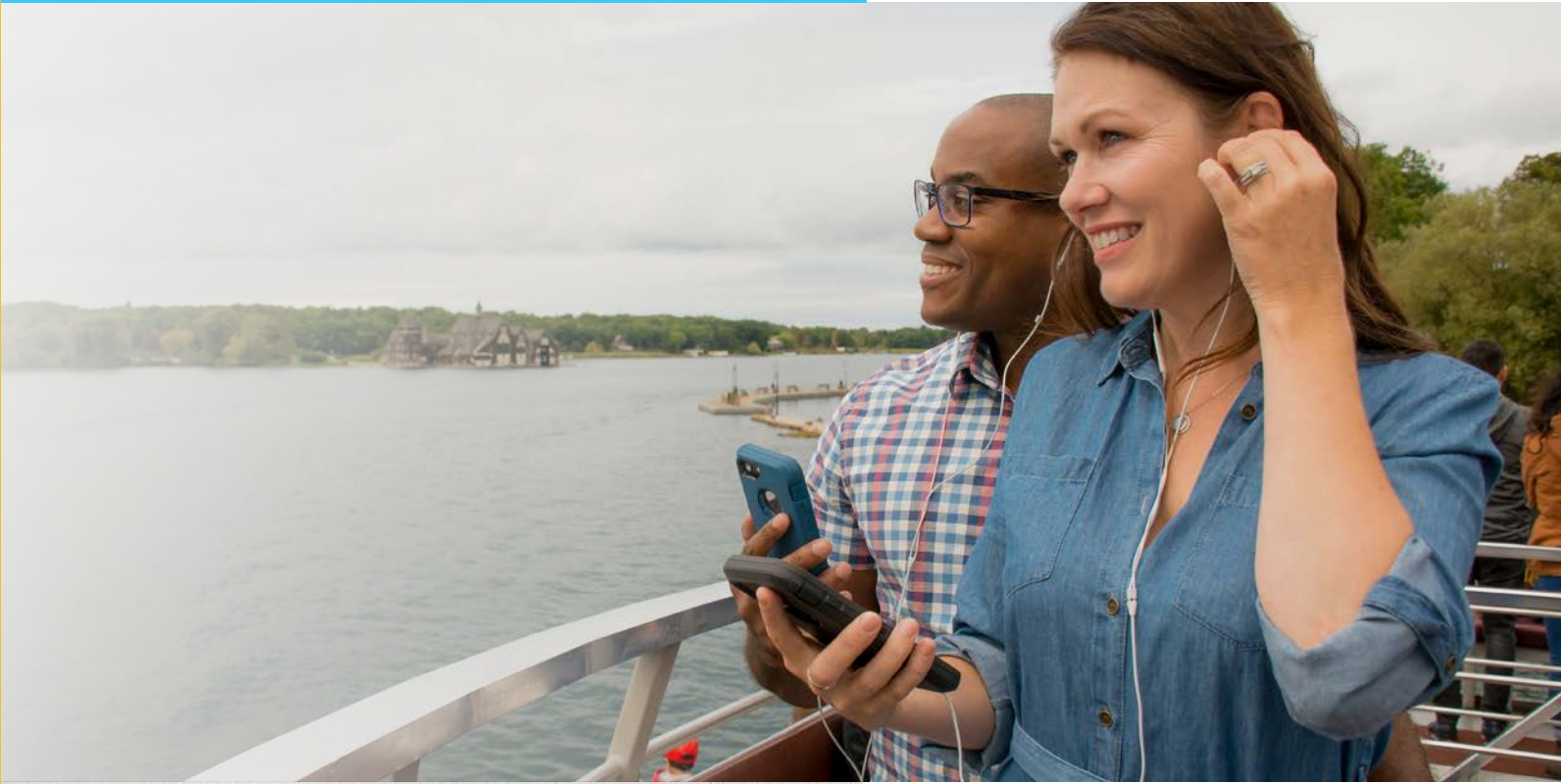


CORTEX



Cortex is Navilution's® innovative, cloud-based, route design and construction software, created, developed, and distributed by Listen Technologies.

Cortex allows you to create your route with ease and intuition.

ENGLISH MANUAL



TABLE OF CONTENTS

| | | | |
|-----------|--|-----------|--|
| 3 | How To Navigate The Manual | 23 | Deleting a Topic |
| 3 | Cortex Home Page | 24 | Route Building: Creating a Route |
| 4 | Clients | 26 | Deleting a Topic from a Route |
| 4 | Version | 27 | Route Settings |
| 4 | Profile | 28 | Drawing a Path Within a Route |
| 4 | Settings | 28 | Primary Path |
| 5 | Logout | 29 | Alternate Path |
| 5 | Clients Page | 30 | Creating a Trigger Zone in a Route |
| 5 | Tours | 34 | Additional Parameters for Trigger Zones |
| 6 | Library | 35 | Zones |
| 6 | Media File Formatting | 36 | Check the Route Using Trigger Zone Toggle |
| 7 | Video Storage and Timing | 37 | Assigning Media: Adding Stories to Trigger Zones |
| 7 | Media File Naming Convention | 38 | Adding More Info |
| 7 | Stories, Filler and Safet Files | 39 | Verifying Media File Association with a Trigger Zone |
| 9 | Music and Notification Sounds | 39 | Using the Same Story More than Once |
| 9 | Storing Media in More Than One Section of Your Library | 40 | Adding Filler, Music, Notification Sounds and Safety |
| 9 | How to Upload Media Files | 40 | What Do the Red and Green Dots Mean? |
| 11 | How to Listen to a Media File in Library | 43 | Copy a Route Within a Tour |
| 12 | Updating Media Files | 45 | Managing Channels Within Route |
| 13 | Analytics | 46 | Deleting a Route |
| 13 | Importing New Data for Customer Analytics | 47 | Adding Notes |
| 13 | Accessing Newly Imported Data | 48 | Adding Notes to a Topic |
| 14 | Reviewing Topics and Language Data | 49 | Add Notes to a Trigger Zone |
| 14 | Reviewing Tour Data | 50 | Copy a Tour |
| 14 | Exports | 52 | Deleting a Tour |
| 15 | Tour Building | 53 | Exporting a Tour |
| 15 | Definitions | 55 | Export File Security Measures |
| 16 | Creating a Tour | 48 | How to Load Content |
| 19 | Cortex and Google Maps Integration | 56 | Cortex Glossary |
| 20 | Tour Settings | 58 | Contact Us |
| 20 | Save | | |
| 21 | Creating Topic | | |
| 22 | Creating Virtual Topics | | |

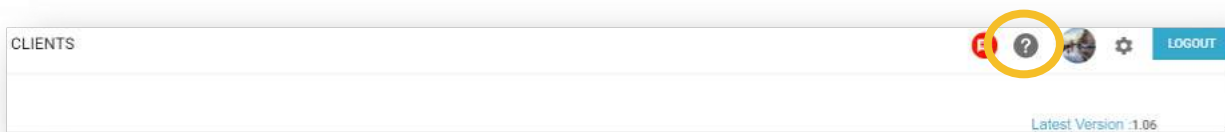


HOW TO NAVIGATE THE MANUAL

This manual is intended to provide a comprehensive description of how to construct your routes using cortex, including some useful hints and best practices to assist you. A glossary of commonly used Cortex terms is also provided as a reference.

When learning, following each section and segment in the order presented will produce optimal results.

This manual and support videos are also available directly when working in Cortex. Click on the icon with the question mark at the top of the screen to access.



HOW TO ACCESS CORTEX

As Cortex is cloud-based, a working and reliable internet connection and web browser are required for use. Currently, Google Chrome, Firefox and Edge are supported.

Access to Cortex is achieved by completing the free Cortex for Route Development training webinar. This webinar can be found here on our Training Website: **www.listentech.com/training**.

Once the webinar has been completed, Listen Technologies will create an account within Cortex providing access to the use of the tool. When the account is created, a Password Reset email will be sent to your email used during the webinar registration, and within this email there is a password reset link. This link will take you to the Cortex home page where you will then be prompted to create a password of your choosing.

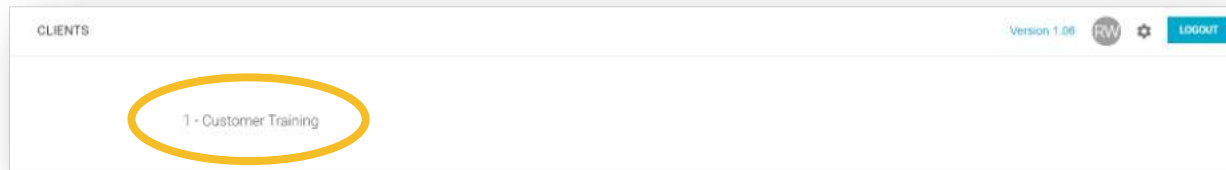
CORTEX HOME PAGE

Upon signing in, you will be taken to the home page where you will see your Client Information, Version, Profile, Settings and LOGOUT option.



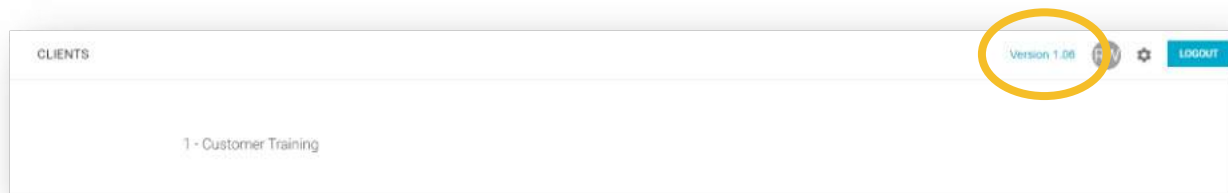
CLIENTS

Where your Tour Creation, Management and Information is located.



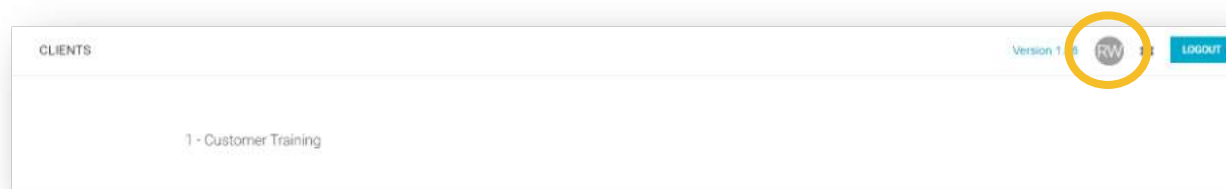
VERSION

Provides revision history of past updates to the Cortex Software Tool.



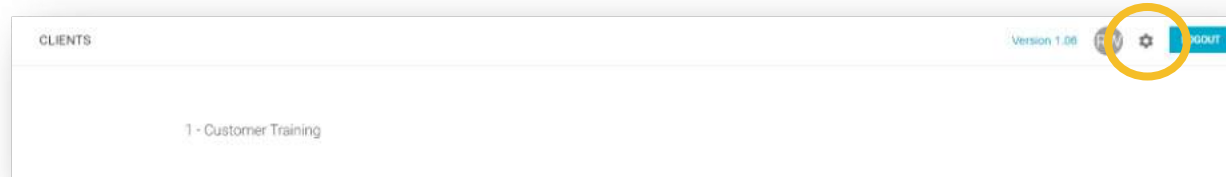
PROFILE

Provides your information and available for update. It also includes the ability to set a new password if necessary.



SETTINGS

Allows you to monitor and add additional users to your client.

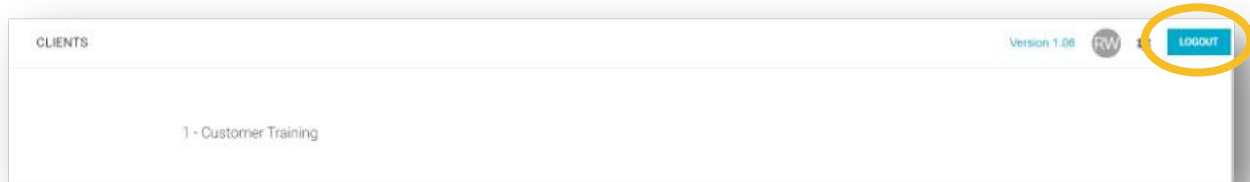




LOGOUT

Logging out of the Cortex application is done by clicking on the blue LOGOUT button in the top right corner of the home page.

After 14 mins of no activity, Cortex will ask if you would like to continue. If no selection is made, after an additional 60 seconds, you will be automatically signed out due to inactivity.



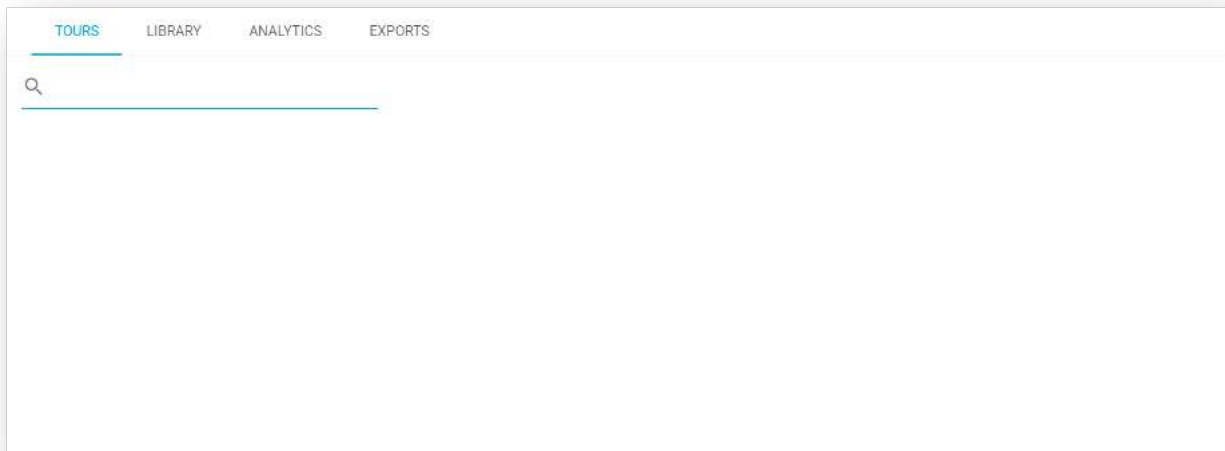
CLIENTS PAGE

Within the Clients Page, you will now be able to view Tours, Library, Analytics and Exports.

