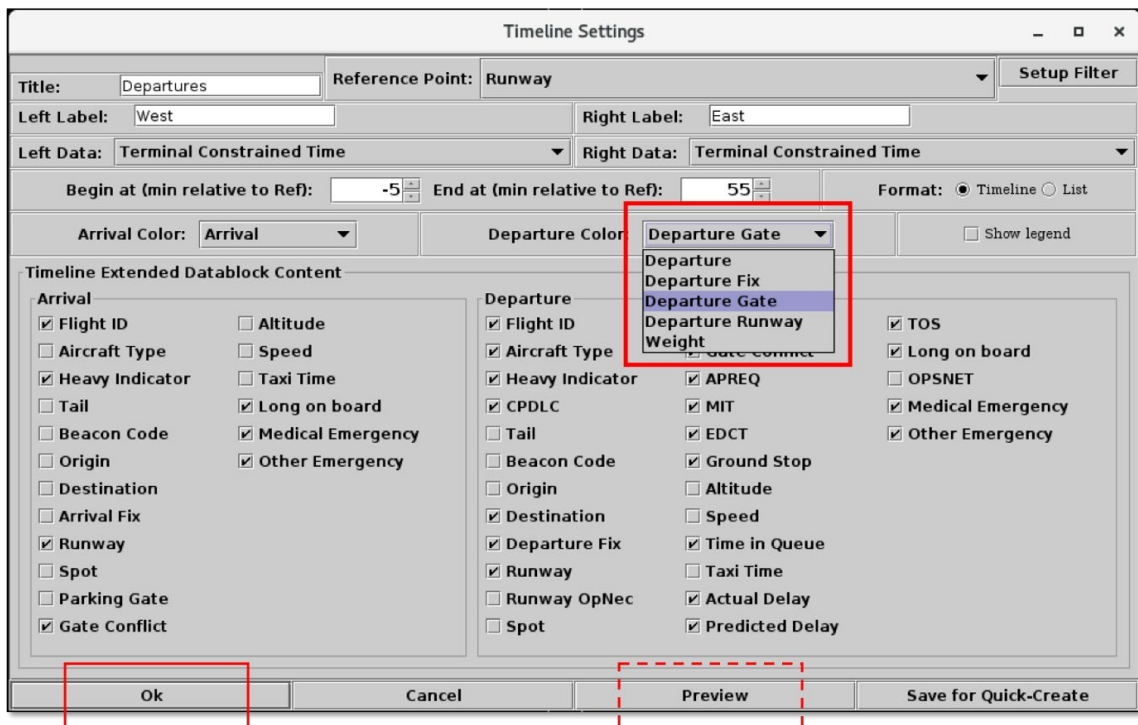


Figure 6.42. Timeline Settings: Departure Color Schemes. In this example, “Departure Gate” is selected.

### 6.6.4.10 Legend

Use the Timeline Settings window to display the timeline legend. An explanation of the selected arrival and departure color schemes is shown in the timeline legend (see Section 6.6.4.9 for a description of how to select arrival and departure color schemes on the timeline).

#### To show/hide the timeline legend:

**Step 1:** Use the mouse to right-click on the background of the timeline (i.e., anywhere not on a datablock).

**Step 2:** Select “Timeline Settings” (Figure 6.18).

**Step 3:** Select “Show Legend” (Figure 6.43) to display the legend at the bottom of the timeline window (see an example in Figure 6.44).

**Alternatively:** Deselect “Show Legend” to hide the legend.

**Step 4:** Select “Preview” to view the pending changes on the timeline before closing the Settings window or “Ok” to apply the changes and close the Settings window (Figure 6.43).

**Alternatively:** Select “Cancel” to close the Settings window without saving the changes (Figure 6.43).

**Note:** *An explanation of the selected arrival and departure color schemes is shown in the legend. For example, in Figure 6.44, the selected color schemes are “Arrival” and “Departure Gate.”*

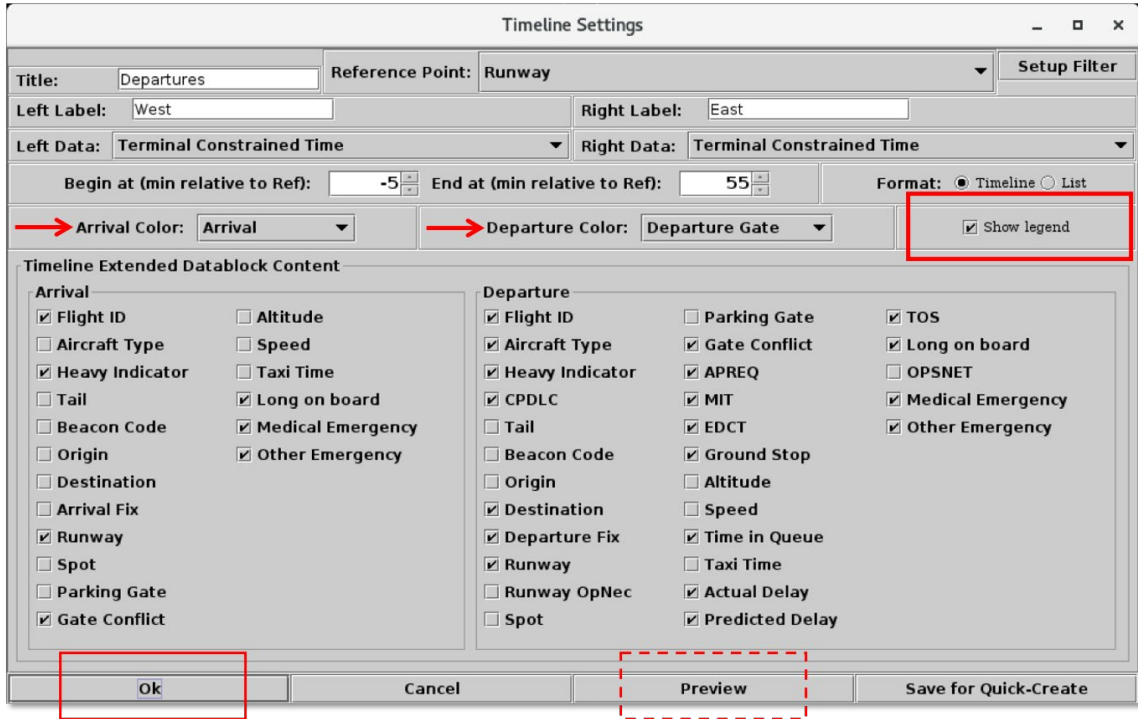


Figure 6.43. Timeline Settings: Show legend. (Note that the selected color schemes in this example are “Arrival” and “Departure Gate.”)

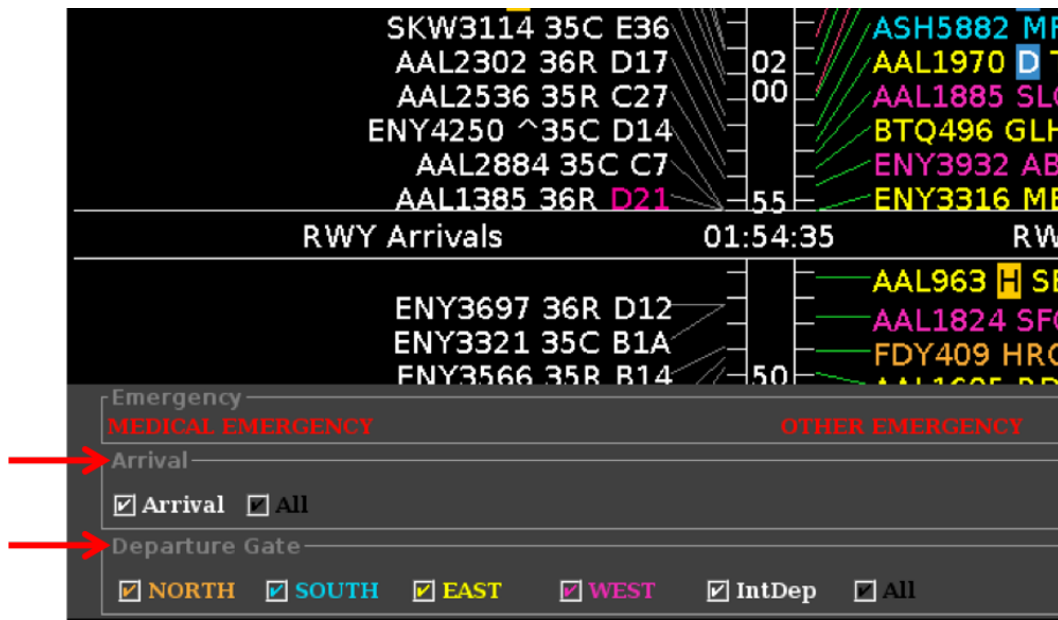


Figure 6.44. Timeline Legend: The selected arrival and departure color schemes are described in the legend. In this example, the selected color schemes are “Arrival” and “Departure Gate.”

Use the interactive legend to configure which categories of flights are visible on the timeline.

## To hide flights on the Timeline:

**Step 1:** In the timeline legend, deselect one or more categories to hide those flights on the timeline. For example, in Figure 6.45 (right), the “East” departure gate is deselected.

**Note:** *Deselected flights are grayed-out on the timeline. For example, in Figure 6.45 (right), flights assigned to the East departure gate are grayed-out. A close-up of grayed-out datablocks is shown in Figure 6.46.*

**Alternatively:** Reselect a category of flights to make those datablocks visible again on the timeline.

**Alternatively:** To reselect all arrival, or departure, categories at once, select the “All” checkbox (outlined in Figure 6.45, right).

**Note:** “Emergency” flights, shown in red, cannot be deselected in the legend.



Figure 6.45. Deselect a category in the Timeline legend. In this example (right), the “East” departure gate is deselected. As a result, those datablocks are grayed-out on the timeline (right).



Figure 6.46. Datablocks of flights in a deselected category are grayed-out on the timeline.

### 6.6.4.11 Datablocks

Use the Timeline Settings window to configure which data elements are displayed in arrival and departure datablocks.

#### To change Timeline datablock content:

**Step 1:** Use the mouse to right-click on the background of the timeline (i.e., anywhere not on a datablock).

**Step 2:** Select “Timeline Settings” (Figure 6.18).

**Step 3:** In the “Timeline Extended Datablock Content” menu, select data elements to display in arrival/departure datablocks (Figure 6.47).

**Alternatively:** Deselect a data element to remove from flight datablocks.

**Step 4:** Select “Preview” to view the pending changes on the timeline before closing the Settings window or “Ok” to apply the changes and close the Settings window (Figure 6.47).

**Alternatively:** Select “Cancel” to close the Settings window without saving the changes (Figure 6.47).

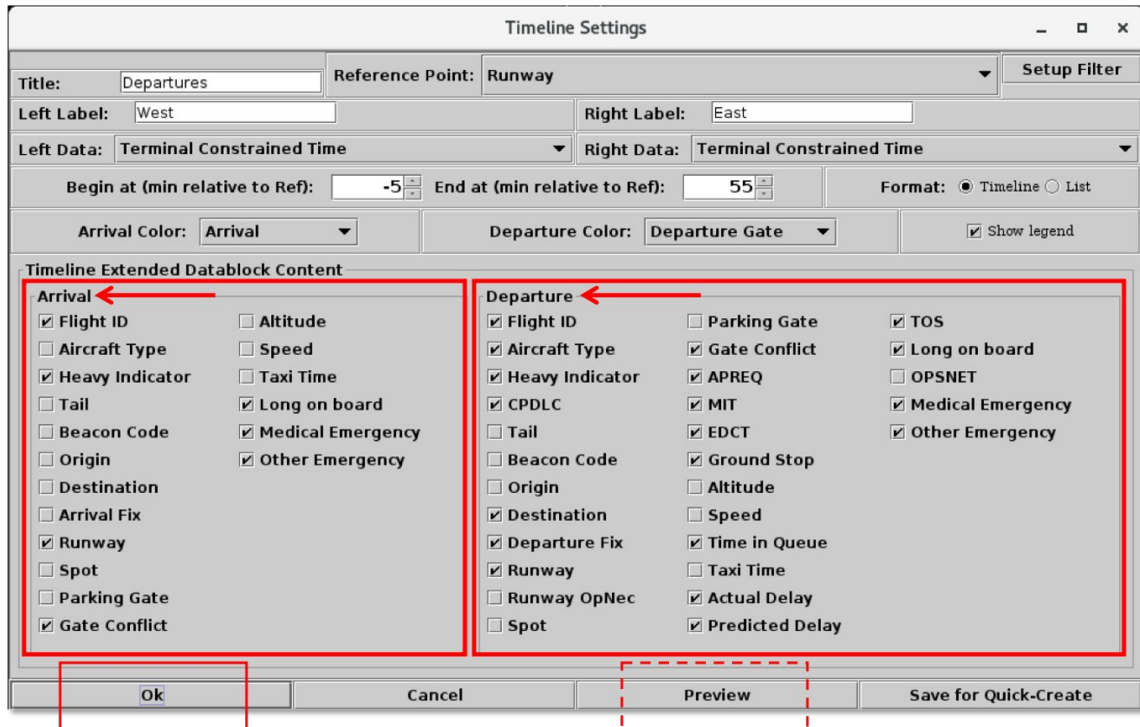

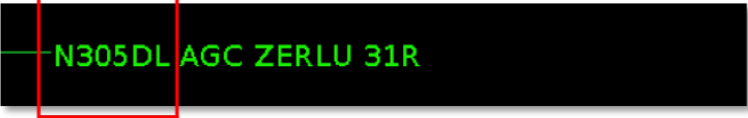






Figure 6.47. Timeline Settings: Timeline Extended Datablock Content for arrivals and departures.