TOURS

Visibility of completed Tours, creating a new Tour, duplicating a completed Tour, deleting a Tour and Exporting Tours for the Navilution® Systems.

More info on this page in the Tour Building portion of the manual.





LIBRARY

Used for the storage of all media files. Location for media files is dependent on how they will be delivered and/or used by the Navilution® system. The library is broken into 5 sections.

Stories: media that is to be triggered automatically using GPS coordinates reside.

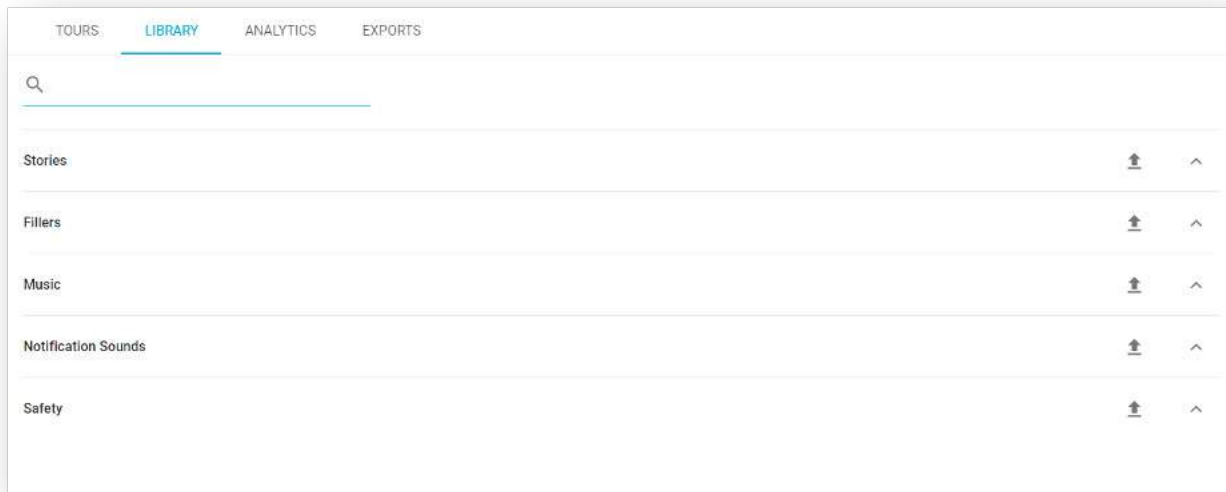
Filler: media that will be controlled manually using the Display Control Panel (DCP).

Music: music files that will play between segments when turned on.

Important: All music provided by Listen Technologies is licensed. It is the responsibility of the user to obtain the legal rights to play any additional music that will be uploaded.

Notification Sounds: audio files used to signal the start of an audio segment such as chimes, horns, whistles etc.

Safety: operational, directional and safety related media that will be controlled manually using the Display Control Panel (DCP).



MEDIA FILE FORMATTING

Audio files (including music and notification sounds) must be .mp3 encoded format at:

- 128 Kbps
- Mono
- 44.1kHz

The MP3 must be transcoded in a format known as CBR (Constant Bit Rate).

Video files must be .mp4 format using an H.264 encoder at a 1080p resolution. Resolutions of 360p, 640p and the popular 720p will not play. Video files cannot have an audio component associated with them.



If audio or video files need to be converted/reformatted, an online search will result in a variety of options to choose from.

VIDEO STORAGE AND TIMING

Videos are stored in the same library section as the audio files they are to play alongside.

Audio files control how long the related video file will play. If the video file is longer than the associated audio file, it will stop abruptly when the audio file ends.

Important: Audio and video files that play together should be the same length. If the desired video file will be longer than the audio file, adjust the audio file length to match that of the video.

MEDIA FILE NAMING CONVENTIONS

As media is created, file naming conventions must follow standards as outlined below. Names must be alpha or alpha numeric. Special characters, with the exception of underscore or hyphen, are not supported.

STORIES, FILLER AND SAFETY FILES

The file naming convention in order is:

Channel Prefix, followed by a single underscore
For Audio, a 3-letter code is used (see list below)

For Video, the prefix used is VID_

File Name

Media Type

.mp3 for audio
.mp4 for video

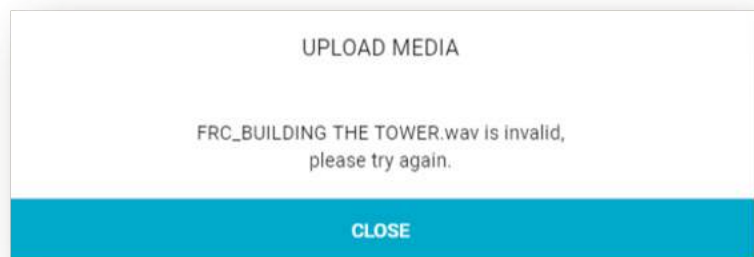
Examples:

ENG_CENTRAL PARK.mp3
FRE_CENTRAL PARK.mp3
GER_CENTRAL PARK.mp3
VID_CENTRAL PARK.mp4

Audio files are required. Video files are optional.

Important: When including video files, ensure both audio and video files are uploaded to your library before assigning stories to Trigger Zones.

Audio file format must be mp3. Video file format must be mp4.





If you attempt to upload an incorrect media type or a file with an incorrect naming convention, Cortex will identify a failed upload.

3-LETTER CHANNEL PREFIXES

| Code | Description | Code | Description |
|------------|--------------------|------------|-----------------------------|
| ARA | Arabic | KOR | Korean |
| CAN | Cantonese | LTV | Latvian |
| CRO | Croatian | LTH | Lithuanian |
| CZE | Czechoslovakian | MAN | Mandarin |
| DAN | Danish | NOR | Norwegian |
| DUT | Dutch | POL | Polish |
| DUK | Dutch Kids | POE | Portuguese (European) |
| ENG | English | POS | Portuguese (South American) |
| ENK | English Kids | ROM | Romanian |
| EST | Estonian | RUS | Russian |
| FIN | Finnish | SER | Serbian |
| FRB | French (Basque) | SVK | Slovakian |
| FRC | French (Canadian) | SVN | Slovenian |
| FRE | French (European) | SPE | Spanish (European) |
| FRK | French Kids | SPS | Spanish (South American) |
| GER | German | SPK | Spanish Kids |
| GRK | Greek | SWE | Swedish |
| HEB | Hebrew | SWK | Swedish Kids |
| HIN | Hindi | THA | Thai |
| HUN | Hungarian | TUR | Turkish |
| ICE | Icelandic | UKR | Ukrainian |
| IND | Indonesian (Malay) | URD | Urdu |
| ITA | Italian | VIE | Vietnamese |
| JAP | Japanese | | |



MUSIC AND NOTIFICATION SOUNDS

Music and Notification Sounds do not have special rules for file names.

Examples:

CHIME.mp3
HORN.mp3
SONG1.mp3

STORING MEDIA IN MORE THAN ONE SECTION OF YOUR LIBRARY

If Audio Files are to play both automatically as a Story (using a Trigger Zone) as well as Manually as Filler or Safety (via the Display Control Panel) a unique name must be created for the audio file, for each location it will reside in.

When required, create a unique file name for each location the media file will be uploaded to in the library. Duplicate the original file and add a suffix to the file name.

Suffix

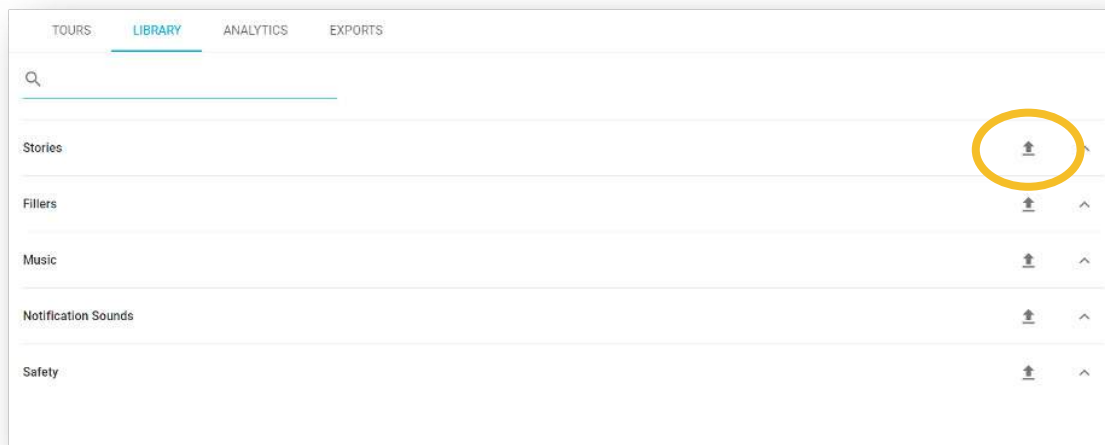
| Suffix | When to add this to a file name |
|--------|--|
| -ST | Added to a Story file that will also be used as a Filler or a Safety |
| -SA | Added to a Safety file that is also used as a Story |
| -F | Added to a Filler file that is also used as a Story |

Example:

A file called BRANDED SAFETY that would be uploaded to both **Stories** for automatic triggering at the start of every tour as well as to **Safety** for periodic play during the tour as desired, would need to be uploaded as ENG_BRANDED SAFETY-ST as well as ENG_BRANDED SAFETY-SA.

HOW TO UPLOAD MEDIA FILES

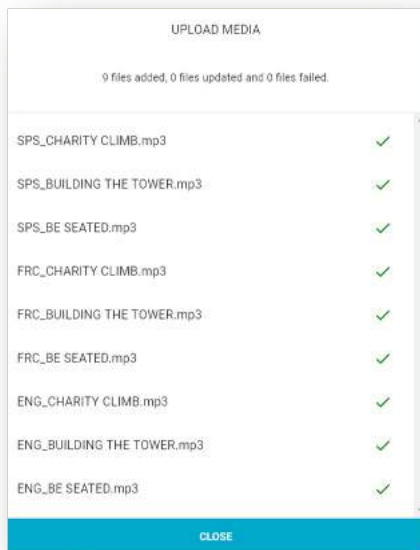
From the Clients page, click on the **LIBRARY** tab. Click the upload icon to the right of the section the media will be uploaded to.



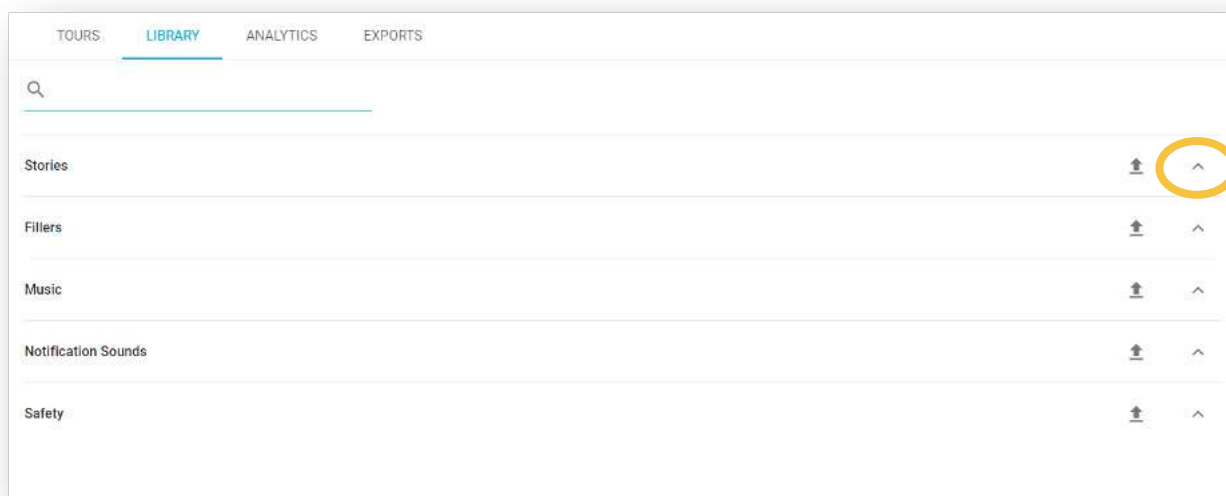


Locate the media files for upload. Select, then click open to begin the upload. A window will appear confirming the upload is underway. The amount of time required for upload is dependent upon the amount of content being uploaded.

Upon completion, a window will display to confirm the success of the upload process. It identifies the number of files that were added, updated or that failed to upload.

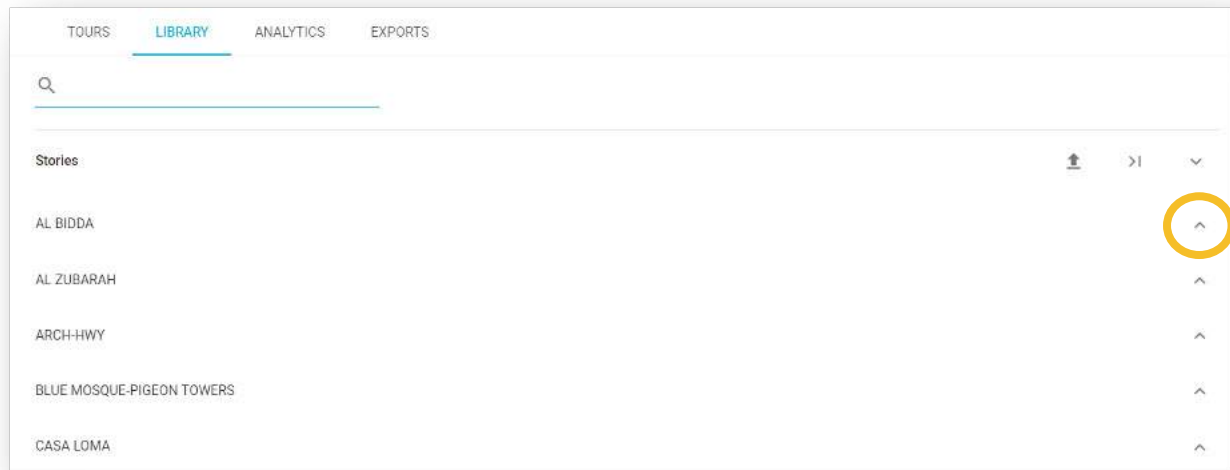


To see all files uploaded within a section of the library, click on the ▲ in that section.





To see what channels have been uploaded for a specific media file, hover to the right of the media file and click on the ▲ that appears.



A limit of 100 media files is permitted for a single upload. If this number is exceeded, a message will appear, asking you to select a smaller number of files.

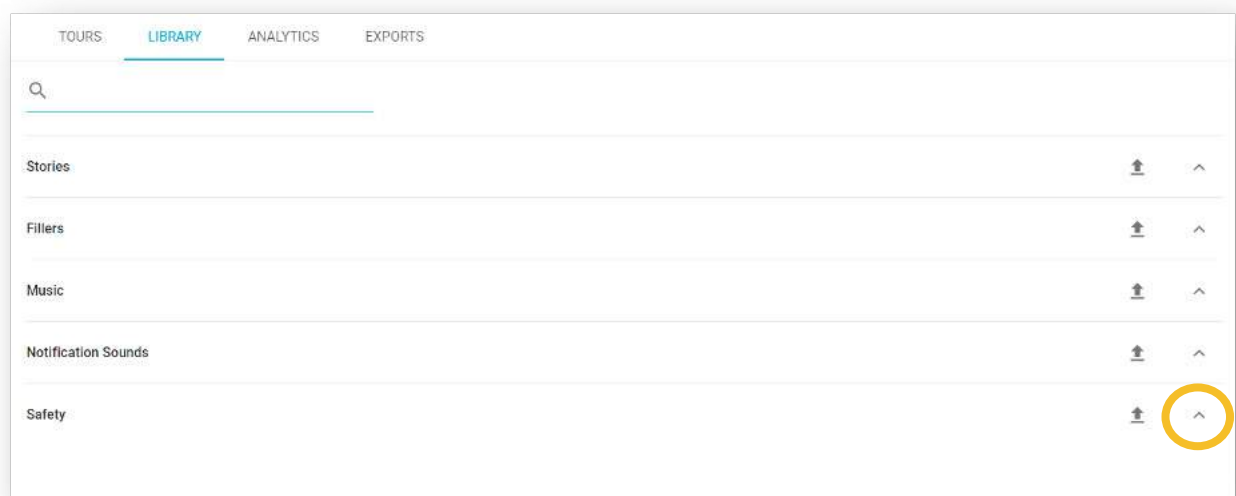
Once you have uploaded all tour media to the five sections of the library, you are ready to assign media.

Important: Media files stored on a desktop (not in the cloud or on a server) will upload much faster.

HOW TO LISTEN TO A MEDIA FILE IN LIBRARY

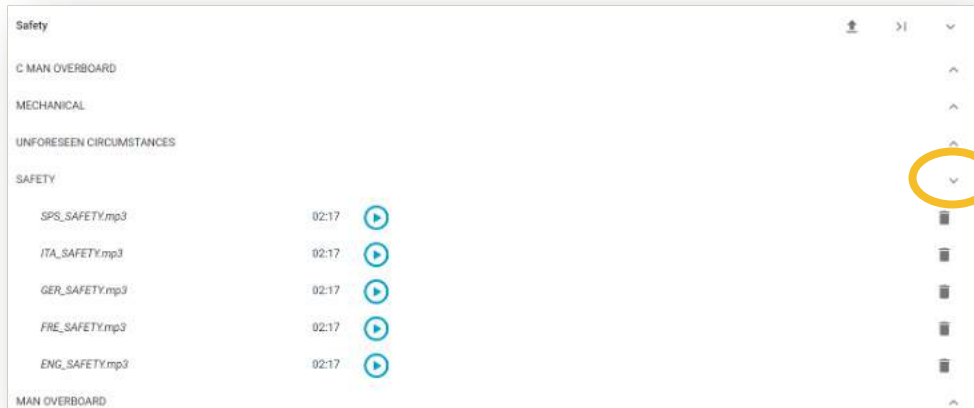
After adding files to the library, they can be listened to directly from the library.

First, expand the library category where the media file can be found. In this example, let us open **Safety**.



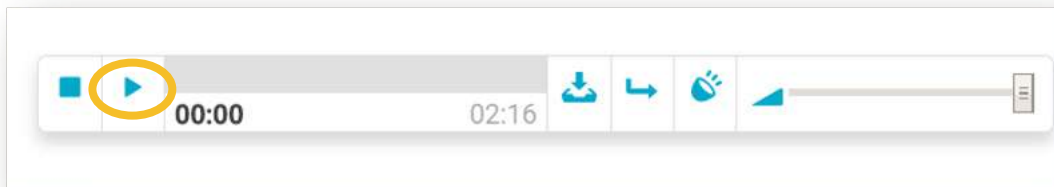


Once the **Safety** category has been expanded, a list of file names will appear. Expand the media file to see the language files available. In this example, the audio file called SAFETY has been expanded.



Important: The length of each media file is noted to the right of the file name.

Click the blue arrow beside the desired language file. A pop-up window will appear to control the playing of the file. Click the blue triangle to play the file. When finished, press the ESC button on the keyboard to close the pop-up window and return to Cortex.



UPDATING MEDIA FILES

At some point, it may be necessary to replace content in your Library. Cortex allows for the update of media files provided the updated media files have names identical to those that are to be replaced.

To update media files in any section of your library, click on the grey upload icon for the section on the right of the page, then select the new files to be uploaded.

Upon completion, a window will display to confirm files that were successfully updated. No Trigger Zone changes are required for Cortex to recognize the new files.

Once Exported to the Navilution® system, the changes will be implemented.

Important: If the display window confirms a new file was added, the updated file name did not match the previous file. Verify the file name and upload again.

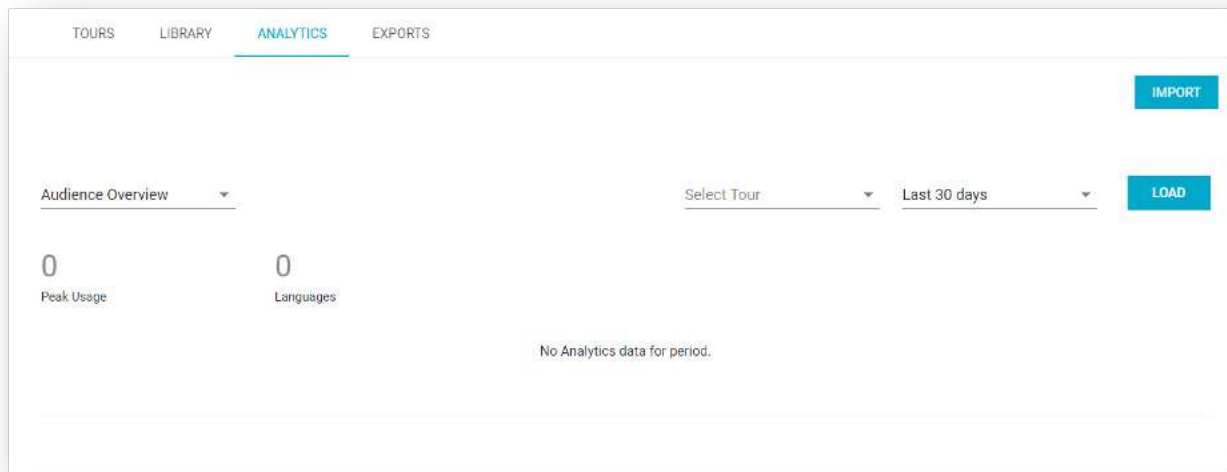


ANALYTICS

Important: To ensure analytical data is not lost, ensure you download from all EVO systems prior to Exporting any updates. Follow the EXPORT DATA process as outlined in the Navilution® Manual. If you do not follow the EXPORT DATA process, installing the new Export file will overwrite all data on the Server and the data collected will be lost.

Your Analytics page will display in one of two ways. If data has never been imported, the data fields will be blank. If data has been previously imported, the most recent data will appear.

IMPORTING NEW DATA FOR CUSTOMER ANALYTICS



From the Analytics page, select the blue IMPORT button in the top right corner. Select the tour file to import and click the blue LOAD button. Cortex will upload your data in the background, leaving you free to work on other tasks while the data loads.

ACCESSING NEWLY IMPORTED DATA

Select the tour and date range to be analyzed from the drop-down menu next to the **LOAD** button and then click **LOAD**. A spinner will appear as data is loaded and graphs are charted. The X-axis of the chart displays time of usage (local) and the Y-axis displays number of guests at the time of usage. Date ranges are: last day, last 7 days, last 30, 60, 90 days.



REVIEWING TOPICS AND LANGUAGE DATA

From the left side of the **ANALYTICS** home page, under the **Audience Overview** drop down, select Session. Click **LOAD** and the page will refresh to allow review of data by topics and languages.

Select a language and date range from the drop down and click **LOAD**. Data will display on the chart and data rows below the chart.

Repeat the previous step for each desired language or select **All** from the language drop down for all data. Data will display on the chart and data rows below the chart.

REVIEWING TOUR DATA

Move the cursor over a plot point on the chart. A pop-up window will display the exact number of guests by language, session duration and local time of day usage. Overall usage by language and guest sessions will display on the chart and be listed under the chart in row format.

EXPORTS

Visibility of exported Tours available for download and upload into the Navilution® Systems.

A complete explanation of how to use Exports is covered in detail later in this manual.

| TOURS LIBRARY ANALYTICS EXPORTS | | | | | | |
|--|---------------------|---------------------|--|-------------|--------------------|---|
| EXPORT ID | REQUESTED TIME | FULFILLED TIME | EXPORT TARBALL | DESCRIPTION | STATUS | |
| 1199 | 2020-10-26 13:06:27 | 2020-10-26 13:06:29 | appdata_client_77_1199.tar.gz Download | Herriman | Ready To download. |  |



TOUR BUILDING

DEFINITIONS

Important: Included at the end of this document is a complete appendix of terms with definitions to assist you as you become familiar with the use of Cortex.

As we begin to create a Tour within Cortex, it is important to review definitions of a number of terms used within the software, beginning with **Tour** and **Route**.

A **Tour** is defined as a general location or geographic area where Route(s) are developed. This geographical area can be large or small.

Examples might include:

- NY State
- Yosemite National Park
- Manhattan, NY, USA

A **Route** exists within a Tour and is defined by 3 parameters:

- Path** the vehicle or vessel travels
- Direction** of Travel
- Trigger Zones**

Examples of Routes that could all fall beneath a single tour might include:

- Hop on Hop Off Daytime – 2 hours
- Circular Evening no Stops – 1 hour
- Circular Weekend Extended no Stops – 3 hours

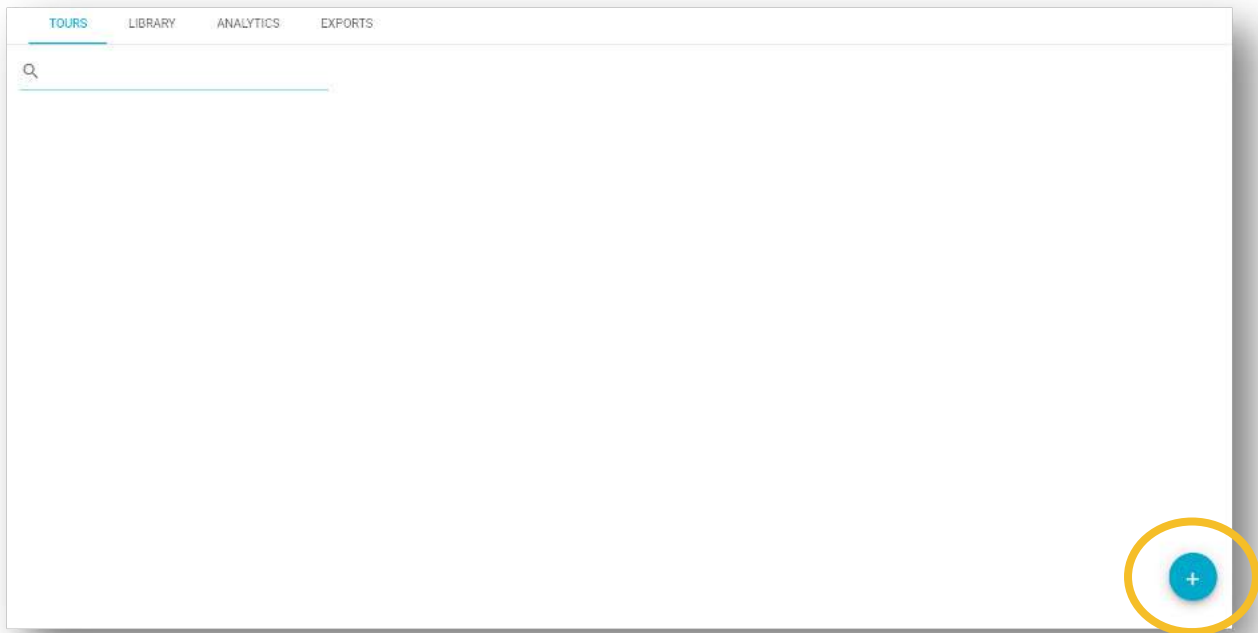
A **Topic** is a specific location or landmark that can be searched using Google Maps. You can also create what is referred to as a Virtual Topic which you position on the map as it is not available in Google Maps. The Route is created using a group of Topics.