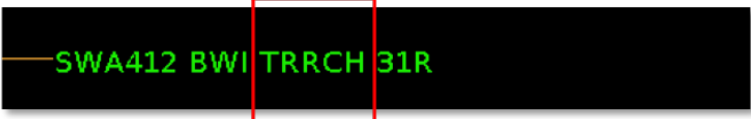
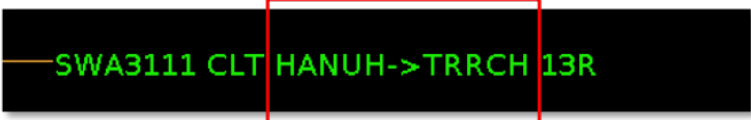


Data elements that can be included in arrival/departure datablocks are listed in Table 6.4.

Table 6.4. Timeline Extended Datablock Content

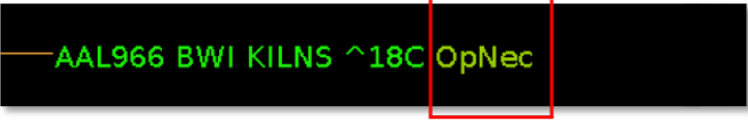
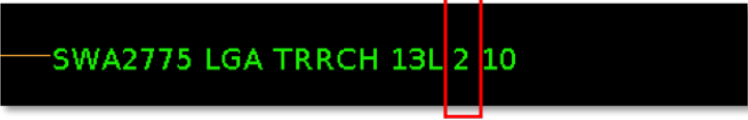
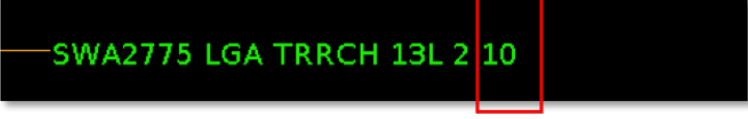

Datablock Content	Description
Flight ID	<p>Call sign.</p>  <p>For General Aviation (GA) flights, the tail number may be used.</p> 
Aircraft Type	<p>Aircraft type.</p> 
Heavy Indicator	<p>Heavy aircraft (e.g., B777) are indicated by an “H” in black text, highlighted in yellow.</p>  <p>Super Heavy aircraft (e.g., A380) are indicated by an “S” in black text, highlighted in white.</p> 
CPDLC	<p>Aircraft equipped with Controller Pilot Data Link Communication (CPDLC) are indicated by a “D” in white text, highlighted in blue.</p> 

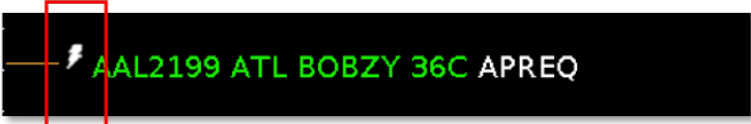






Tail	<p>Aircraft tail number.</p> <p>SWA2775 N711HK LGA HANUH 31L</p> <p>When unknown, “N-” is displayed.</p> <p>SWA412 N- BWI TRRCH 31R</p>
Beacon Code	<p>Aircraft beacon code.</p> <p>SWA2055 0562 BWI ZERLU 31R</p> <p>When unknown, “UNK” is displayed.</p> <p>SWA412 UNK BWI TRRCH 31R</p>
Origin (Arrival)	<p>3- or 4-character airport code.</p> <p>SWA6305 DCA SEEVR 31L</p> <p>N394WJ MYNN SEEVR 13R</p>
Destination (Departure)	<p>3- or 4-character airport code.</p> <p>SWA412 BWI TRRCH 31R</p> <p>AAL119 PHOG RBBIT 17R</p>

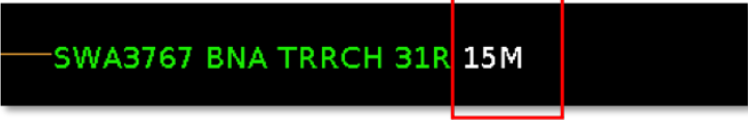
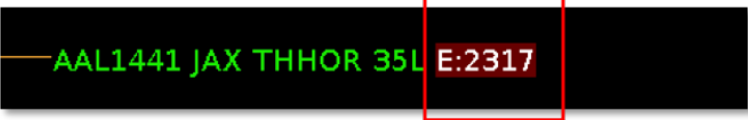
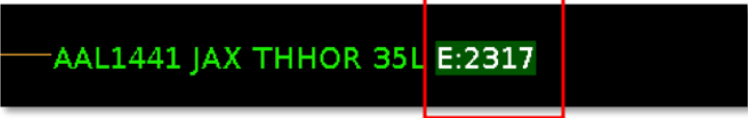

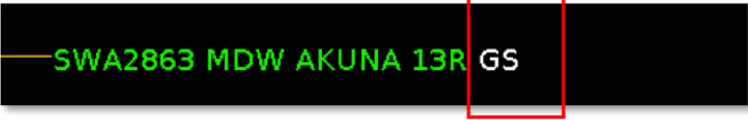




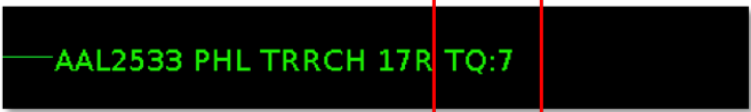



<p>Departure Fix</p>	<p>Departure fix.</p> <p></p> <p>Departure fix closed and rerouted to a different fix (<i>Closed Fix &gt; Alternate Fix</i>).</p> <p></p> <p>When accompanied by a “T” highlighted in green, a TOS reroute that has been approved by ATC (<i>Fix on the Filed route &gt; Fix on the approved TOS route</i>). Displayed in this format until the reroute is filed by ATC.</p> <p></p> <p><i>See Section 3.6.1 for a description of how to configure the display of closed/alternate fixes and approved TOS reroutes on the timeline and map, Section 3.1.5 for a description of the Departure Fix Closures tab on the TM Actions panel, and Section 4.6.7.2 for a description of fix labels on the map.</i></p>
<p>Arrival Fix</p>	<p>Arrival fix.</p> <p></p>

<p>Runway (Arrival)</p>	<p><b>Prior to Landing:</b></p> <p>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.</p> <p>— SWA1533 ATL SEEVR ^13R</p> <p>When no up-arrow is shown, the ATD-2 system is using actual flight track data to determine that the aircraft is lined up on final for a specific runway (usually about 8–10 miles out).</p> <p>— SWA1533 ATL SEEVR 13L</p> <p><b>After Landing:</b></p> <p>The <i>actual</i> arrival runway is displayed.</p> <p>— SWA1533 ATL SEEVR 13L</p>
<p>Runway (Departure)</p>	<p><b>Prior to Takeoff:</b></p> <p>The expected departure runway is displayed.</p> <p>— SWA55 HOU ARDIA 13R</p> <p>If an ATC user changes the runway assignment, an up-arrow symbol “^” is displayed before the new runway assignment.</p> <p>— SWA55 HOU ARDIA ^13L</p> <p><b>After Takeoff:</b></p> <p>The <i>actual</i> departure runway is displayed.</p> <p>— SWA55 HOU ARDIA 13L</p>

Runway OpNec	<p>“OpNec” is displayed in light green when the departure runway has been changed for Operational Necessity.</p>  <p><i>*Not available at all airports.</i></p>
Spot	<p>Expected ramp spot.</p>  <p><i>*The spot is displayed until a departure enters the AMA or an arrival enters the ramp.</i></p>
Parking Gate	<p>Parking gate at terminal. When unknown, “UNK” is displayed.</p> 
Gate Conflict	<p>The parking gate is displayed in magenta when a gate conflict is detected.</p> 

<p>APREQ</p>	<p>Departure flight is subject to an Approval Request (APREQ).  The symbology indicates which approval mode ARTCC is using:  <b>Solid lightning bolt:</b> ARTCC TBFM is in <b>automatic</b> approval mode.</p>  <p><b>Hollow lightning bolt:</b> ARTCC is in <b>semi-automatic</b> approval mode.</p>  <p><b>Telephone handset:</b> ARTCC is in <b>call for release</b> mode.</p>  <p>“APREQ” indicates that the wheels-up time has not yet been scheduled.</p>  <p><b>Compliance:</b> The APREQ release time is color-coded to indicate expected compliance with the -2/+1 minute compliance window.</p> <p><b>Red:</b> Flight is predicted to be released from the runway <i>later</i> than the -2/+1 minute compliance window.</p>  <p><b>Green:</b> Flight is predicted to be released from the runway <i>within</i> the -2/+1 minute compliance window.</p>  <p><b>Yellow:</b> Flight is predicted to be released from the runway <i>earlier</i> than the -2/+1 minute compliance window.</p> 
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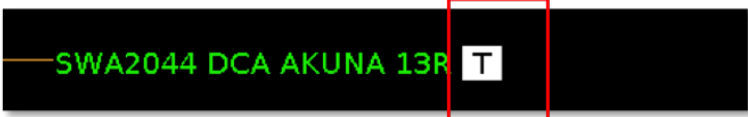
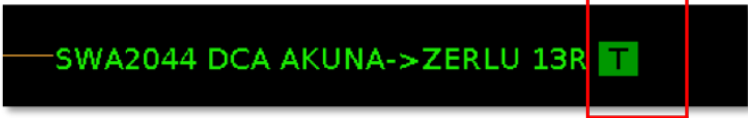
MIT	<p>Flight is subject to a Miles-in-Trail (MIT) restriction, displayed on the timeline in “##M” format.</p>  <p><i>See Section 3.1.4 for a description of the MIT tab on the TM Actions panel.</i></p>
EDCT	<p>Expect Departure Clearance Time (EDCT) is displayed on the timeline in “E:hhmm” UTC format, where “E” stands for EDCT. The wheels-up time is color-coded to indicate expected compliance with the –5/+5 minute compliance window.</p> <p><b>Red:</b> Flight is predicted to be released from the runway <i>later</i> than its –5/+5 minute compliance window.</p>  <p><b>Green:</b> Flight is predicted to be released from the runway <i>within</i> its –5/+5 minute compliance window.</p>  <p><b>Yellow:</b> Flight is predicted to be released from the runway <i>earlier</i> than its –5/+5 minute compliance window.</p>  <p><i>See Section 6.7.1 for a description of the –5/+5 minute EDCT compliance window on the timeline.</i></p>
Ground Stop	<p>“GS” is displayed when a destination is subject to a Ground Stop.</p>  <p><i>See Section 3.1.6 for a description of the Ground Stop tab on the TM Actions panel.</i></p>


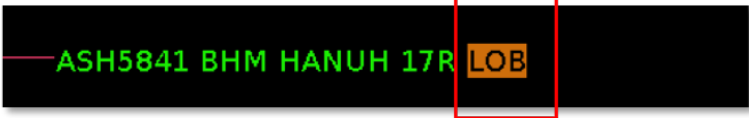
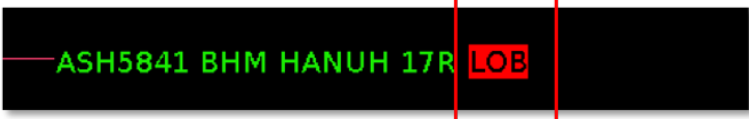


Altitude	<p>Altitude in feet/100. In this example, 40,000 ft.</p> 
Speed	<p>Ground speed in kts/10. Displayed for both flights in air and on the surface (where available) during taxi. In this example, 330 kts.</p> 
Time in Queue	<p>Duration of time that a departure flight has spent in the runway queue detection box, displayed in “<i>mm</i>” format.</p> <p>Timer does not start until the flight is within the runway queue box and taxiing at 15 kts or less.</p>  <p><i>*Only available at airports with surface surveillance.</i></p> <p><i>See Section 4.6.10 for a description of how to display runway queue box boundaries on the map.</i></p>
Taxi Time (Arrival)	<p><b>Not yet landed:</b> Predicted taxi time from Target Landing Time (TLDT) to Target In-Block Time (TIBT), in “<b>Ehh:mm</b>” format, where “E” stands for “estimated.”</p>  <p><b>Landed, not yet at the gate:</b> Predicted taxi time from Actual Landing Time (ALDT) to Target In-Block Time (TIBT), in “<b>Ehh:mm</b>” format, where “E” stands for “estimated.”</p>  <p><b>Once at the gate:</b> Actual taxi time from Actual Landing Time (ALDT) to Actual In-Block Time (AIBT), in “<b>hh:mm</b>” format.</p> 