A **Trigger Zone** has a geographic location, as defined by latitude and longitude. It is further defined by 6 additional parameters which are customizable. Each parameter contributes towards determining where and when, media files will play.

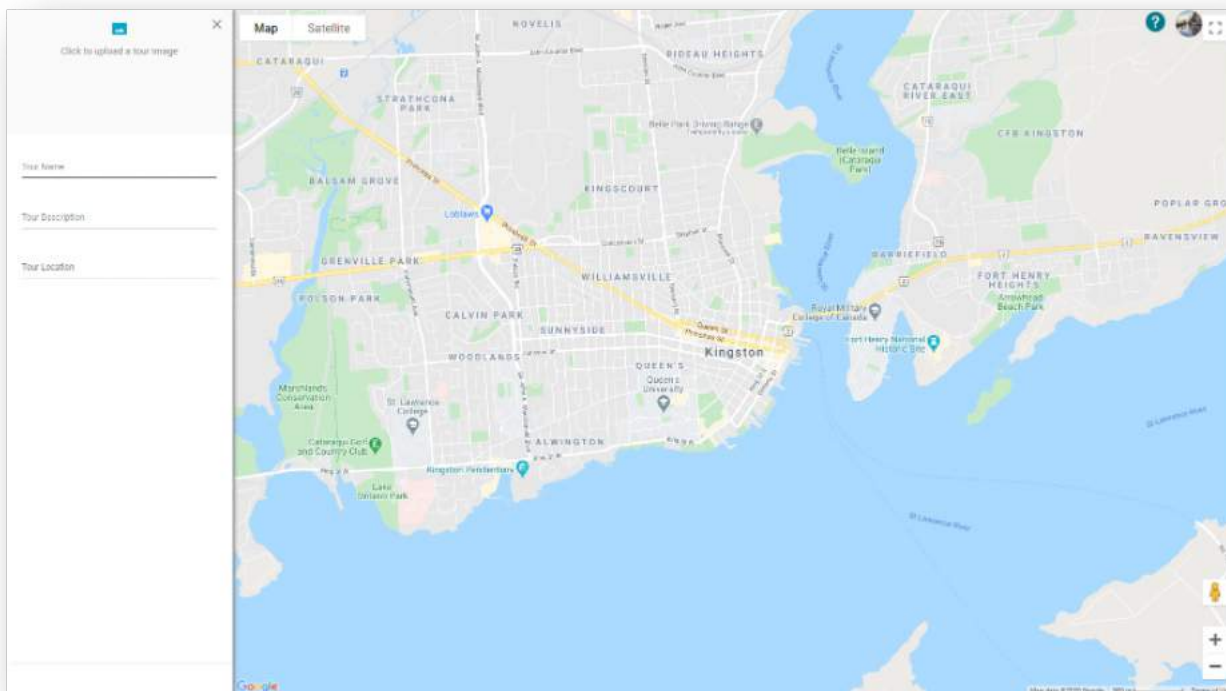


CREATING A TOUR

To create a new Tour, click on the Tours tab and then the blue plus icon in the bottom right corner of the page.



A default map of Kingston (Listen Technologies Canadian Office) will appear. The map will change to the location you indicate when you create a new tour.

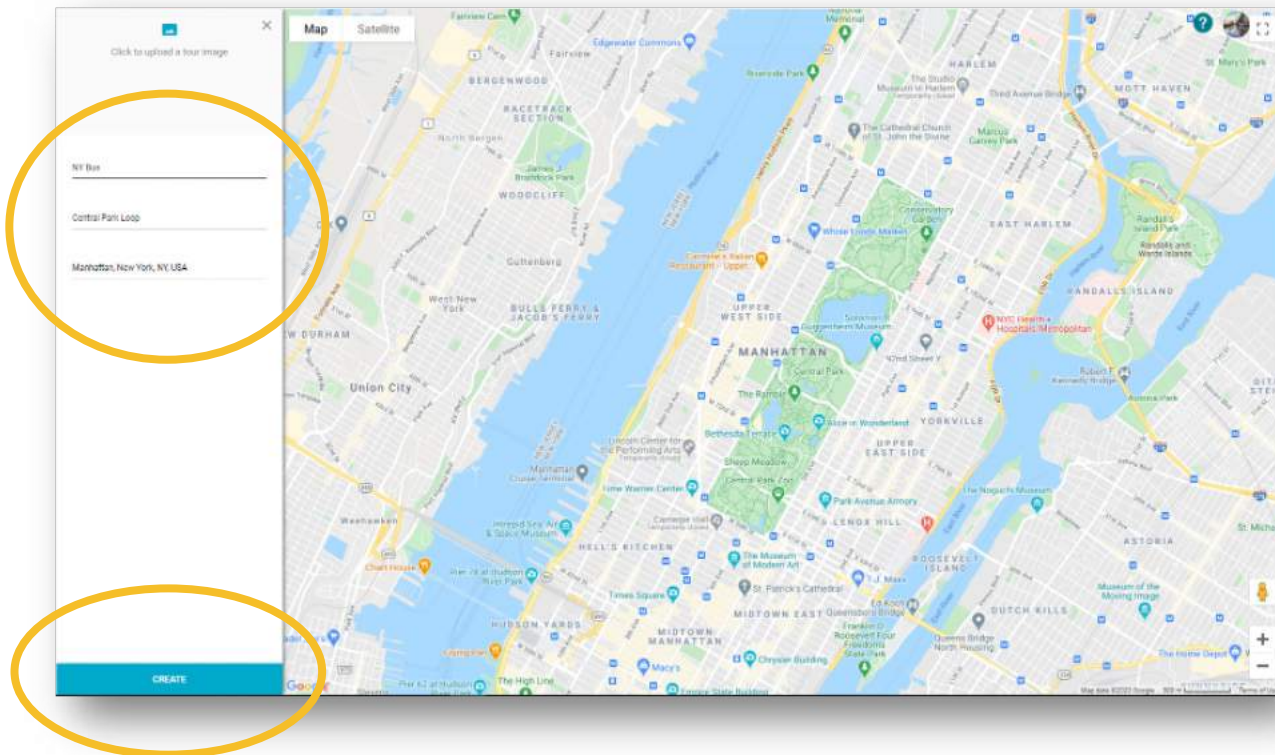




Type the **Tour Name** (i.e. NY Bus), **Tour Description** (i.e. Central Park Loop), and the **Tour Location** (i.e. Manhattan) in the applicable fields. When you type the Tour Location, Google Maps will provide a drop-down list of matches. Select from the list.

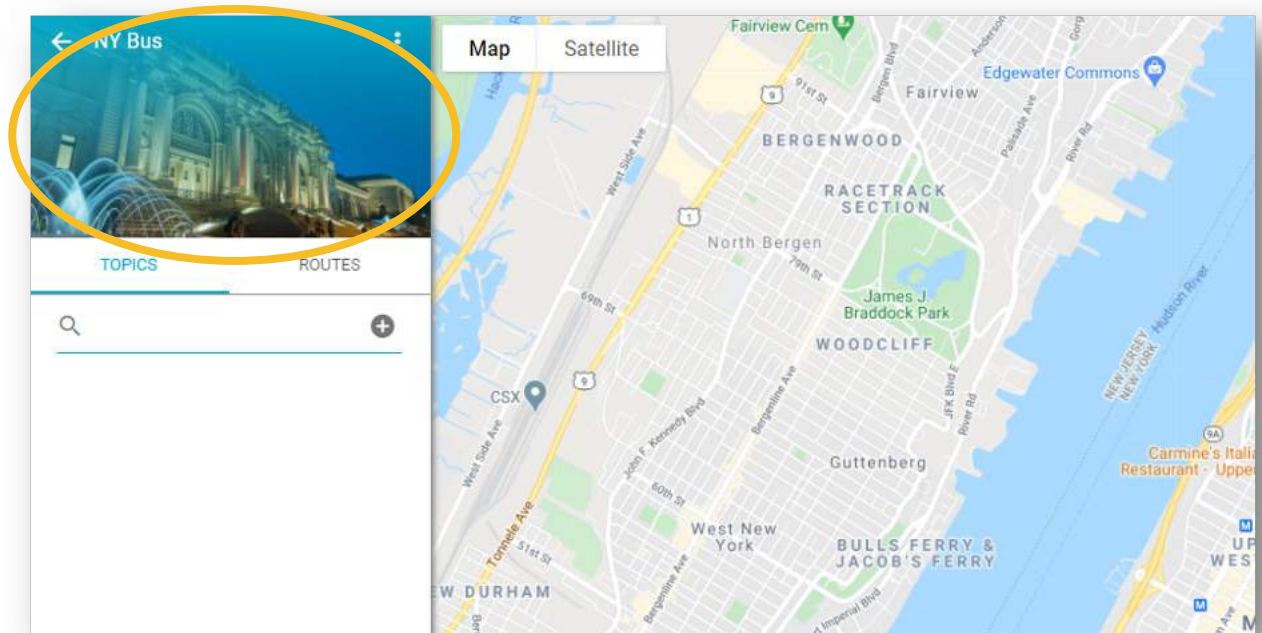
The map will refresh, showing the location chosen for the Tour.

Click on the blue **CREATE** button at the bottom of the left-side panel.





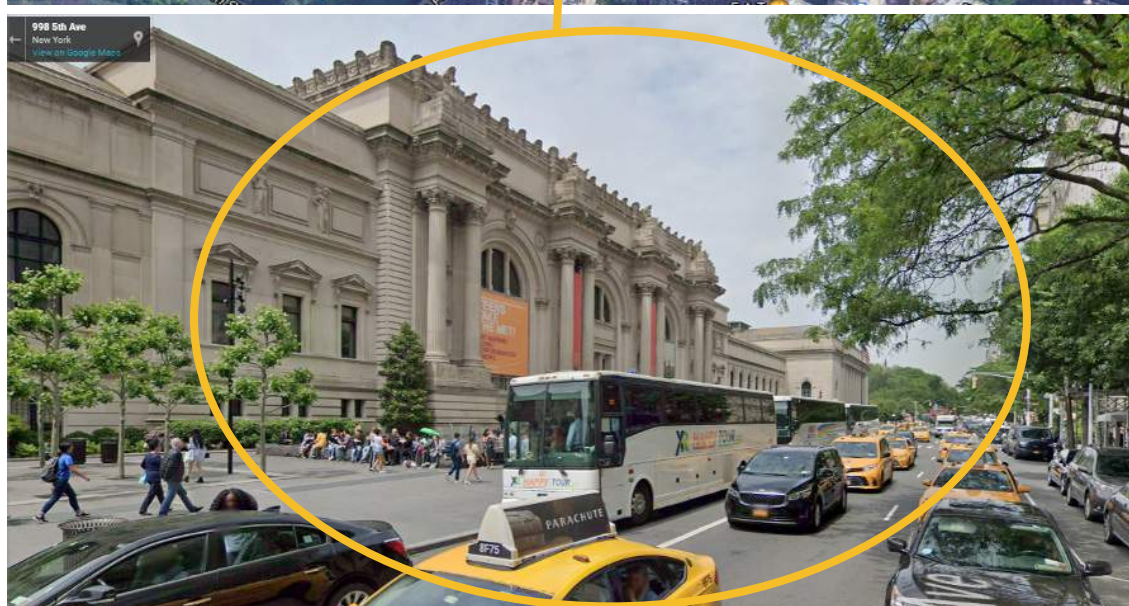
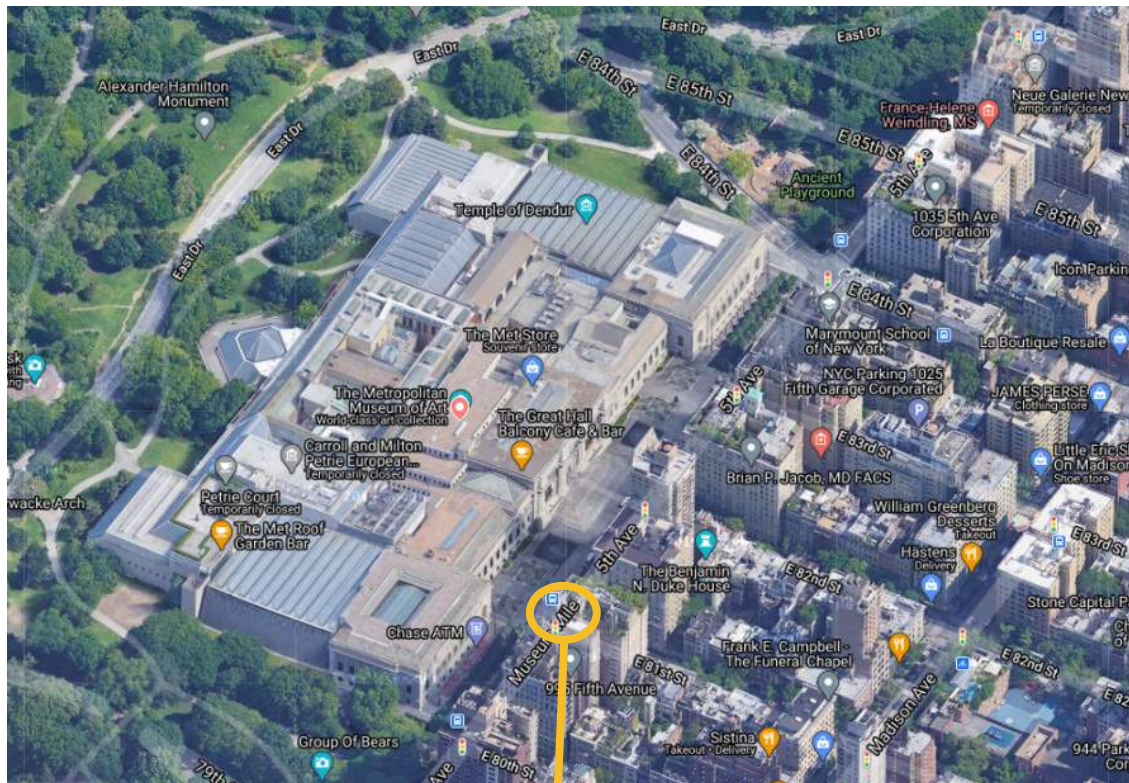
The page will refresh with the name of the tour appearing at the top of the left-side panel. If Google Maps has a photo for your location, it will appear below it.





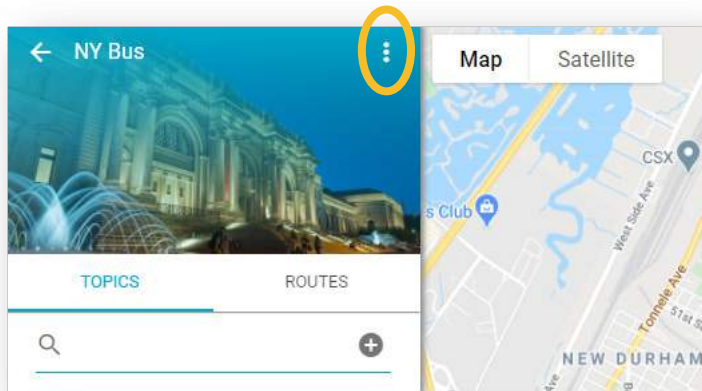
CORTEX AND GOOGLE MAPS INTEGRATION

All functionalities of Google Maps are available within Cortex which will assist you during the development process. These include zoom, satellite view and use of the orange pedestrian for street view. You are looking at the front of the MET (The Metropolitan Museum of Art) from 5th Avenue.





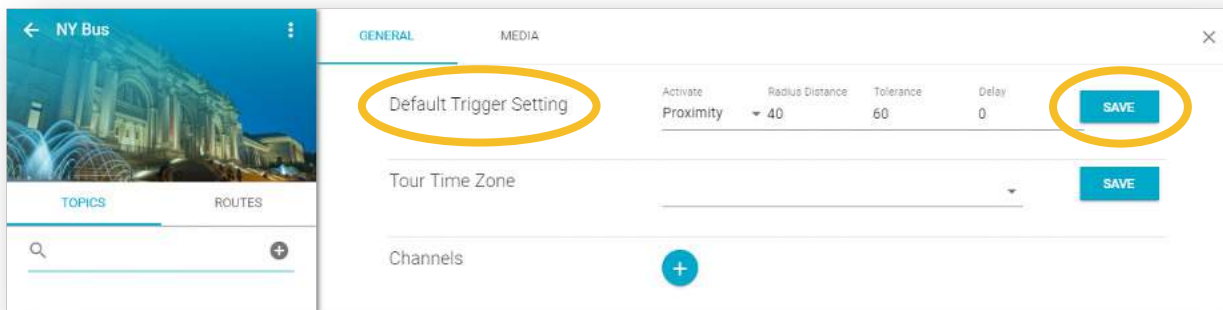
TOUR SETTINGS



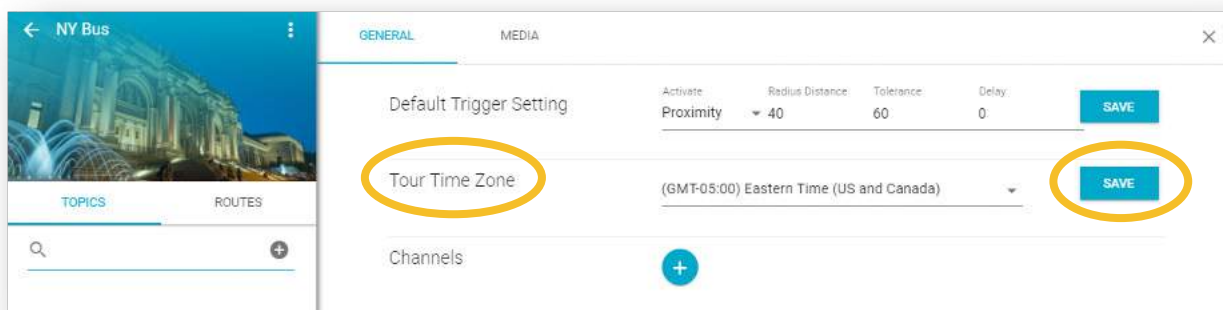
Click on the 3 dots next to the Tour Name at the top of the side panel.

Select **Tour Settings**, from the dropdown menu that appears. The page will refresh to display GENERAL configuration settings for the tour.

Make any changes to the **Default Trigger Settings** as desired. Click **SAVE**.



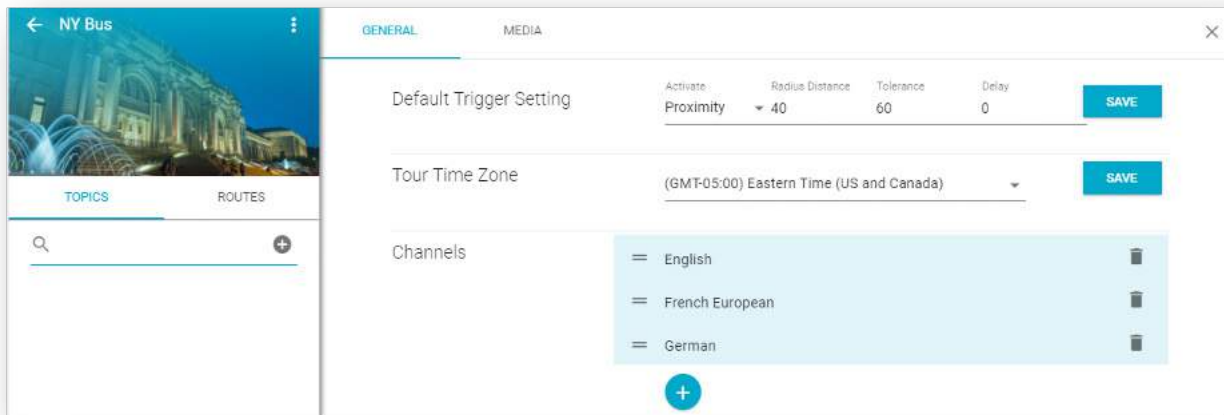
Select the **Tour Time Zone** from the drop-down menu. Click **SAVE**. The time zone must be set when you begin as it supports the analytics functionality within Cortex.





Click on blue plus icon beside **Channels** to see a drop-down menu of available selections.

Select by clicking the applicable checkboxes in the drop-down menu. Click the blue plus button at the bottom when finished.

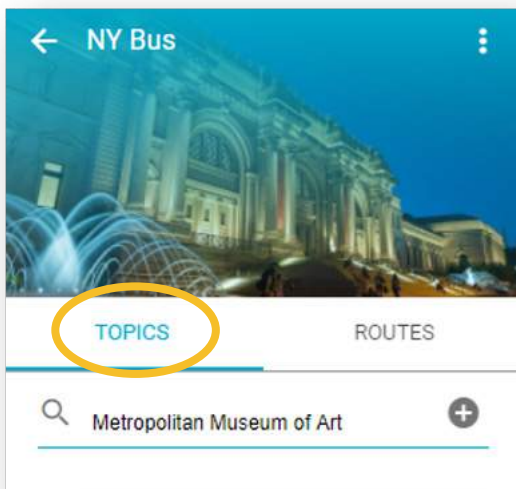


To adjust the order of Channels, click on the channel to be moved, then drag and drop it to the desired position. In the above example, English audio files will play on Channel 1, French European audio will play on Channel 2 and German will play on Channel 3.

Most commonly, a channel represents a language. A channel can also represent a theme such as: English Kids, English Architectural, or English Historical.

Pre-defined channel prefixes are loaded into Cortex by Listen Technologies support. Contact us if you require the addition of a new channel prefix.

Important: Changing channels once you have started to run your tour, will affect the data gathered for analytics.



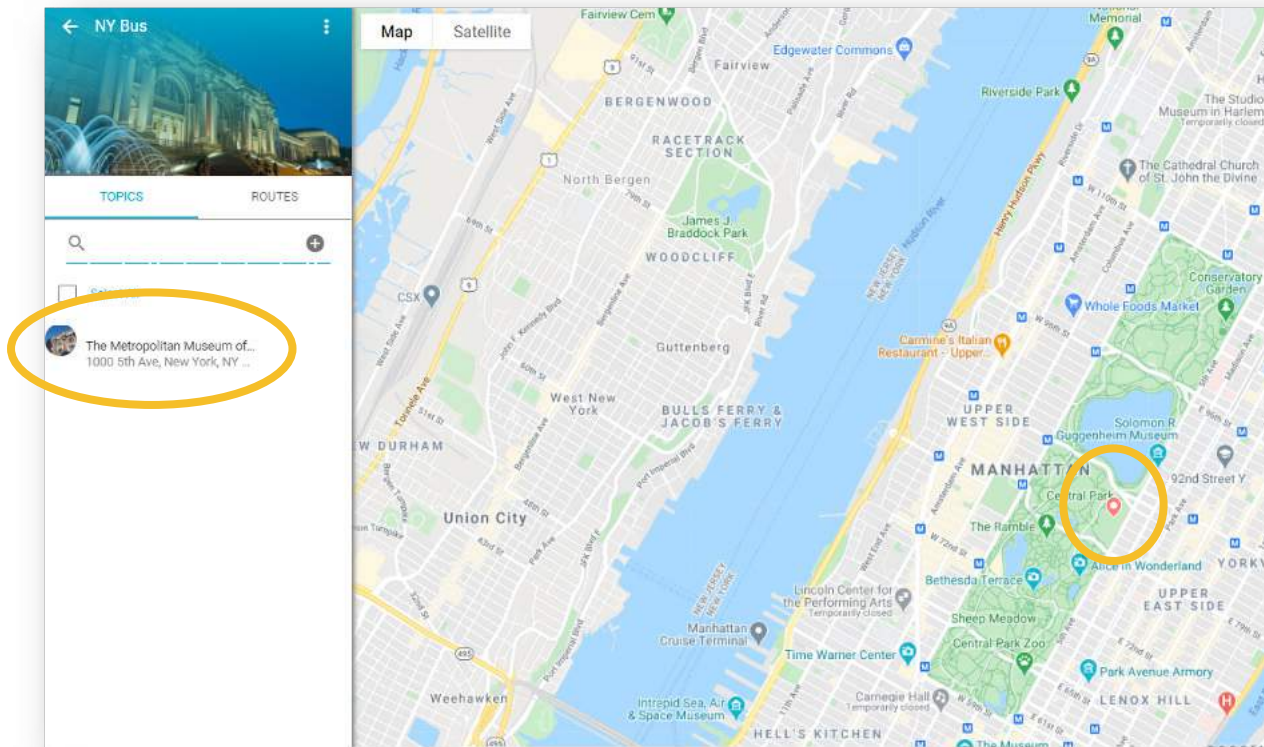
CREATING A TOPIC

Using the left side panel, under the **TOPICS** view, start to type the name of the topic of interest to be included in a route.

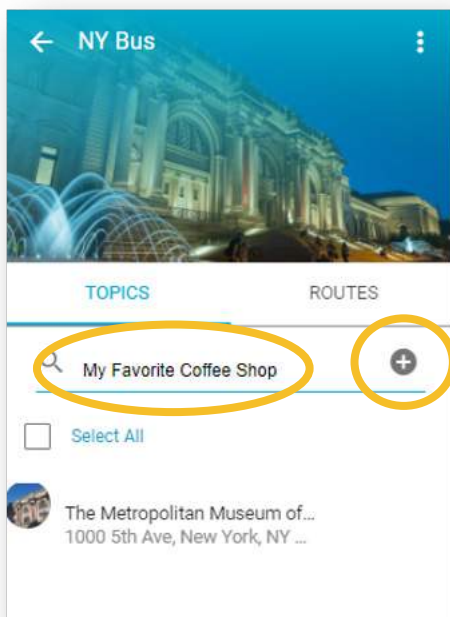
Google Maps will produce a dynamic list of possible matches.

When you see the correct topic name, select it then click the grey plus icon to the right.

The side panel will list the topic and google maps will identify the location on the map by dropping a pin (an inverted red teardrop). Repeat this process to add as many Topics as required.



When Google Maps has an associated photo, it will be seen to the left of the Topic. When not available, a purple icon with a letter T will appear next to the topic.