<p>Taxi Time (Departure)</p>	<p><i>*Taxi Time does not populate until pushback.</i></p> <p><b>At Pushback:</b> Predicted taxi time from Actual Off-Block Time (AOBT) to Target Takeoff Time (TTOT), in “<b>Ehh:mm</b>” format, where “E” stands for “estimated.”</p> <p>SKW3533 DTW ZERLU 17R E00:14</p> <p><b>After takeoff:</b> Actual taxi time from Actual Off-Block Time (AOBT) to Actual Takeoff Time (ATOT), in “<b>hh:mm</b>” format.</p> <p>SKW3533 DTW ZERLU 17R 00:12</p>
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<p>Actual Delay</p>	<p>Actual Delay is the delay incurred by a departure flight, displayed on the timeline in “<b>AD:mm</b>” format.</p> <p><i>*Actual Delay is not displayed on the Timeline until is it greater than 0 minutes.</i></p> <p><b>At airports where surface surveillance is available (i.e., where AMA entry time can be detected by surveillance):</b></p> <p><b>Actual Delay</b> = (Current Time – AMA Entry time) – Undelayed AMA Taxi Time.</p> <div style="background-color: black; color: green; padding: 5px;"> <p>— AAL2822 LGA TRRCH 17R AD:12</p> </div> <p><b>Example:</b> If a flight entered the AMA <b>22 min</b> ago and the Undelayed AMA Time is <b>10 min</b>, then its Actual Delay (at this moment) is:</p> <p style="text-align: center;"><math>22 \text{ min} - 10 \text{ min} = \mathbf{12 \text{ min}}</math></p> <p><i>*Actual Delay continues accruing until takeoff.</i></p> <p><b>At airports <u>without</u> surface surveillance (i.e., where AMA entry time cannot be detected by surveillance):</b></p> <p>Actual Delay is calculated only for flights that have an AOBT.</p> <p><b>Actual Delay</b> = (Current Time – AOBT) – (Typical Ramp Taxi Time from Pushback to the AMA + Undelayed AMA Taxi Time).</p> <div style="background-color: black; color: green; padding: 5px;"> <p>— EDV5501 ATL HANUH 13R AD:8</p> </div> <p><b>Example:</b> If a flight pushed back (AOBT) <b>18 min</b> ago and typical ramp taxi time is <b>4 min</b> and Undelayed AMA Taxi Time is <b>6 min</b>, then its Actual Delay (at this moment) is:</p> <p style="text-align: center;"><math>18 \text{ min} - (4 \text{ min} + 6 \text{ min}) = \mathbf{8 \text{ min}}</math></p> <p><i>*Actual Delay continues accruing until takeoff.</i></p>
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<p>Predicted Delay</p>	<p>Predicted Delay is the difference between predicted takeoff time, including constraints, and undelayed takeoff time, displayed on the timeline in orange, in “<i>mm</i>” format.</p> <p><i>*Predicted Delay is not displayed on the Timeline until it is greater than 0 minutes. Predicted Delay is displayed until takeoff.</i></p> <p><b>When Timeline Data Type is set to Terminal Constrained Time:</b></p> <p>Predicted Delay (in minutes) that the flight is predicted to encounter, at the runway, caused by both:</p> <ul style="list-style-type: none"> <li>• Predicted delay from <b>surface traffic</b> competing for the runway, and</li> <li>• Predicted delay from <b>terminal-area restrictions</b> being passed back to the surface.</li> </ul> <p><b>Predicted Delay</b> = Estimated Takeoff Time (ETOT) – Undelayed Takeoff Time (UTOT).</p>  <p><b>Example:</b> If a flight’s ETOT is <b>20:05 UTC</b> and its UTOT is <b>20:00 UTC</b>, then its Predicted Delay is <b>5 min</b>.</p>
<p>TOS</p>	<p>Trajectory Option Set (TOS) Operations:</p> <p><b>Submitted:</b> The Flight Operator has submitted one or more TOS route options for this departure flight, indicated with a black “T” highlighted in white.</p>  <p><i>See Section 5.4.8.2 for a description of how a Flight Operator submits a TOS route.</i></p> <p><b>Approved:</b> ATC has approved a TOS reroute for this flight, indicated with a black “T” highlighted in green.</p>  <p><i>See Section 5.4.8.4 for a description of how ATC approves a TOS submission.</i></p>

<p>Long on Board (LOB)</p>	<p>LOB indicator (yellow, orange, or red):</p> <ul style="list-style-type: none"> <li>For <b>departures</b>, the LOB timer starts at pushback and is continuously computed as current time minus the Actual Off-Block Time (AOBT) until the flight takes off.</li> <li>For <b>arrivals</b>, the LOB timer starts at touchdown and is continuously computed as the current time minus the Actual Landing Time (ALDT) until the flight is in the gate.</li> </ul> <p><b>Yellow:</b> 60–89 min</p>  <p><b>Orange:</b> 90–119 min</p>  <p><b>Red:</b> 120+ min</p> 
<p>OPSNET</p>	<p>When an ATC user selects “Opsnet.”</p>  <p><i>See Section 7.1.8 for a description of how to select OPSNET using the right-click menu.</i></p>
<p>Medical Emergency</p>	<p>A flight designated as a <i>medical</i> emergency is displayed in red with a red “+” symbol highlighted in white.</p>  <p><i>See Section 7.1.9 for a description of how to select Medical Emergency status using the right-click menu.</i></p>

Other Emergency	<p>A flight designated as a <i>general</i> emergency is displayed in red with a red “!” symbol highlighted in white.</p>  <p><i>See Section 7.1.9 for a description of how to select Other (general) Emergency status using the right-click menu.</i></p>
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## 6.7 Timeline: TMI Compliance

Compliance indicators are used to show the status of a flight's compliance with its controlled release time.

### 6.7.1 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**

<b>Compliance Indicator Color</b>	<b>Description</b>
Red	Flight is predicted to be released from the runway <i>later</i> than its -5/+5 minute EDCT compliance window.
Green	Flight is predicted to be released from the runway <i>within</i> its -5/+5 minute EDCT compliance window.
Yellow	Flight is predicted to be released from the runway <i>earlier</i> than its -5/+5 minute 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 6.48).

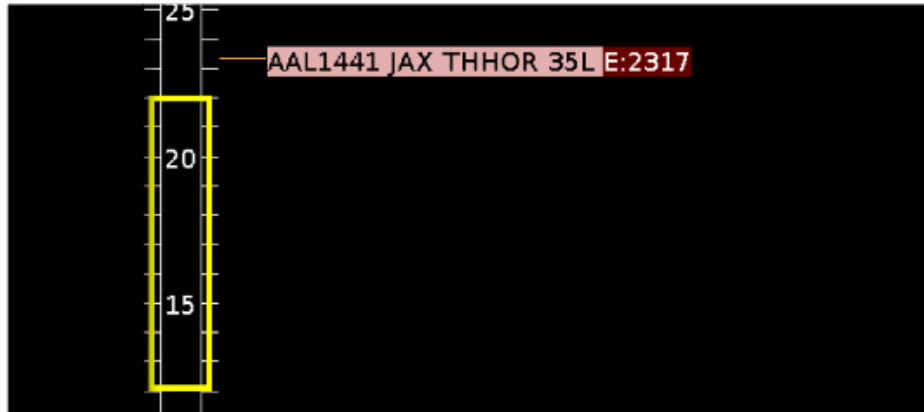


Figure 6.48. EDCT compliance on the Timeline. Red highlight: Flight is predicted to be released from the runway *later* than its  $-5/+5$  min EDCT compliance window.

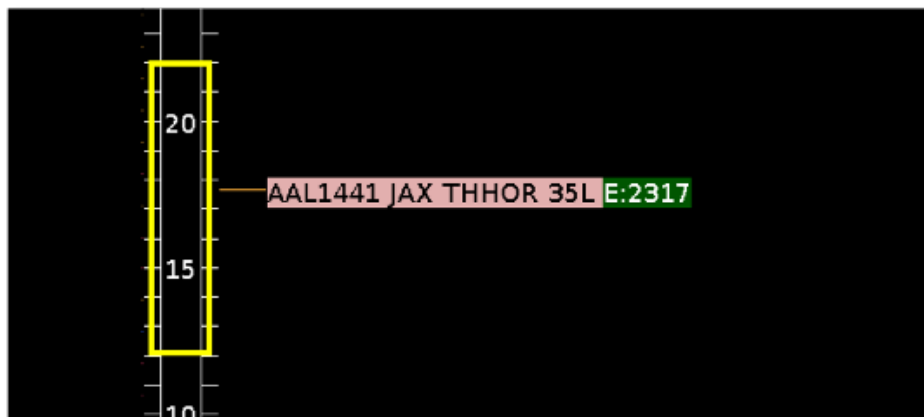


Figure 6.49. EDCT compliance on the Timeline. Green highlight: Flight is predicted to be released from the runway *within* its  $-5/+5$  min EDCT compliance window.



Figure 6.50. EDCT compliance on the Timeline. Yellow highlight: Flight is predicted to be released from the runway *earlier* than its  $-5/+5$  min EDCT compliance window.

## 6.7.2 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**

<b>Compliance Indicator Color</b>	<b>Description</b>
Red	Flight is predicted to be released from the runway <i>later</i> than its -2/+1 min APREQ compliance window.
Green	Flight is predicted to be released from the runway <i>within</i> its -2/+1 min APREQ compliance window.
Yellow	Flight is predicted to be released from the runway <i>earlier</i> than its -2/+1 min APREQ compliance window.

## 7 Flight Right-Click Menu

*\*Note: Menu options and functionality vary by version of the Metroplex Planner.*

The right-click is accessible from the timeline, map, Flights Table, and the TOS Departure Table.

- Exclude from APREQ (Section 7.1.1)
- Exclude from Fix Closure (Section 7.1.2)
- Exclude from Ground Stop (Section 7.1.3)
- Exclude from MIT (Section 7.1.4)
- Change Runway (Section 7.1.5)
- Change Departure Fix (Section 7.1.6)
- Change Parking Gate (Section 7.1.7)
- OPSNET (Section 7.1.8)
- Emergency (Section 7.1.9)
- Suspend (Section 7.1.10)
- Return to Ramp (Section 7.1.11)
- Delete Datablock (Section 7.1.12)
- Properties (Section 7.1.13)

Options on the right-click menu vary by type of flight (i.e., arrival or departure), current flight status (e.g., Scheduled Out, Taxiing in the AMA, Departed), and by version of the Metroplex Planner (i.e., ATC or Flight Operator).

### 7.1.1 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 7.1, left). Alternatively, select “Undo Exclude from APREQ” to restore the APREQ restriction (Figure 7.1, right).

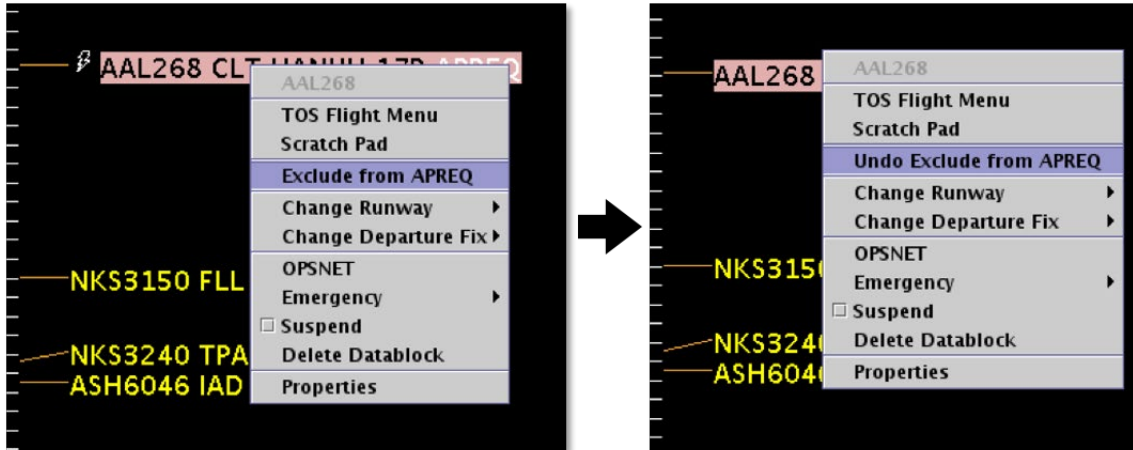


Figure 7.1. Right-click Menu: Exclude from APREQ (left), Undo Exclude from APREQ (right).

## 7.1.2 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 7.2, left). Alternatively, select “Undo Exclude from Fix Closure” to restore the Fix closure (Figure 7.2, right).



Figure 7.2. Right-click Menu: Exclude from Fix Closure (left), Undo Exclude from Fix Closure (right).

## 7.1.3 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 7.3, left). Alternatively, select “Undo Exclude from Ground Stop” to restore the Ground Stop restriction (Figure 7.3, right).



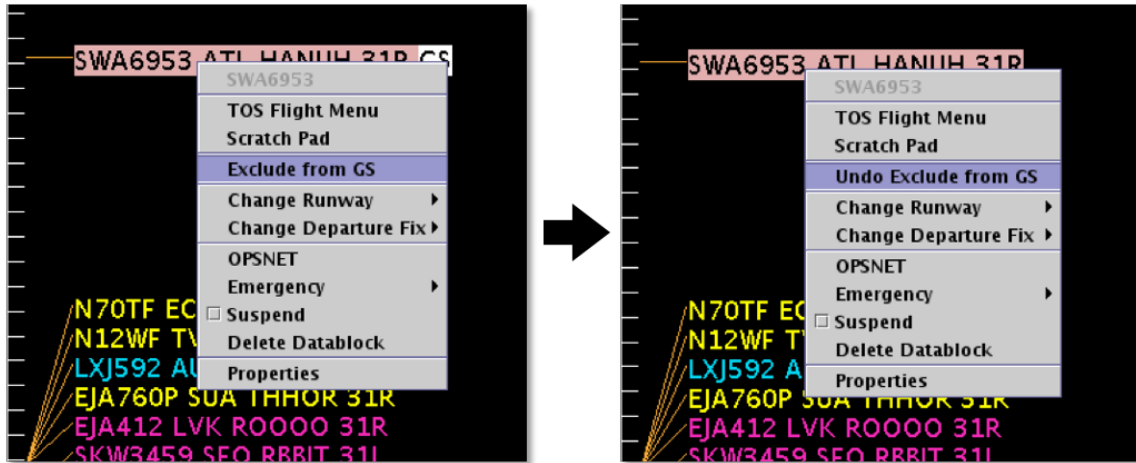


Figure 7.3. Right-click Menu: Exclude from Ground Stop (left), Undo Exclude from Ground Stop (right).

## 7.1.4 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 7.4, left). Alternatively, select “Undo Exclude from MIT” to restore the MIT restriction (Figure 7.4, right).

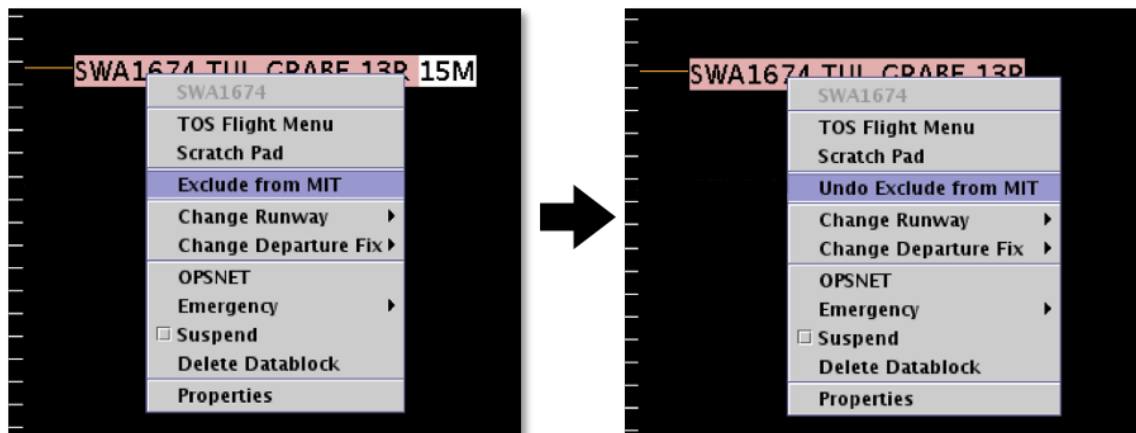


Figure 7.4. Right-click Menu: Exclude from MIT (left), Undo Exclude from MIT (right).

## 7.1.5 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 7.5).

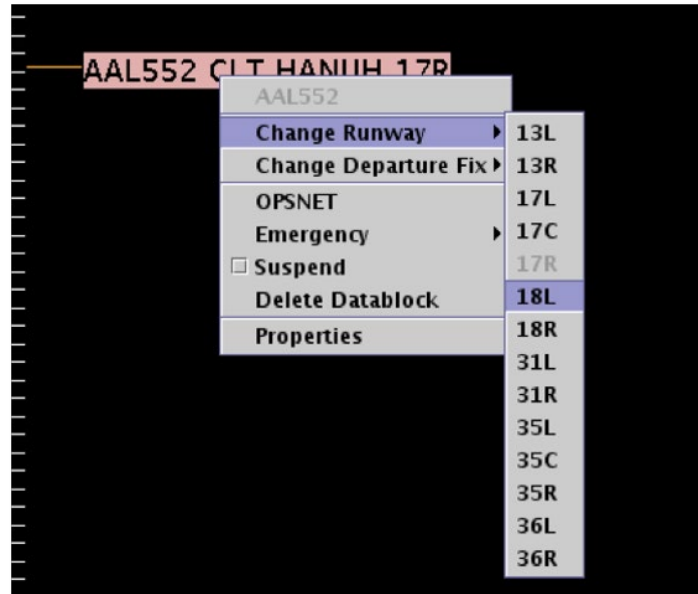


Figure 7.5. Right-click Menu: Change Runway.

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 7.6).

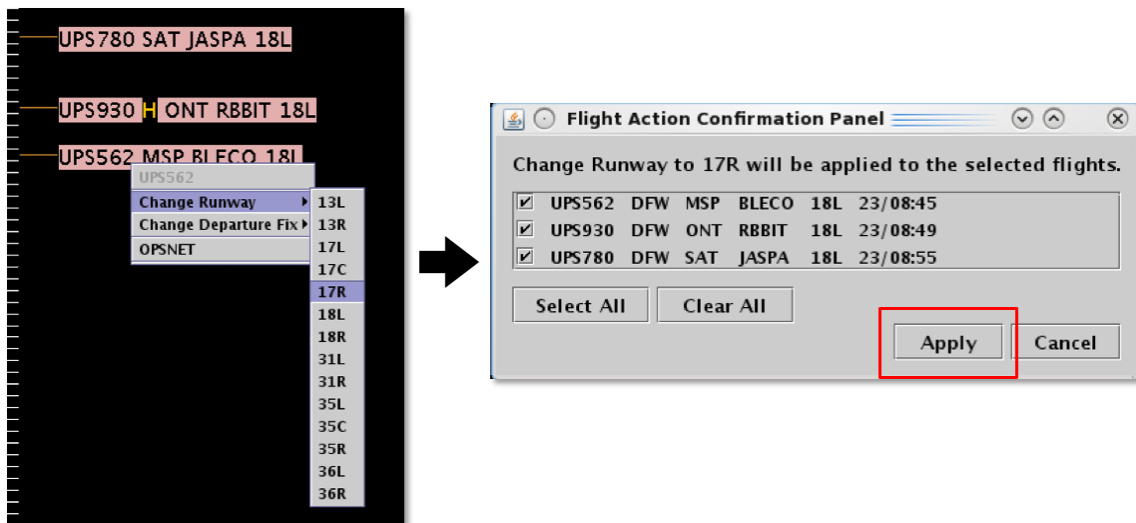


Figure 7.6. Right-Click Menu: Runway change for multiple flights. Use the Flight Action Confirmation Panel to apply the runway changes.

## 7.1.6 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 7.7).

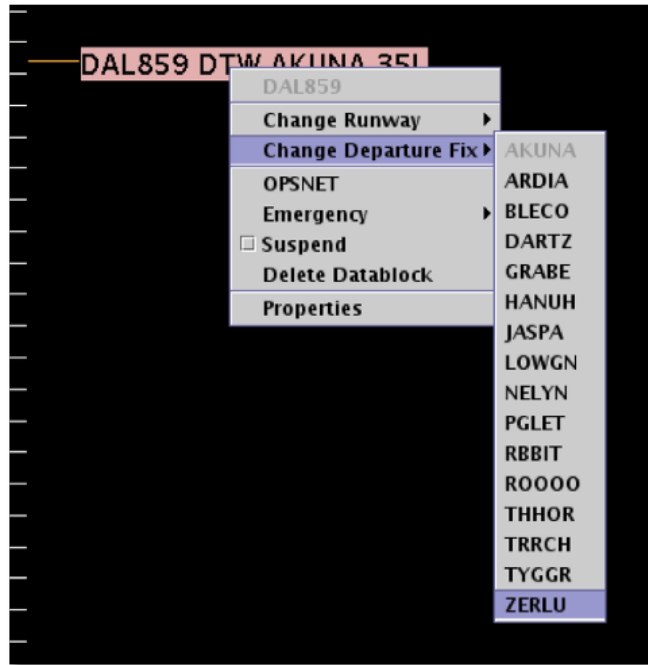


Figure 7.7. Right-Click Menu: Change Departure Fix.

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 7.8).

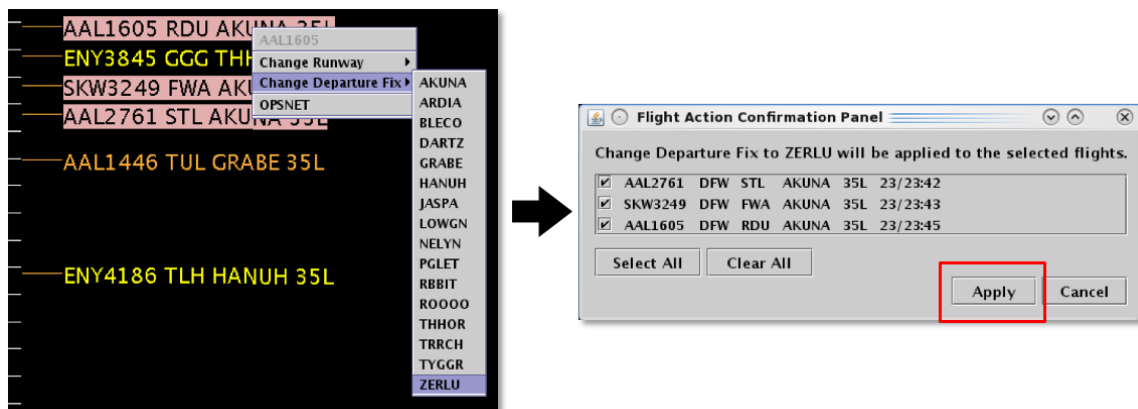


Figure 7.8. Right-Click Menu: Change Departure Fix for multiple flights. Use the Flight Action Confirmation Panel to apply the Fix changes.

## 7.1.7 Change Parking Gate

Use the right-click menu to change a flight's Parking Gate (Figure 7.9).

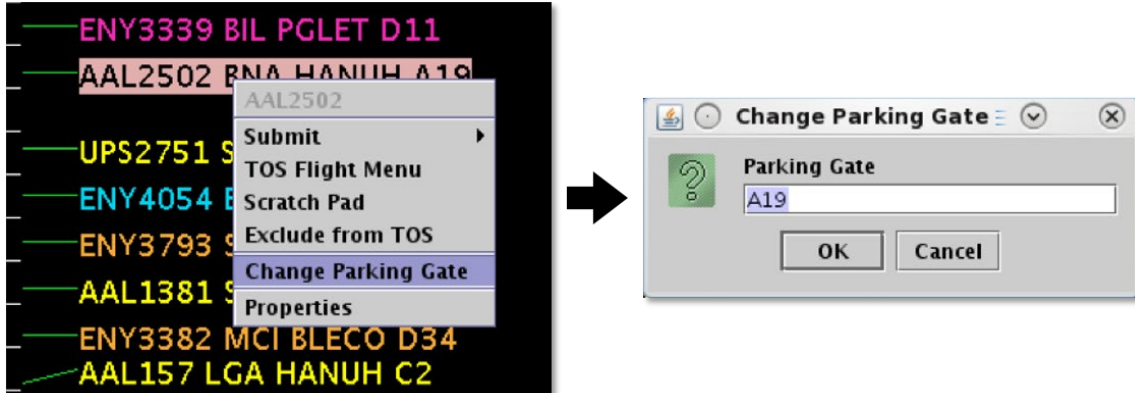


Figure 7.9. Right-Click Menu: Change Parking Gate.

## 7.1.8 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 7.10, left). Alternatively, select “Undo OPSNET” to remove the marker (Figure 7.10, right).

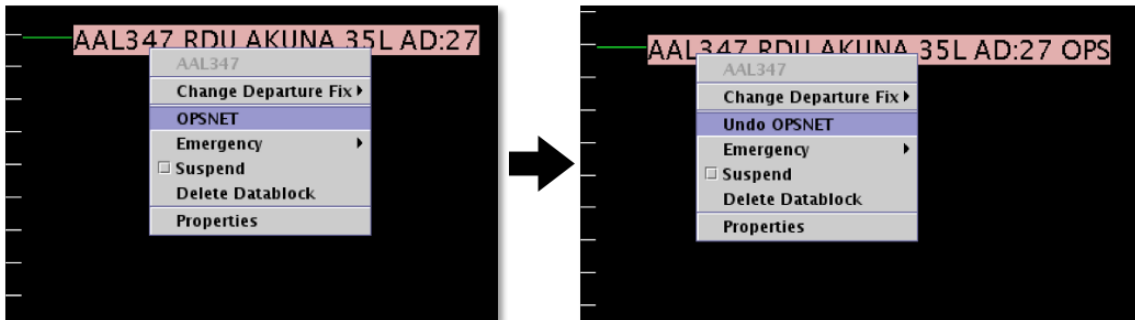


Figure 7.10. Right-Click Menu: OPSNET.