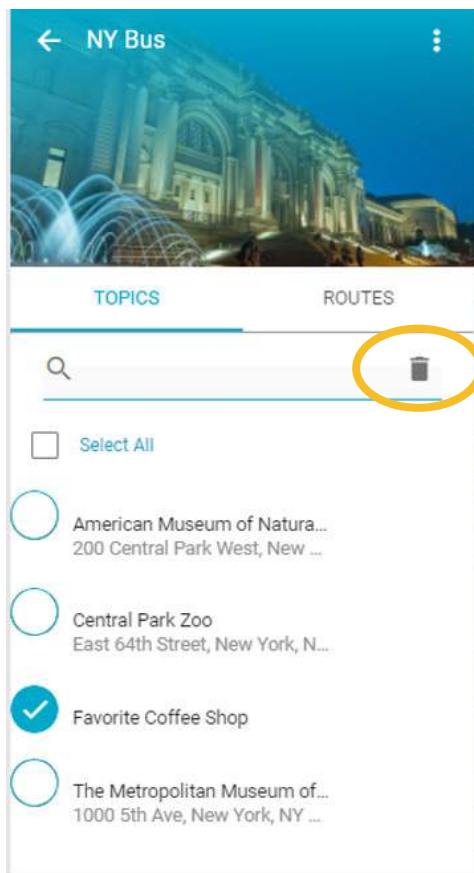
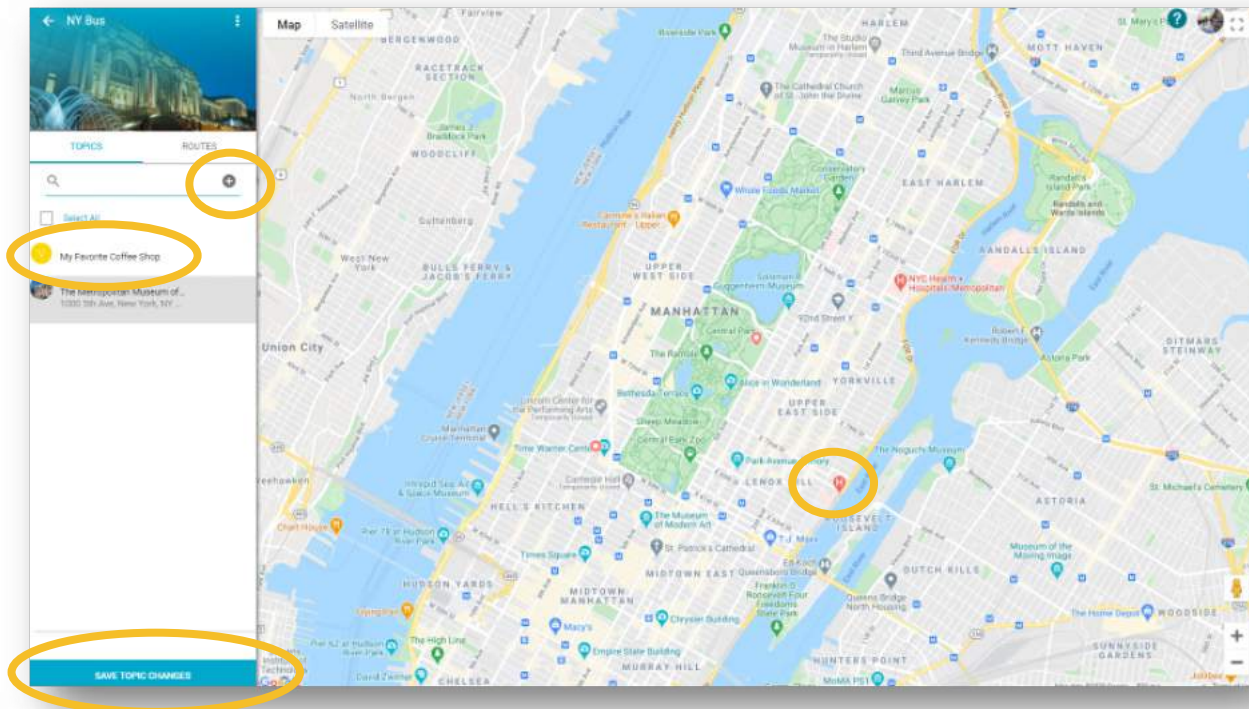


CREATING VIRTUAL TOPICS

When Google Maps is unable to find a Topic, you can create a Virtual Topic. Type the name of a topic then click the grey plus icon next to the name.

Google Maps drops a red circle on the map which can then be dragged and dropped to the desired location.

Once positioned, click SAVE TOPIC CHANGES. The Topic is added to the left panel with a yellow icon with a letter V to its left to indicate it is a Virtual Topic.



DELETING A TOPIC

If required, a topic can be deleted from the list of Topics. Select the thumbnail to the left of the topic then click the grey trash icon.

A pop-up window will appear to confirm that the topic should be deleted. The message will vary depending on how the topic has been used.

If the topic has yet to be assigned to a Route, the message will indicate that the topic will be deleted from the list of Topics.

If it has already been assigned to one or more Routes, the message will indicate each Route that the Topic will be deleted from.

If more than one topic is selected for deletion, multiple messages will appear in the pop-up window to identify what will happen if the DELETE button is clicked.

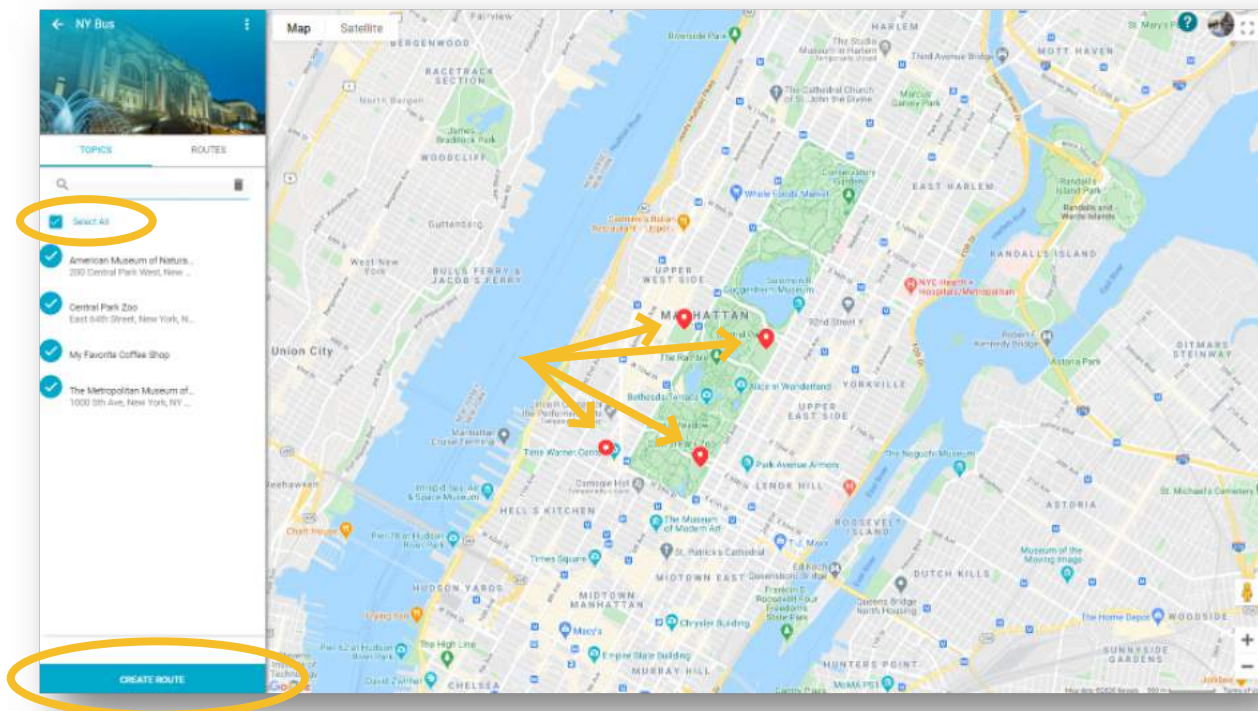


ROUTE BUILDING

CREATING A ROUTE

From the list of **TOPICS**, click the thumbnail for each one you want to include in a route or, if all topics are required, check the **Select All** box at the top of the list.

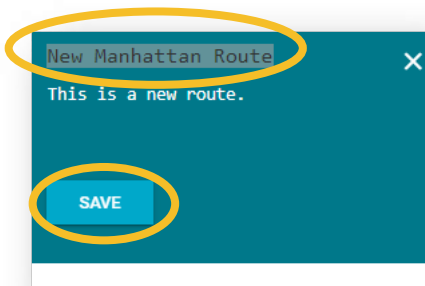
To de-select a topic, click the thumbnail next to the topic in the list.



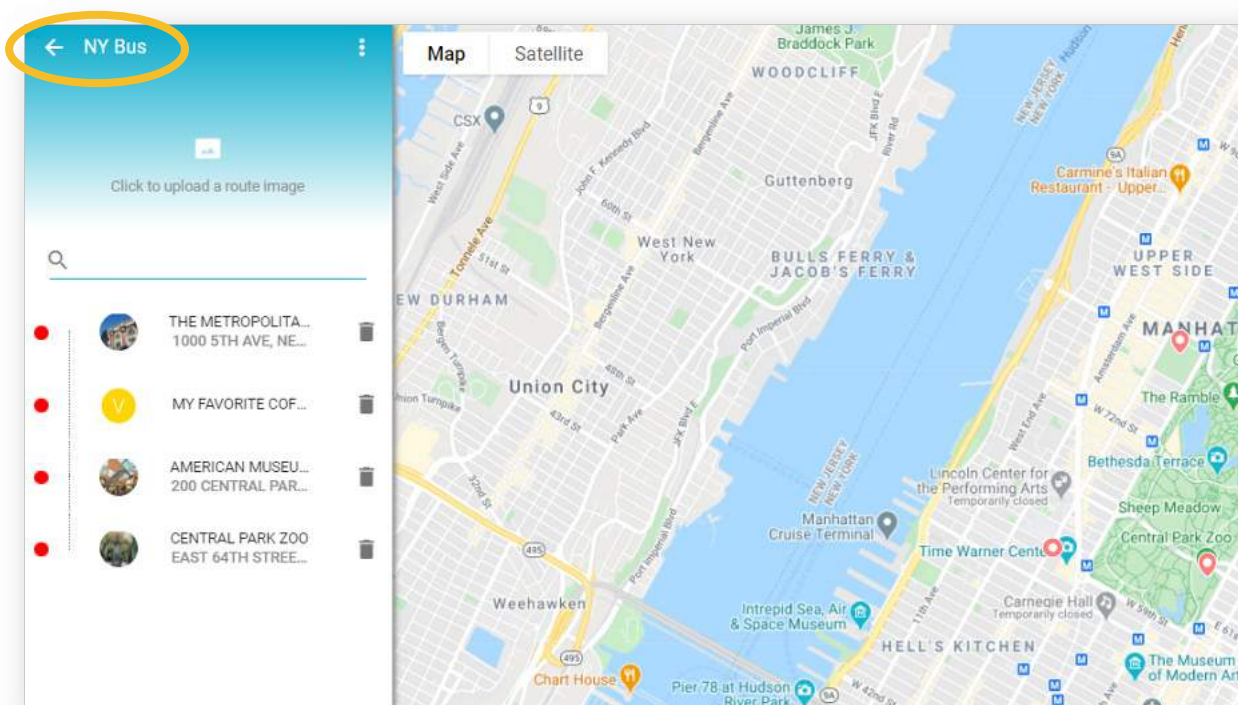
Next, click the blue **CREATE ROUTE** button at the bottom of the side panel.

The Topics will appear in red on the map. When hovered over, they show the name of the location.

A temporary route name will appear at the top of the side panel which can be changed. Highlight the name, delete, then type in your desired name followed by clicking the blue **SAVE** button.



The screen refreshes with the new route name and associated Topics displayed on the side panel.



By default, Topics display in alphabetical order. Once you create a Route, it will be possible to reorder them as desired using the drag and drop feature.

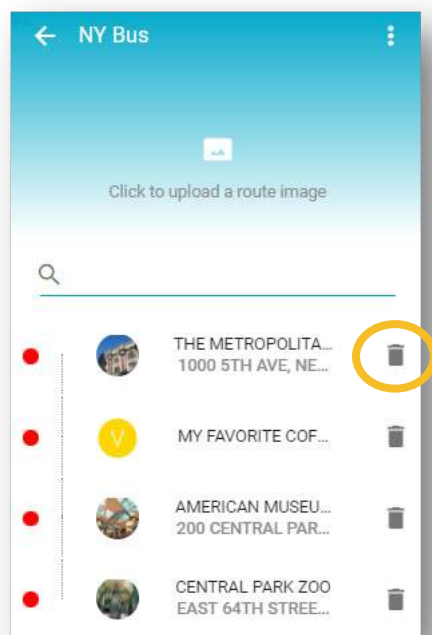
Moving your cursor over a Topic in the side panel will highlight its location on the map as well as open the white bubble with the Topic Name.

Moving your cursor over a Topic icon on the map will highlight the name on the left panel.

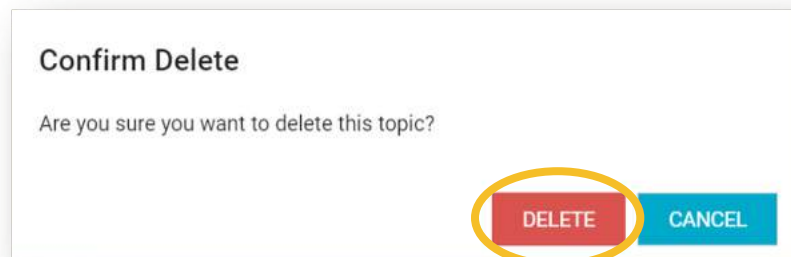


DELETING A TOPIC FROM A ROUTE

If you decide that a Topic you added to your Route needs to be removed, click the trash can icon that appears to the right of the Topic Name.



A pop-up window will appear, asking if you want to delete the Topic. To confirm the delete request, click the DELETE button.