## 7.1.9 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 7.11).

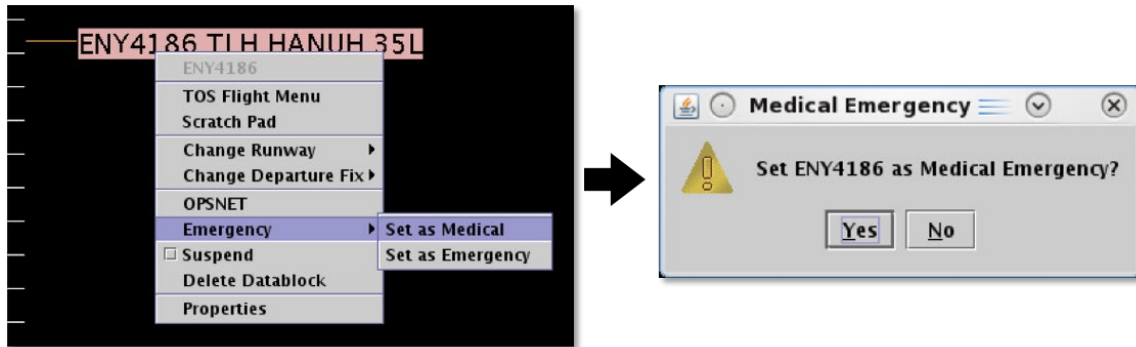


Figure 7.11. Right-Click Menu: Medical Emergency.

Alternatively, select “Remove Medical” to remove the medical emergency (Figure 7.12).



Figure 7.12. Emergency status: Remove Medical.

ATC can also use the right-click menu to change the *general* emergency status of a flight (Figure 7.13).

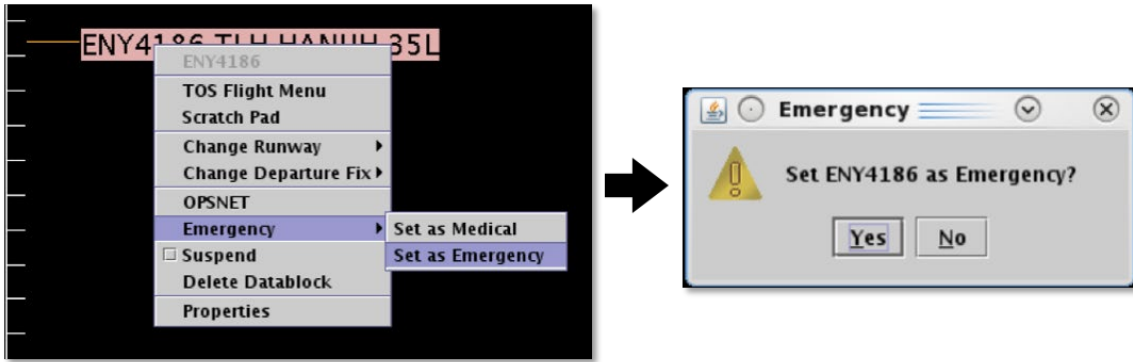


Figure 7.13. Right-Click Menu: General Emergency.

Alternatively, select “Remove Emergency” to remove the general emergency (Figure 7.14).

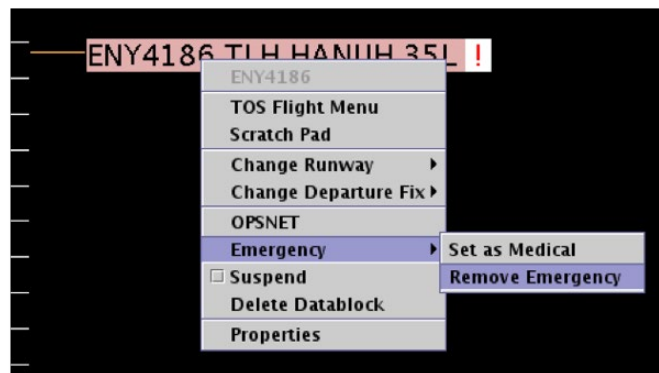


Figure 7.14. Emergency status: Remove Emergency.

### 7.1.10 Suspend

*\*Note: This menu option is only available in ATC versions 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 is not permanently cancelled. Suspending a flight 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. On the map, “Suspended” is indicated in the flight’s datablock (Figure 7.15, right).

To display “Suspended Flights” on the map, ensure that “Suspended Flights” is selected in the “View Airport Settings” menu (see Section 4.5.2.5.6).

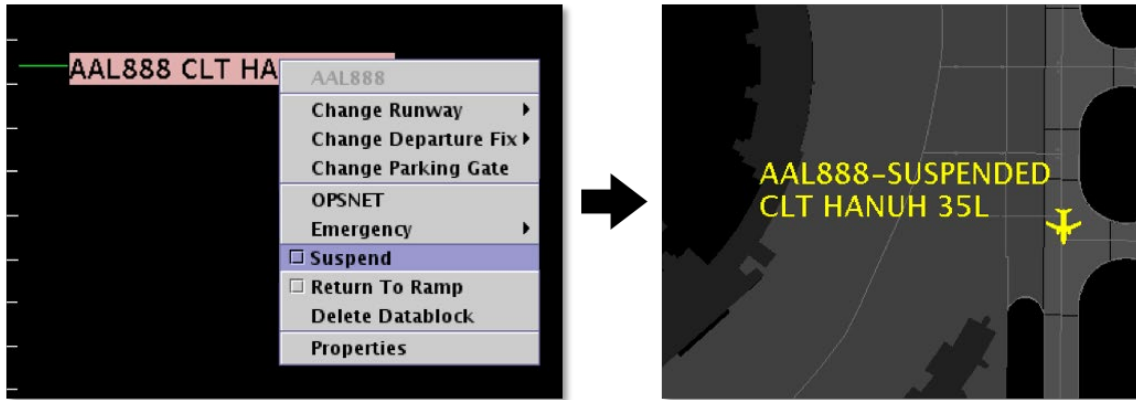


Figure 7.15. Use the right-click menu to select “Suspend” (left). Once selected, the flight is removed from the timeline and “Suspended” is indicated in the flight’s datablock on the map (right).

To remove the “Suspended” status, use the right-click menu on the map or Flights Table to deselect “Suspend” (Figure 7.16). The flight is again displayed on the Timeline.

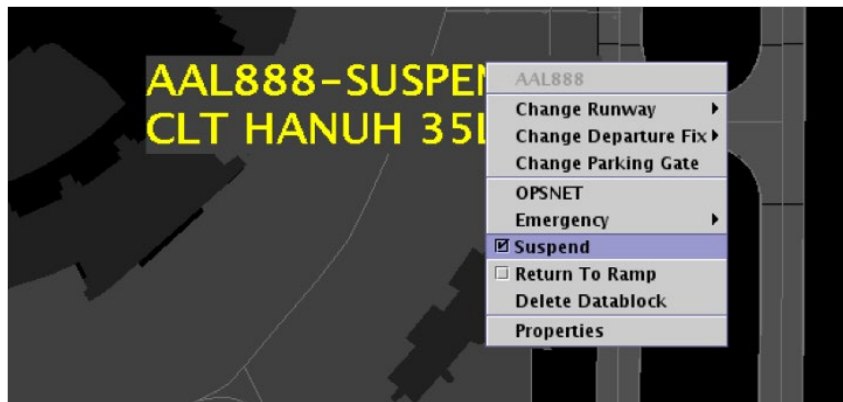


Figure 7.16. Use the right-click menu on the map or Flights Table to deselect “Suspend.”

## 7.1.11 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 7.17). 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.

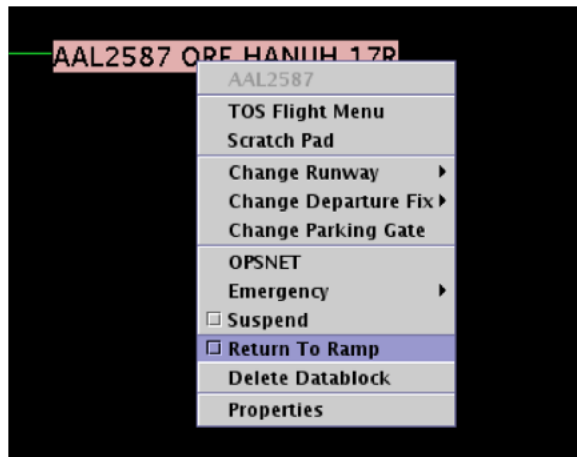


Figure 7.17. Right-Click Menu: Return to Ramp.

Alternatively, select “Return to Ramp” on the *map* right-click menu to undo (Figure 7.18). The flight is again displayed on the timeline.

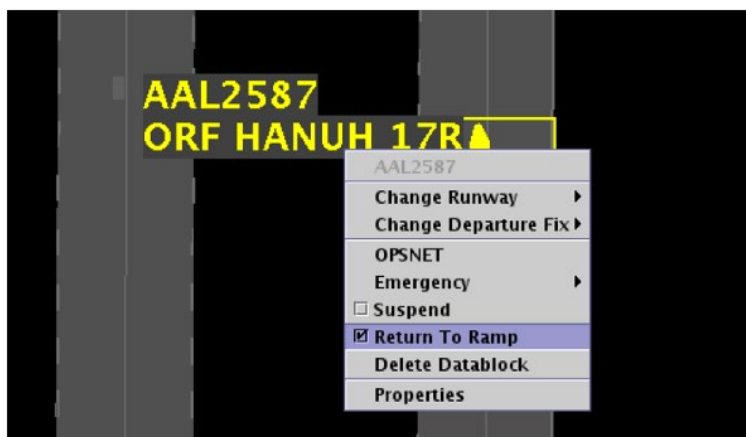


Figure 7.18. Map Right-Click Menu: Return to Ramp.

## 7.1.12 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 7.19). The flight continues to appear in the Flights Table. “Delete Datablock” cannot be undone.



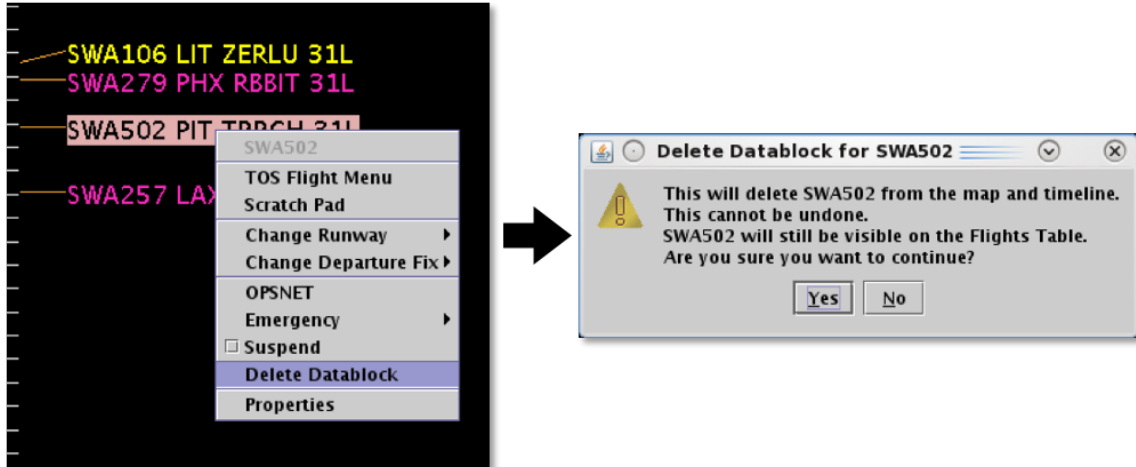


Figure 7.19. Right-click Menu: Delete Datablock.

### 7.1.13 Properties

*\*Note: Selectable fields in the Properties window vary by version of the Metroplex Planner.*

Use the right-click menu to open the Flight Properties window (Figure 7.20). The ATC version (top) and the Flight Operator version (bottom) of the Properties window are shown in Figure 7.21.

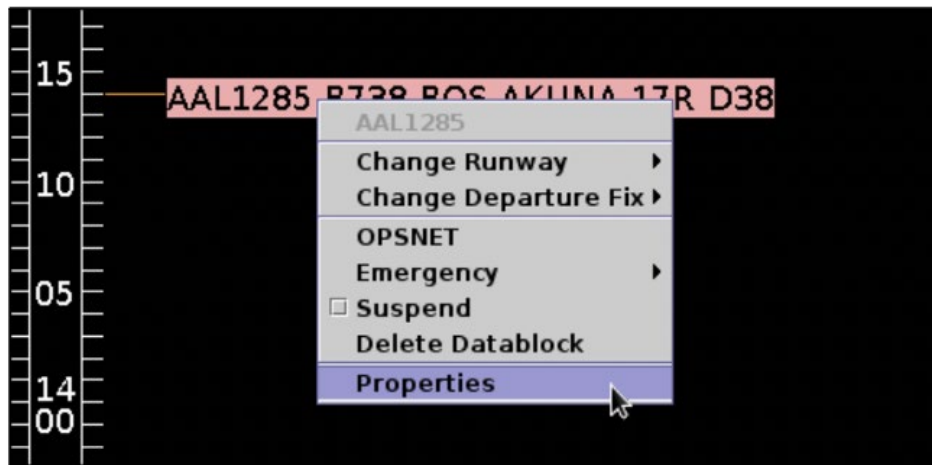


Figure 7.20. Right-Click Menu: Flight Properties.

Flight Properties: AAL1285	
Flight Id: <input type="text" value="AAL1285"/>	<input type="button" value="Find"/> Status: <input type="text" value="Scheduled_Out"/>
Spot: <input type="text" value="124"/>	Category: <input type="text" value="Departure"/>
Parking Gate: <input type="text" value="D38"/>	Out Time (UOBT): <input type="text" value="29/13:56"/>
Runway: <input type="text" value="17R"/>	Off Time (TTOT): <input type="text" value="29/14:13"/>
APREQ Release: <input type="text"/> <input type="button" value="Set Release Time"/>	
Departure Fix: <input type="text" value="AKUNA"/>	Departure Gate: <input type="text" value="NORTH"/>
Route: <input type="text" value="KDFW.AKUNA9.MLC..KM36G..KENBE..VHP..DJB..JHW.Q82.P&lt;br/&gt;ONCT.JFUND2.KBOS"/>	
Taxi Route: <input type="text" value="G.Y.K.EG"/>	
<input type="button" value="Ok"/> <input type="button" value="Cancel"/>	

Flight Properties: AAL1285	
Flight Id: <input type="text" value="AAL1285"/>	<input type="button" value="Find"/> Status: <input type="text" value="Scheduled_Out"/>
Spot: <input type="text" value="124"/>	Category: <input type="text" value="Departure"/>
Parking Gate: <input type="text" value="D38"/>	Out Time (UOBT): <input type="text" value="29/13:56"/>
Runway: <input type="text" value="17R"/>	Off Time (TTOT): <input type="text" value="29/14:13"/>
APREQ Release: <input type="text"/> <input type="button" value="Set Release Time"/>	
Departure Fix: <input type="text" value="AKUNA"/>	Departure Gate: <input type="text" value="NORTH"/>
Route: <input type="text" value="KDFW.AKUNA9.MLC..KM36G..KENBE..VHP..DJB..JHW.Q82.P&lt;br/&gt;ONCT.JFUND2.KBOS"/>	
Taxi Route: <input type="text" value="G.Y.K.EG"/>	
<input type="button" value="Ok"/> <input type="button" value="Cancel"/>	

Figure 7.21. Flight Properties window (in this example, a departure flight). ATC version (top) and Flight Operator version (bottom).

Each piece of information included in the Flight Properties window (Figure 7.21) is listed in Table 7.1.

**Table 7.1. Flight Property Information**

Flight Property	Description
Flight ID	<p>Flight number (call sign). For General Aviation (GA) flights, the tail number is used.</p> <p>The “Find” function can be used to highlight a flight in the timeline, map, Flights Table, and TOS Departure Table (if applicable).</p>
Flight Status	<p>Flight Status:</p> <ul style="list-style-type: none"> <li>• <b>Scheduled Out:</b> A departure flight that has not yet pushed back from the gate.</li> <li>• <b>Pushback:</b> A departure flight that is pushing back.</li> <li>• <b>Out:</b> A departure flight that is taxiing in the Ramp Area.</li> <li>• <b>Taxiing AMA:</b> A departure flight that is taxiing in the Airport Movement Area (AMA).</li> <li>• <b>In Queue:</b> A departure flight inside the queue detection box of the assigned runway.</li> <li>• <b>Departed:</b> A departure flight that is airborne.</li> <li>• <b>Scheduled In:</b> An arrival flight that is not yet being tracked.</li> <li>• <b>Enroute Arr:</b> An arrival flight that is in the enroute airspace.</li> <li>• <b>Term Area Arr:</b> An arrival flight that is inside the terminal airspace.</li> <li>• <b>On Final:</b> An arrival flight that is on final approach.</li> <li>• <b>On:</b> An arrival flight that has landed.</li> <li>• <b>In Ramp:</b> An arrival flight that is taxiing in the Ramp.</li> <li>• <b>In:</b> An arrival flight that is parked at the gate.</li> <li>• <b>Return to Gate:</b> A departure that is returning to the gate, after pushing back.</li> <li>• <b>Suspended:</b> A departure flight that was scheduled to have already departed, but no updates have been received.</li> <li>• <b>Cancelled:</b> A flight that has been cancelled by the airline.</li> <li>• <b>Unknown:</b> A flight with an unknown status.</li> </ul> <p><i>*Not all types are available at all airports.</i></p>
Spot	<p>Predicted or actual spot.</p> <p><i>ATC: Use dropdown menu to change the spot selection.</i></p>
Parking Gate	<p>Assigned or actual parking gate.</p> <p><i>ATC and Flight Operator: Use dropdown menu to change the parking gate selection.</i></p>

Runway	Predicted or actual runway based on flight plan, departure fix, actual location of aircraft, or user input. <i>ATC: Use dropdown menu to change the runway selection.</i>
Departure Fix	Assigned/actual departure fix for a flight (departures only). <i>ATC: Use dropdown menu to change the departure fix selection.</i>
Category	Arrival or departure.
OUT Time (Departures)	Predicted or actual pushback time. Populated with the first available of these data elements: AOBT, UOBT.
OFF Time (Departures)	Predicted or actual takeoff time. Populated with the first available of these data elements: ATOT, ETOT, TTOT, UTOT.
ON Time (Arrivals)	Predicted or actual landing time. Populated with the first available of these data elements: ALDT, ELDT, TLDT, ULDT.
IN Time (Arrivals)	Predicted or actual gate arrival time. Populated with the first available of these data elements: AIBT, TIBT, UIBT.
APREQ Release	For flights subject to an APREQ restriction, the APREQ release time ( <i>hh:mm</i> ).
Departure Gate	Assigned/actual departure gate for a departure flight.
Route	Filed route reported by FAA system.
Taxi Route	The remaining route for taxiing in the AMA.

## 8 Metroplex Planner: Graphs

Graphs are used to display demand and delay information about departure flights. Two types of graphs are available:

- Demand graphs (Section 8.1).
- Delay graphs (Section 8.2).

Use the “Create” function on the Toolbar to open a graph.

### To open a Demand or Departure Graph:

**Step 1:** On the Toolbar, select “Create.” In the dropdown menu, select “Create Graph” (Figure 8.1).

**Step 2:** As shown in Figure 8.1, select from one of four graph type / Reference Point options:

- **Demand Graph** (Reference Point: **Dep Fix**)
- **Demand Graph** (Reference Point: **Runway**)
- **Delay Graph** (Reference Point: **Dep Fix**)
- **Delay Graph** (Reference Point: **Runway**)

**Step 3:** Select a configuration:

- “default” configuration
- Or, if available, a configuration previously saved using the “Save for Quick Create” function (e.g., “ZFW\_North\_East” in Figure 8.1).

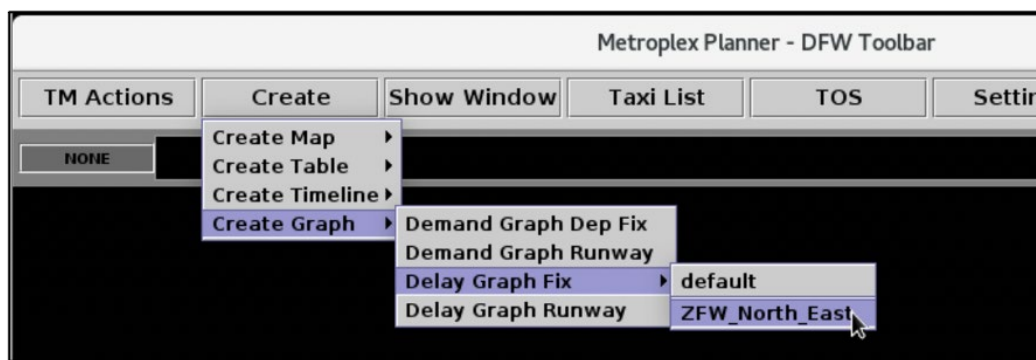


Figure 8.1. Create a new graph or open a previously saved graph.

## 8.1 Demand Graph

Demand graphs are presented in the form of a bar chart. Demand — measured by *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 (Section 8.3.9).

Depending on which **Reference Point** is selected (Section 8.3.1), each color-coded section of a bar represents the predicted number of flights at Runways or at Departure Fixes, in that time bin.

Use the **Filter** (Section 8.3.3) to select which runways and Departure Fixes/Gates to include in the graph.

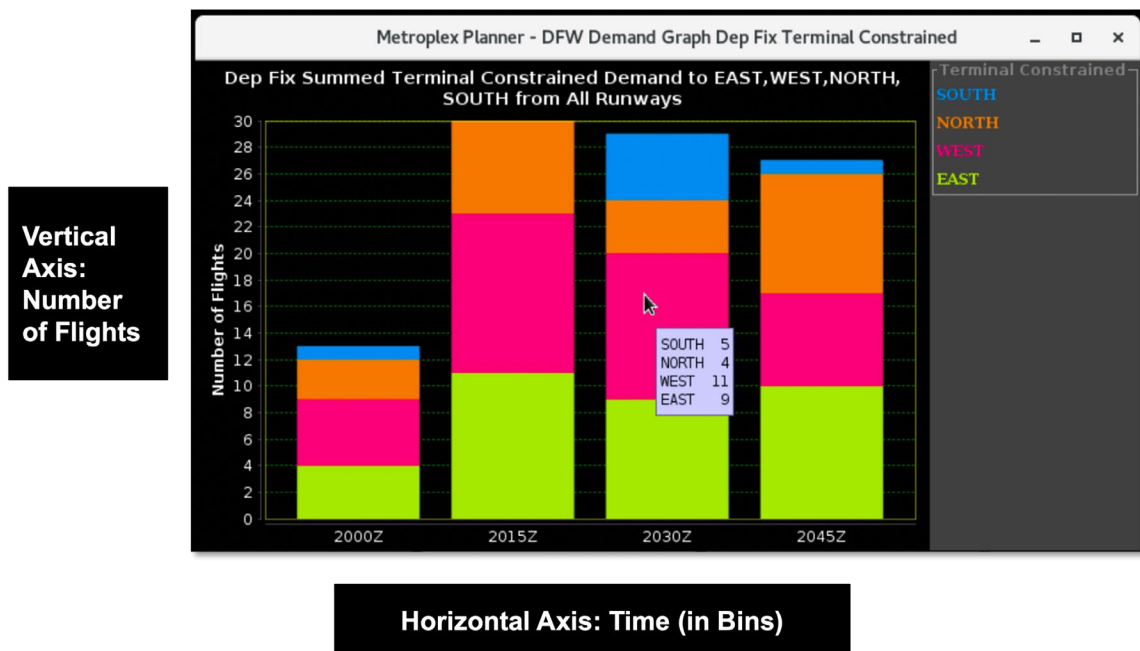


Figure 8.2. Demand Graph: Predicted number of flights at Runways or Departure Fixes in each time bin. Hover over a column to view the count of flights.

## 8.2 Delay Graph

Delay graphs are presented in the form of a line graph. Delay — measured by *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 (Section 8.3.9).

Depending on which **Reference Point** is selected (Section 8.3.1), each data point represents predicted average Delay (in minutes) at Runways or at Departure Fixes, in that time bin.

Use the **Filter** (Section 8.3.3) to select which runways and Departure Fixes/Gates to include in the graph.

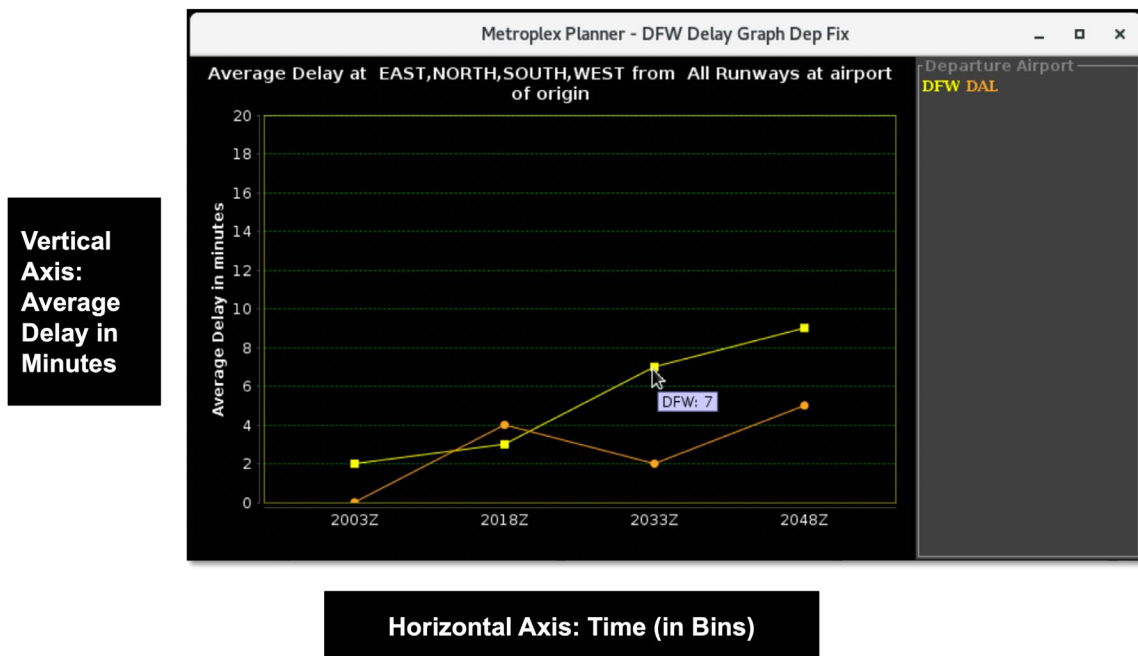


Figure 8.3. Delay Graph: Predicted average delay (in minutes) at Runways or Departure Fixes in each time bin. Hover over a data point to view predicted minutes of delay.