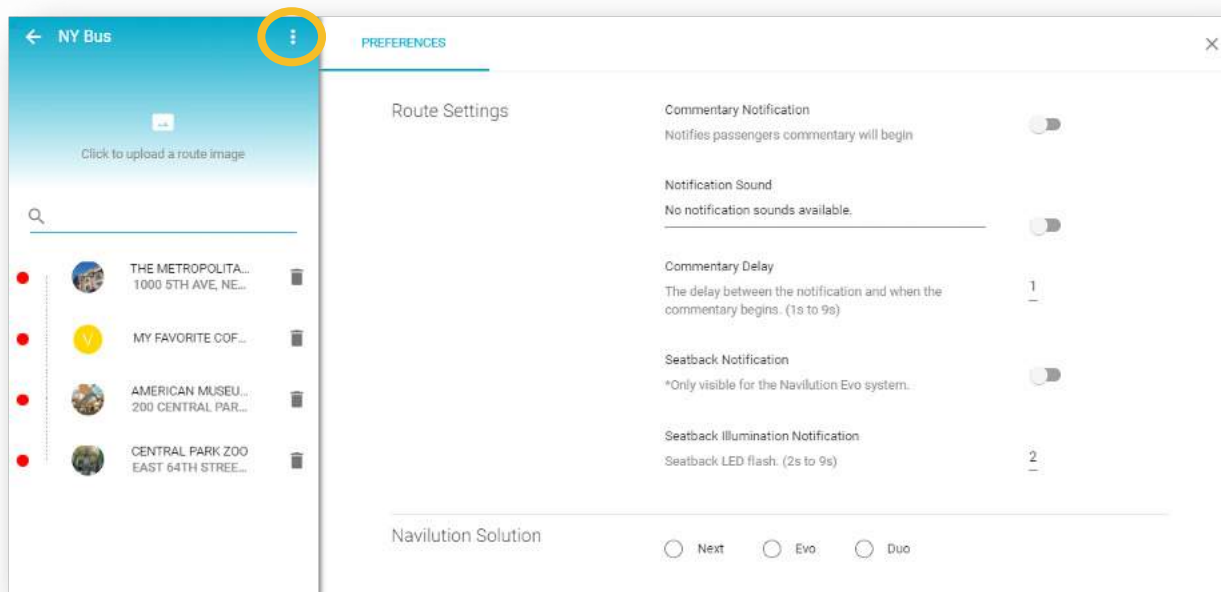


The Topic will be removed from the Route you are in. It will remain available in the list of Topics so it can be used in other Routes.

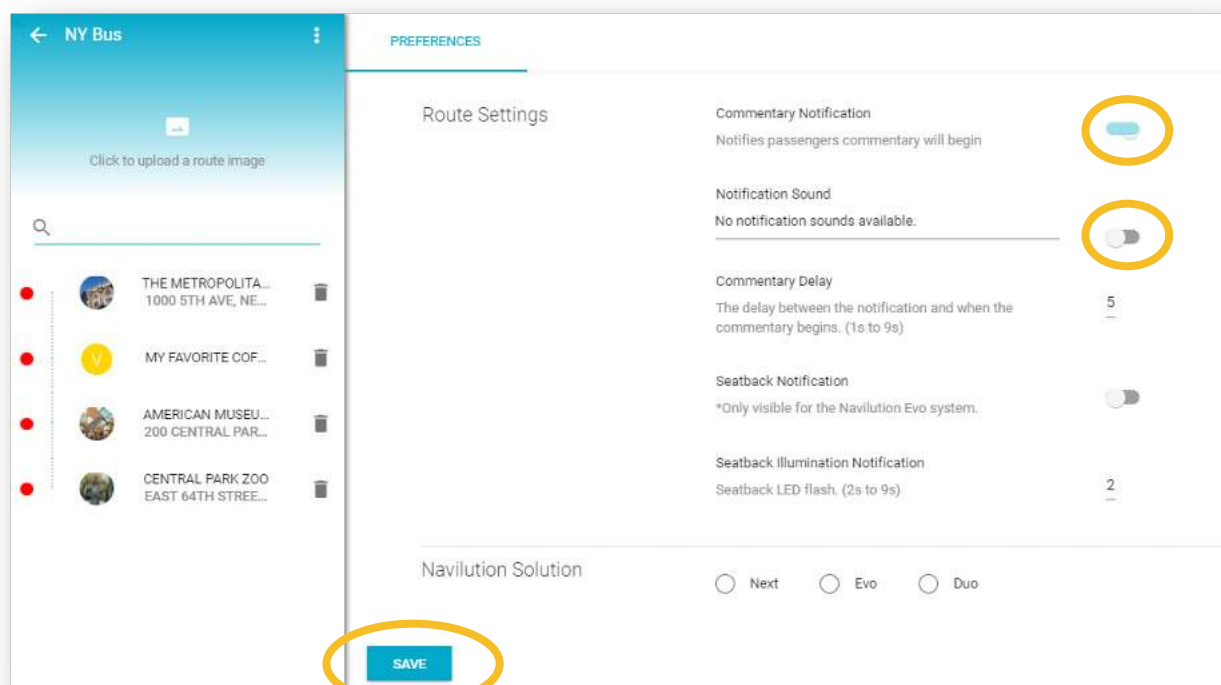


ROUTE SETTINGS

Click the 3 dots next to the Tour Name at the top of the side panel. Select **Route Settings**.



Commentary Notification, *Notification Sound* or *Seatback Notification*, are enabled by sliding the corresponding option to the **ON** position. The bar will turn blue, indicating the feature is active. To activate *Commentary Delay* or *Seatback Illumination Notification*, enter the desired delay length in seconds. The entered values will appear. Click the blue **SAVE** button.





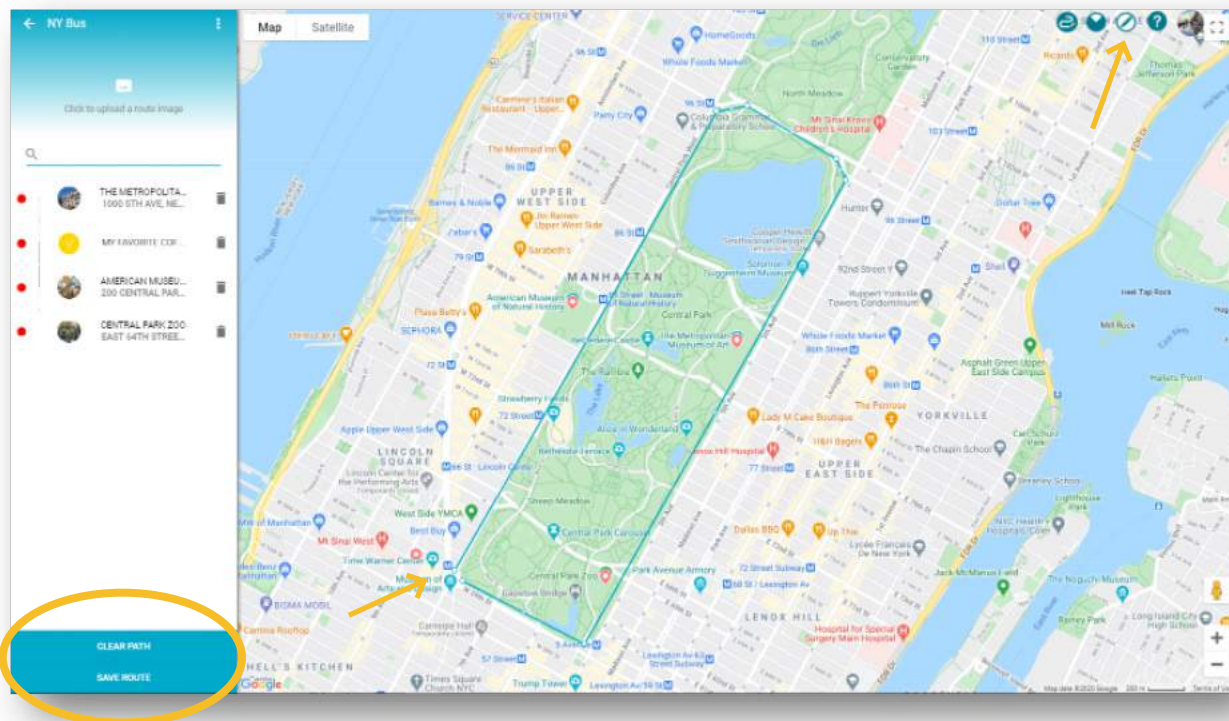
DRAWING A PATH WITHIN A ROUTE

Important: Path Drawing is Cortex tool that has no bearing on programming of the Navilution® system. It is however a favorite of most users as it is extremely useful during the design process, where the blueprint for the experience is created. It is used conceptually as to more easily visualize routes as well as alternate to be considered.

PRIMARY PATH

Click on the pencil icon in the top right corner of the map, then click on the map where you want to begin to draw.

A small blue circle will appear at the location you selected. Move the cursor to the next desired location and click to begin drawing the path. Continue until you have completed your route. If refinement or a change to the path is required, click on any of the small blue circles along the route, then drag and drop to the desired location.



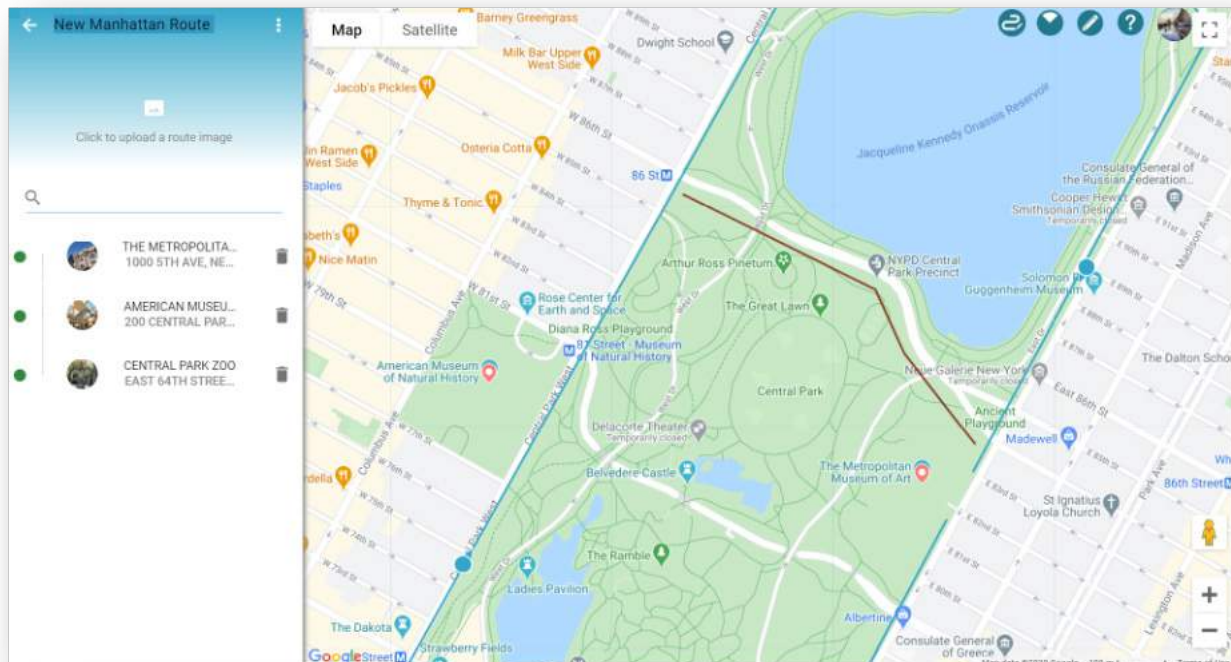
You can clear your path at any time using the **CLEAR PATH** button at the bottom of the left side panel.

To save your path, click on the blue **SAVE ROUTE** button at the bottom of the side panel. It is possible to build part of your path, save then return to finish it later. If you do this, drawing will continue from the last position you marked on the path.



ALTERNATE PATH

Click on the curved line icon to indicate an alternate path. This works in the same manner at the primary path editor, allowing for the identification of alternates within the Route.



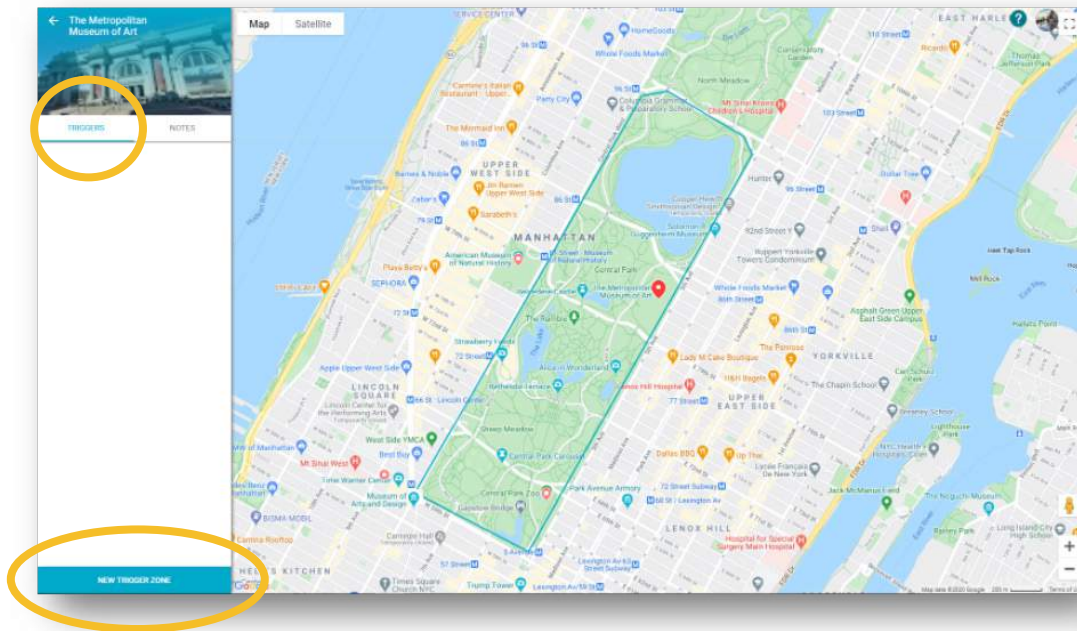
DELETING POINTS FROM A PATH

To delete points on the route path, turn on the appropriate Path Editor, then right click on the point to be deleted. Click the delete message that pops up. Click **SAVE ROUTE** when finished.