## 8.3 Graph: Settings

Use “Graph Settings” to configure the graph.

### To open Graph Settings:

*Step 1:* Right-click on the background of a graph.

*Step 2:* Select “Graph Settings” (Figure 8.4).

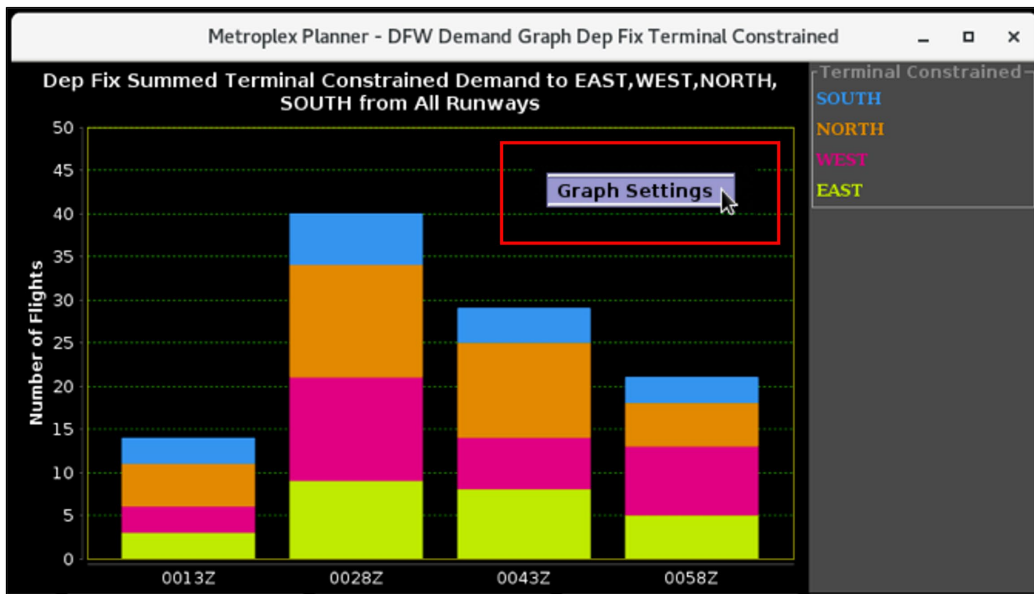


Figure 8.4. Right-click on the background to open Graph Settings.



### 8.3.1 Reference Point

Demand and Delay calculations are made based on a flight’s predicted arrival time at the Reference Point. Use the Graph Settings window to select from one of two options:

- **Runway** (which uses Estimated Takeoff Time (ETOT)).
- **Departure Fix** (which uses Estimated Departure Fix Time (EDFT)).

#### To change the Reference Point:

**Step 1:** Right-click on the background of a graph and select “Graph Settings” (Figure 8.4).

**Step 2:** In the Graph Settings window, select the “Reference Point” dropdown menu (Figure 8.5). Select one of two options:

- Runway
- Dep Fix

**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.

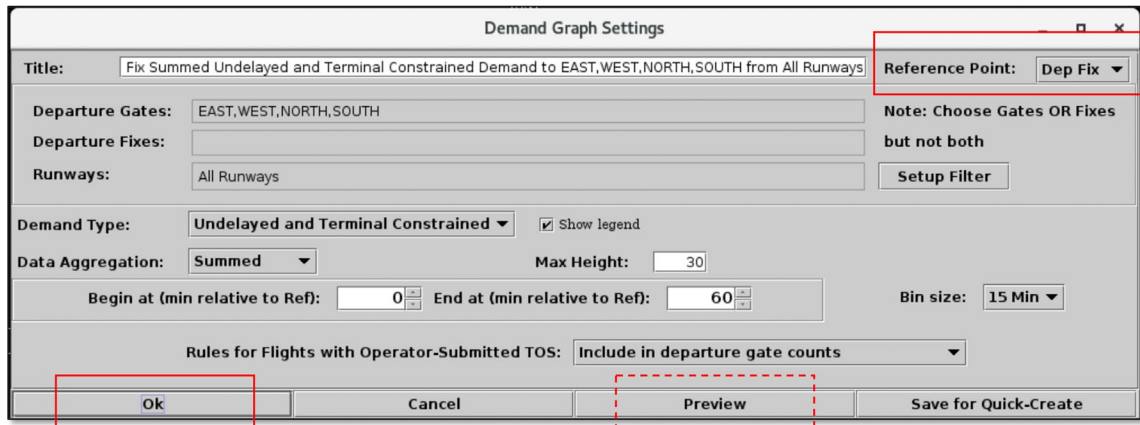


Figure 8.5. Graph Settings: Reference Point.

## 8.3.2 Title

The title of the graph automatically populates with the selected parameters (e.g., graph type, filter selections). Use the Graph Settings window to modify the title.

### To change the graph's title:

- Step 1:** Right-click on the background of a graph and select “Graph Settings” (Figure 8.4).
- Step 2:** In the Graph Settings window, enter text in the “Title” field (Figure 8.6).
- 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.

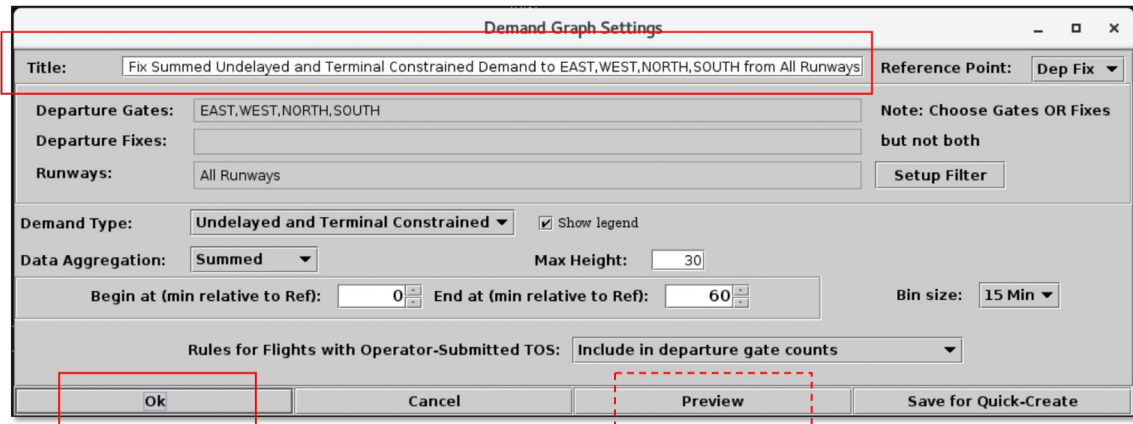


Figure 8.6. Graph Settings: Title.

## 8.3.3 Set Up Filter

Use filters to select which runways and Departure Fixes/Gates to include in the graph. Fields that can be used as filters are listed Table 8.1.

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* (e.g., Dep Fix “AND” Runway; Dep Gate “AND” Runway).

**Table 8.1. Graphs: Filter Fields**

<b>Field</b>	<b>Description</b>	<b>Options</b>
Dep Fix	Departure Fix	Enter or select from dropdown list.
Dep Gate	Terminal-area Departure Gate	Enter or select from dropdown list.
Runway	Predicted or actual runway.	Enter or select from dropdown list.

Note, however, that the graph can be filtered by Departure Gates *or* Departure Fixes, **but not both at the same time.**

**To filter a graph:**

- Step 1:** Right-click on the background of a graph and select “Graph Settings” (Figure 8.4).
- Step 2:** In the Graph Settings window, select the “Set Up Filter” button (Figure 8.7).
- Step 3:** Select a variable from the dropdown list in the “Field” column (e.g., “Dep Gate” in Figure 8.8).
- Step 4:** Select a modifier from the dropdown list in the “Operator” column (Figure 8.8).
- Step 5:** Select an option(s) from the dropdown list or enter criteria in the text box to populate the “Values” field (Figure 8.8). Separate multiple entries with a comma.
- Step 6 (Optional):** An additional filter (i.e., Runway) can be applied by making entries on a new row. Begin additional rows by selecting a qualifier (i.e., “AND” or “OR”).
- Note:** *The graph can be filtered by Departure Gates or Departure Fixes, but not both at the same time.*
- Step 7:** When complete, select “OK” to apply the filter(s) and close the 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.

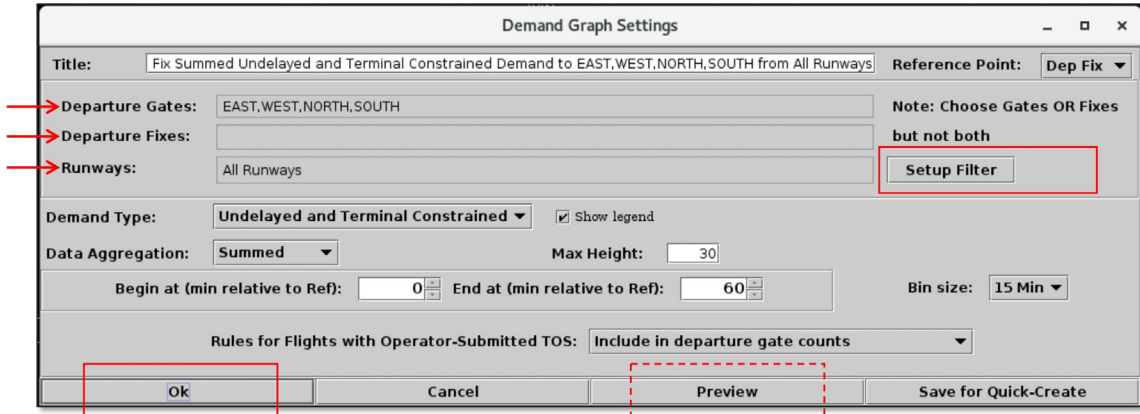


Figure 8.7. Graph Settings: Set Up Filter. Filter criteria are displayed on the left.

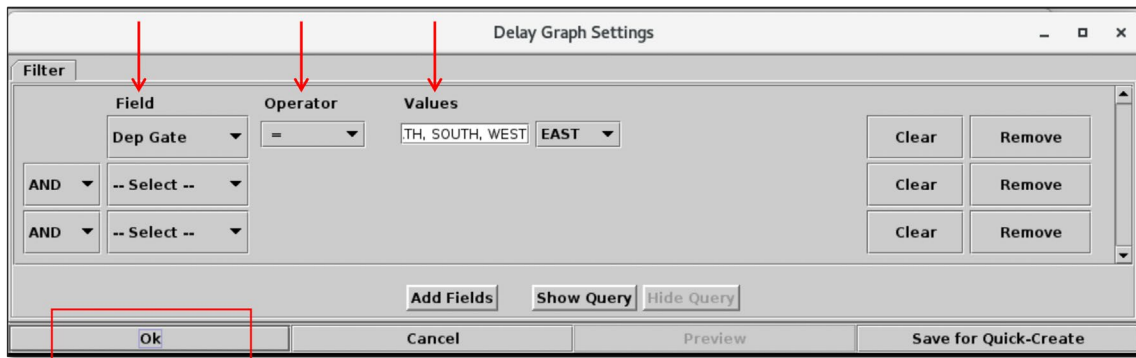


Figure 8.8. Filter.

### 8.3.4 Demand Type (Demand Graphs Only)

On Demand graphs, there are two methods for calculating departure demand (i.e., number of flights) at the Reference Point, **Undelayed Demand** and **Terminal Constrained Demand**:

- **Undelayed Demand:** Demand is predicted using the earliest time at which flights can reach the Reference Point — the ETOT at the Runway or the EDFT at the Departure Fix — as predicted by the ATD-2 scheduler, based on:
  - a constant taxi speed in the Ramp, and
  - a constant taxi speed in the AMA, and
  - for the Departure Fix, a flight's predicted trajectory.
- **Terminal Constrained Demand:** Demand is predicted using the earliest time at which flights can reach the Reference Point — the ETOT at the Runway or the EDFT at the Departure Fix — as predicted by the ATD-2 scheduler, based on:
  - **Undelayed Demand + terminal restrictions\* applied to the departure flights.**

**\*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 terminal restrictions applied to the departure flights.

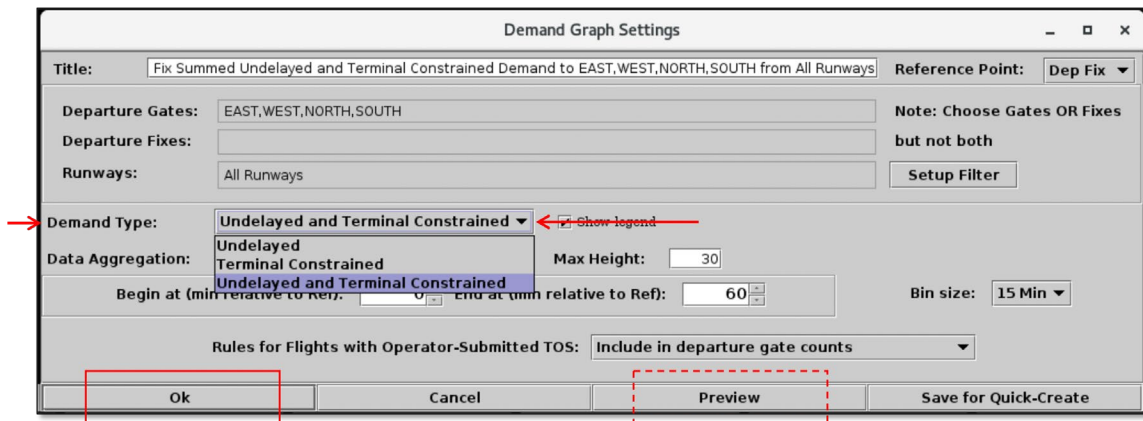
**To change the Demand Type (for Demand Graphs only):**

**Step 1:** Right-click on the background of a graph and select “Graph Settings” (Figure 8.4).

**Step 2:** In the Graph Settings window, select the “Demand Type” dropdown menu (Figure 8.9). Select one of three options:

- Undelayed
- Terminal Constrained
- Undelayed and Terminal Constrained — this option is available only when Data Aggregation is “**Summed**”, it is not available when Data Aggregation is “**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.



**Figure 8.9. Graph Settings: Demand Type.**

### 8.3.5 Data Aggregation (Demand Graphs Only)

On Demand graphs, one of two data aggregation formats can be selected, **Summed** or **Side-by-Side**:

- **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 Data Aggregation (for Demand Graphs only):**

**Step 1:** Right-click on the background of a graph and select “Graph Settings” (Figure 8.4).

**Step 2:** In the Graph Settings window, select the “Data Aggregation” dropdown menu (Figure 8.10). Select one of two options:

- 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.

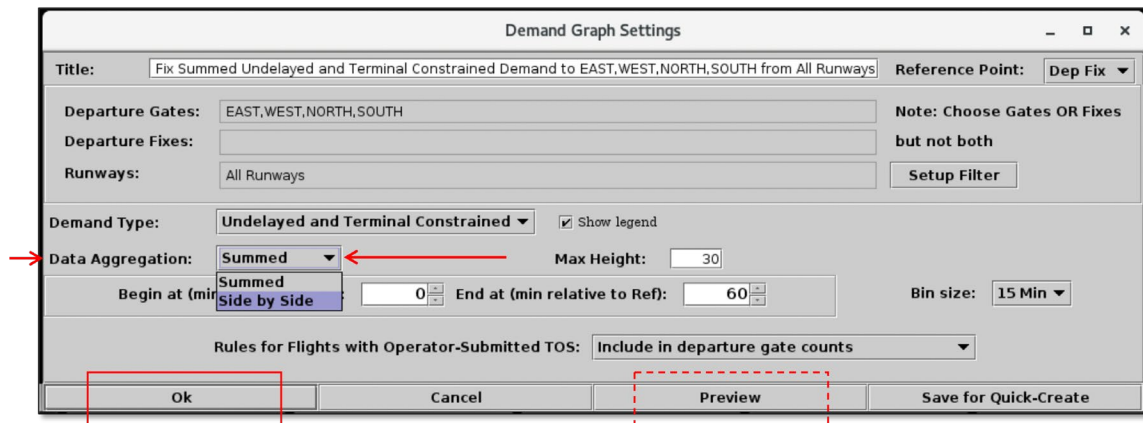


Figure 8.10. Graph Settings: Data Aggregation.

## 8.3.6 Legend

Use the legend to display an explanation of color-coding on the graph.

### To show/hide the graph legend:

**Step 1:** Right-click on the background of a graph and select “Graph Settings” (Figure 8.4).

**Step 2:** In the Graph Settings window, check the box next to “Legend” (Figure 8.11) to display the legend on the graph.

**Alternatively:** Uncheck the box to hide the legend.

**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.

The screenshot shows the "Demand Graph Settings" dialog box. The title bar reads "Demand Graph Settings". The "Title" field contains "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" is set to "30". The "Begin at (min relative to Ref)" is set to "0" and the "End at (min relative to Ref)" is set to "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 and highlighted with a red box. The "Ok" button is highlighted with a red box, and the "Preview" button is highlighted with a red dashed box.

Figure 8.11. Graph Settings: Legend.

## 8.3.7 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.

**To change the maximum height of the vertical axis:**

**Step 1:** Right-click on the background of a graph and select “Graph Settings” (Figure 8.4).

**Step 2:** In the Graph Settings window, enter a value in the “Max Height” field (Figure 8.12).

**Note:** *The maximum value accepted in the “Max 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 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.

The screenshot shows the "Demand Graph Settings" dialog box. The "Title" field contains "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" and "Show legend" is checked. 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 "Ok" button is highlighted with a red box, and the "Preview" button is highlighted with a red dashed box.

Figure 8.12. Graph Settings: Max Height.



### 8.3.8 Begin At / End At Times

Use the “Begin at” and “End at” fields in the Graph Settings window to change the duration of time shown on the horizontal axis.

#### To change the Begin and End values for a graph:

**Step 1:** Right-click on the background of a graph and select “Graph Settings” (Figure 8.4).

**Step 2:** In the Graph Settings window, enter the “Begin At” and “End At” values (in minutes) (e.g., 0 minutes and 60 minutes in Figure 8.13).

**Note:** *The times (in minutes) are relative to the selected Reference Point (i.e., Runway or Departure Fix).*

**Note:** *Use a negative number to indicate minutes prior to “Now” time (in the past) and a positive number to indicate minutes beyond “Now” time (in the future).*

**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.

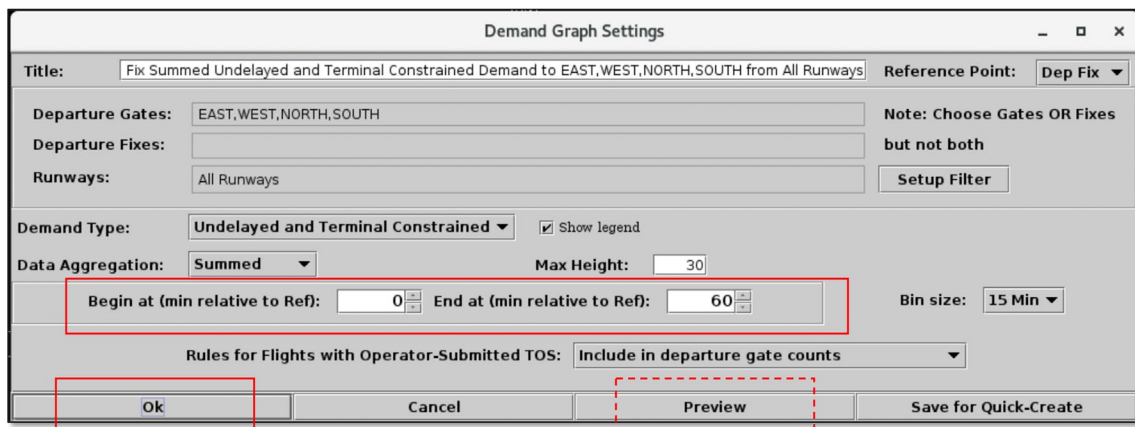


Figure 8.13. Graph Settings: Begin at and End at times (in minutes).

### 8.3.9 Bin Size

Bin size represents how much time is included in each column, or point, on the horizontal axis. Bin size, in combination with the duration created by the difference between the “Begin 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 are displayed along the horizontal axis; a 15-minute bin would result in *four* columns/points.

#### To change the Bin Size on a graph:

**Step 1:** Right-click on the background of a graph and select “Graph Settings” (Figure 8.4).

**Step 2:** In the Graph Settings window, select the “Bin size” dropdown menu (Figure 8.14). Select one of three bin sizes:

- 5 min
- 10 min
- 15 min

**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.

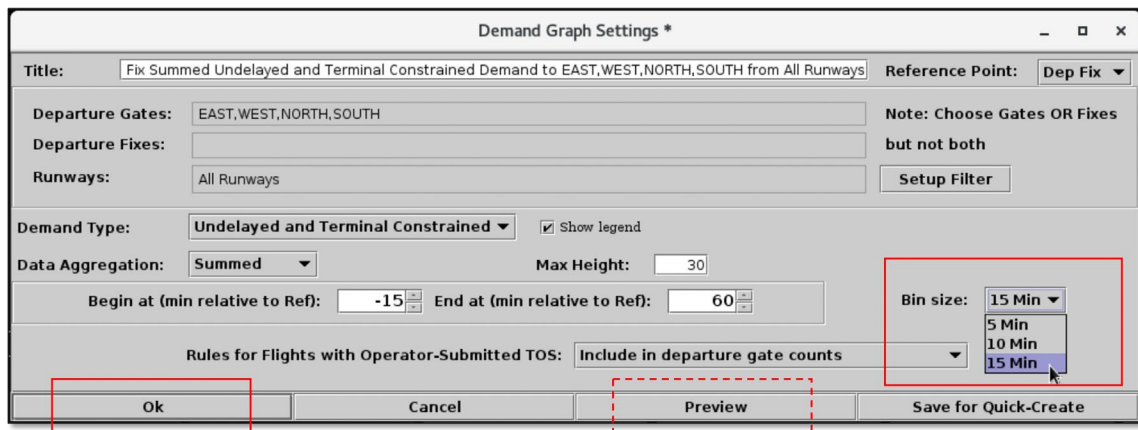


Figure 8.14. Graph Settings: Bin Size (5, 10, or 15 mintes).

### 8.3.10 Rules for TOS Flights (Demand Graphs Only)

On Demand graphs, operator-submitted TOS flights can be grouped with the count of all flights or displayed and counted separately. The option to display and count TOS information separately is available only when the selected Demand Type is “**Terminal Constrained**”; the option is *not* available when the Demand Type is “Undelayed.”

#### To view TOS flights separately (for Demand Graphs only):

**Step 1:** Right-click on the background of a graph and select “Graph Settings” (Figure 8.4).

**Step 2:** In the Graph Settings window, select the “Rules for Flights with Operator-Submitted TOS” dropdown menu (Figure 8.15). Select one of two options:

- Include in departure gate counts, or
- Display separate from departure gate counts

**Note:** *Operator-submitted TOS flights are displayed and counted separately from Departure Gate counts when “Display separate from departure gate counts” is selected.*

**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.

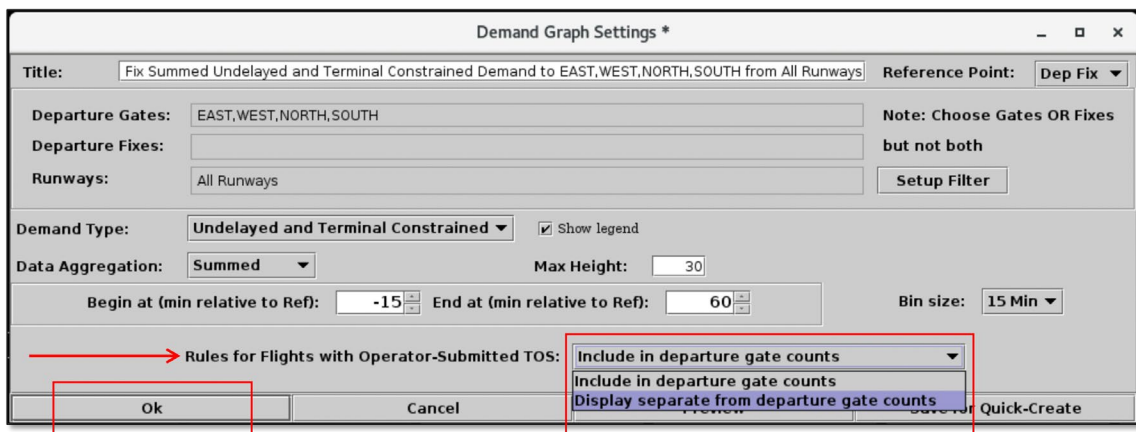


Figure 8.15. Graph Settings: Rules for Flights with Operator-Submitted TOS reroutes.

# 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

<b>Acronym</b>	<b>Term</b>
CSV	Comma-Separated Values (file type)
CTOP	Collaborative Trajectory Options Program
CTOT	Controlled Takeoff Time
DAL	Delta Air Lines
DAL	Dallas Love Field Airport
DEPFIK	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
ELDT	Estimated Landing 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

<b>Acronym</b>	<b>Term</b>
IDAC	Integrated Departure Arrival Capability
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)
LTOT	Airline Takeoff Time
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
POBT	Proposed Off-Block Time (POBT) / p-time
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

<b>Acronym</b>	<b>Term</b>
STOT	Scheduled Takeoff Time
SWIM	System-Wide Information Management
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