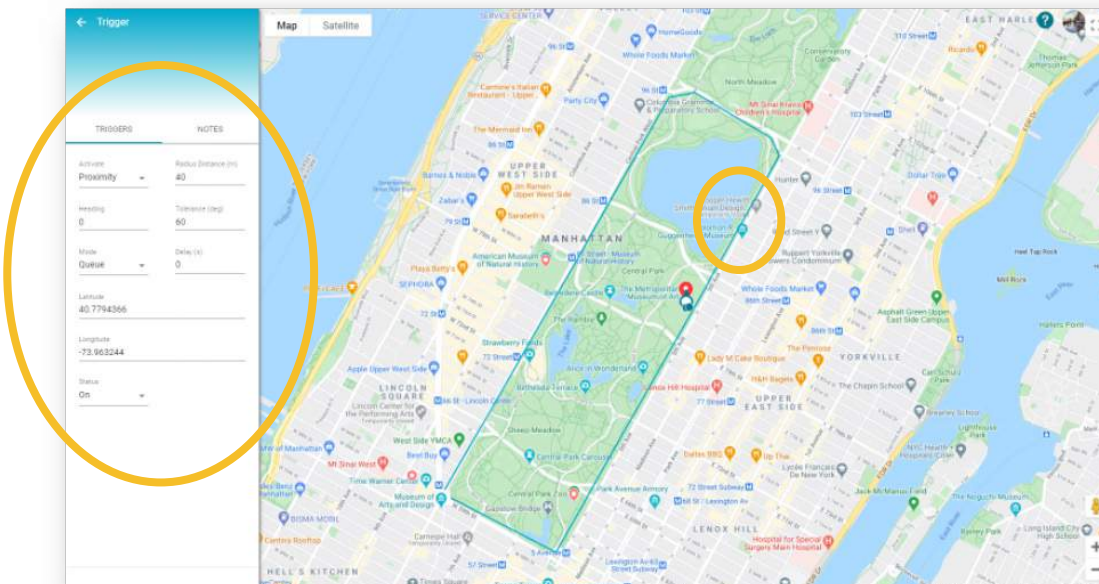


CREATING A TRIGGER ZONE IN A ROUTE

In the saved route, click on a TOPIC from the side panel. The page will refresh to display the **TRIGGERS** side panel. Click the blue **NEW TRIGGER ZONE** button at the bottom of the left side panel.

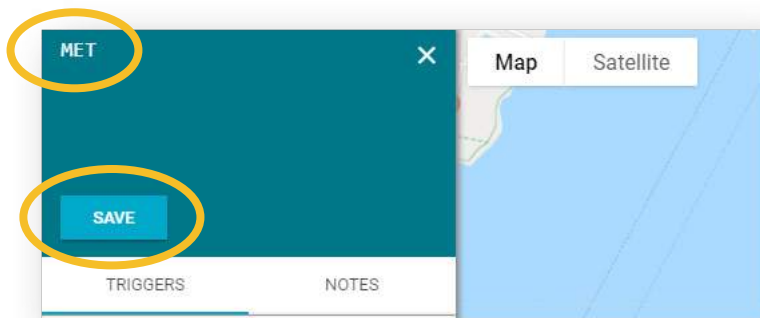


The page will refresh to display a map marker directly on the GPS coordinates that Google Maps provided for the topic. The GPS coordinates as well as the default Trigger Zone values will appear on the left. These values can now be customized as required.

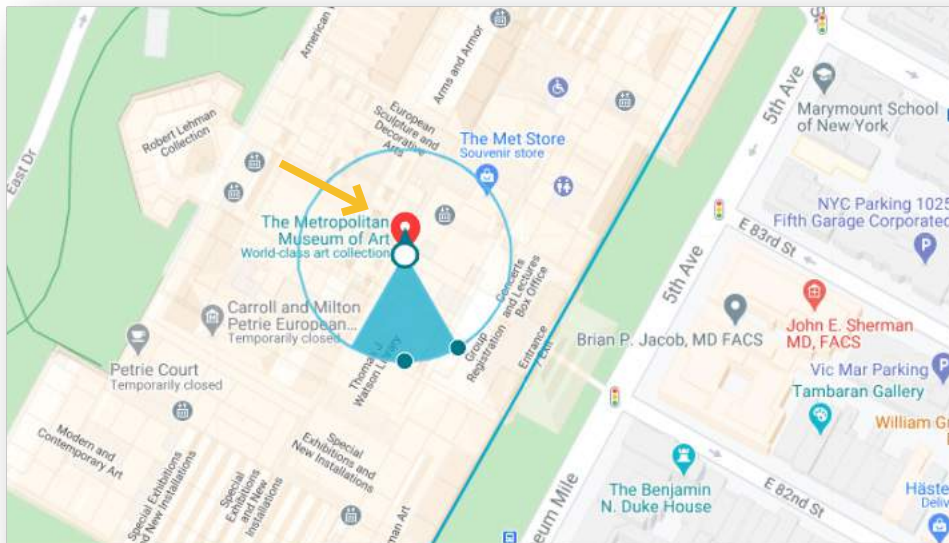




Trigger Zones can be renamed at this point by highlighting the word Trigger that appears at the top of the side panel and entering the desired name. It is recommended that the name of the media file to be played when the vehicle reaches the Trigger Zone be used. Click the blue SAVE button.

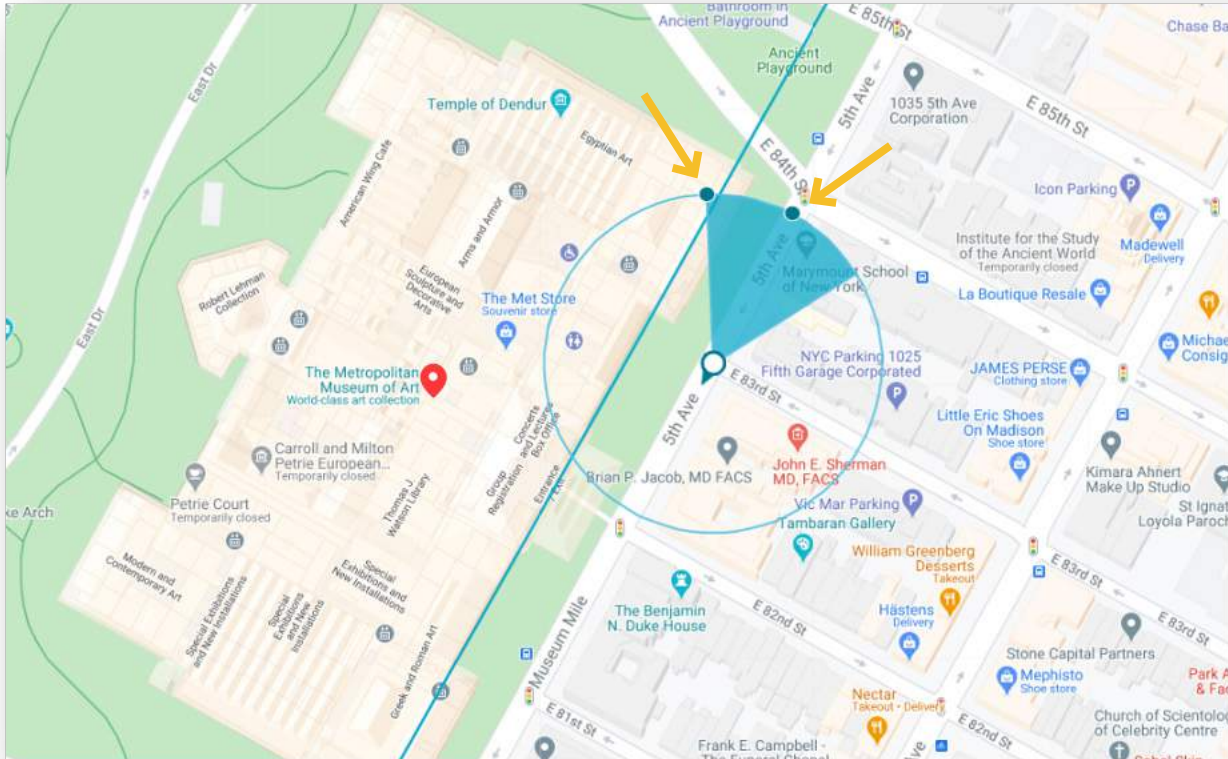


Next, click on the blue map marker to customize the Trigger Zone parameters.





Click on the center white circle then drag and drop the marker to the map location where the media file should begin to play. The **Latitude** and **Longitude** values in the left panel will update automatically as the Trigger Zone is moved.



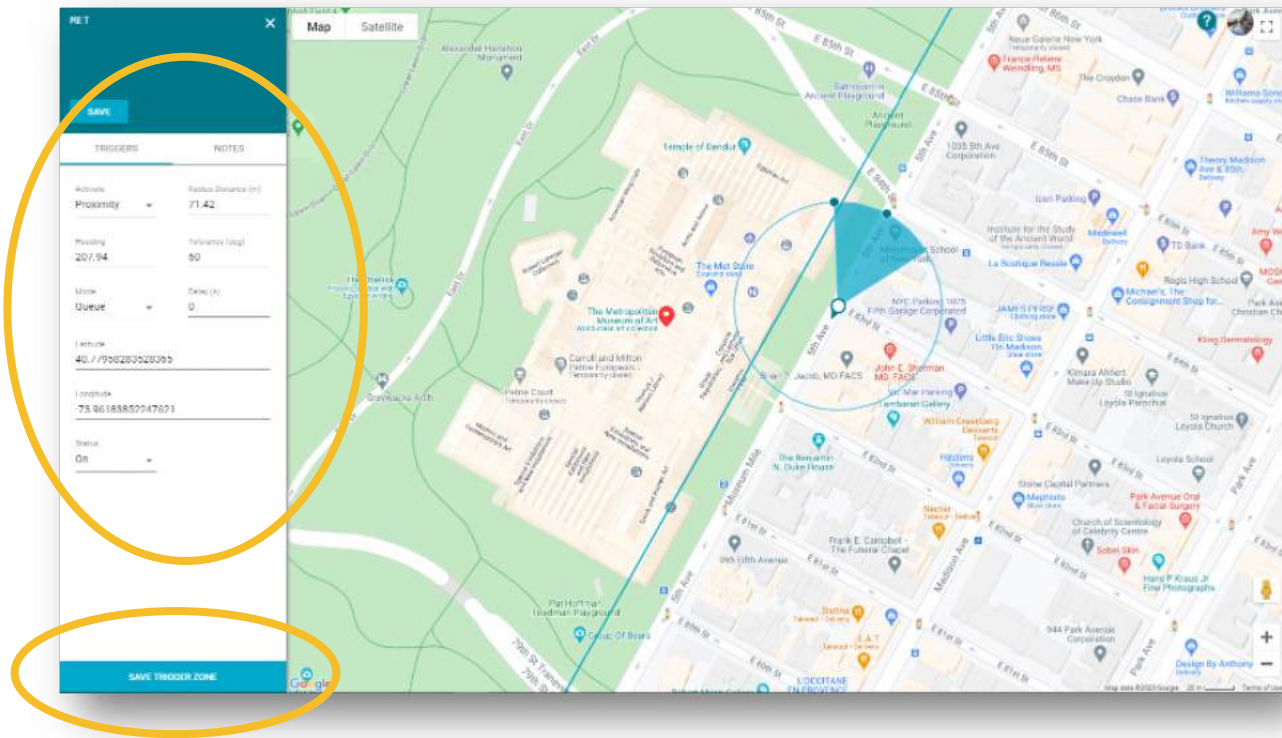
The small blue dot at the center of the blue shaded area adjusts both the **Radius Distance** which is the size of the Trigger Zone and the **Heading** which determines the direction of travel required for media to play. Click on it and drag towards or away from the center to adjust size. Dragging around the circumference of the Trigger Zone will adjust directionality. The small arrow at the center indicates the direction of travel required for media to play, in this example, travel in a southerly direction is required.

Important: The Radius setting can support a radius as low 10m to as big as 10,000m. A setting outside of these parameters will result in an error message.

The small blue dot at the outer edge of the blue shaded area adjusts **Tolerance**. This parameter further defines directionality requirements for the Trigger Zone.



All movements using drag and drop automatically update associated values on the left panel.



When the Trigger Zone is in the correct position, click on the blue **SAVE TRIGGER ZONE** button at the bottom of the side panel.

Important: Cortex supports a maximum of 120 Trigger Zones per route. An error indication will be received when attempting to add more.



ADDITIONAL PARAMETERS FOR TRIGGER ZONES

ACTIVATE

The Activate parameter defines where within the Trigger Zone media files will play.

| SETTINGS | NOTES |
|---------------------------------|------------------------------|
| Activate Proximity ▼ | Radius Distance (m) 71.42 |
| Heading 207.94 | Tolerance (deg) 60 |
| Mode Queue ▼ | Delay (s) 0 |
| Latitude 40.77958283528365 | |
| Longitude -73.96183852247621 | |

Three setting options available:

Proximity is the default setting. It activates media when the vehicle is closest to the center of the Trigger Zone.

Enter triggers media to play as soon as the Trigger Zone recognizes that a vehicle has moved into the Trigger Zone.

Exit triggers media to play once the Trigger Zone recognizes that the vehicle has left the Trigger Zone.



MODE

Mode determines how the system handles media when encountering a Trigger Zone.

| SETTINGS | NOTES |
|---------------------------------|------------------------------|
| Activate Proximity | Radius Distance (m) 71.42 |
| Heading 207.94 | Tolerance (deg) 60 |
| Mode Queue | Delay (s) 0 |
| Latitude 40.77958283528365 | |
| Longitude -73.96183852247621 | |

Three setting options available:

Queue is the default setting. When a Trigger Zone is set as Queue, media from a newly discovered Trigger Zone will not begin to play until the currently playing media finishes. It will hold this media until the previous ends before playing.

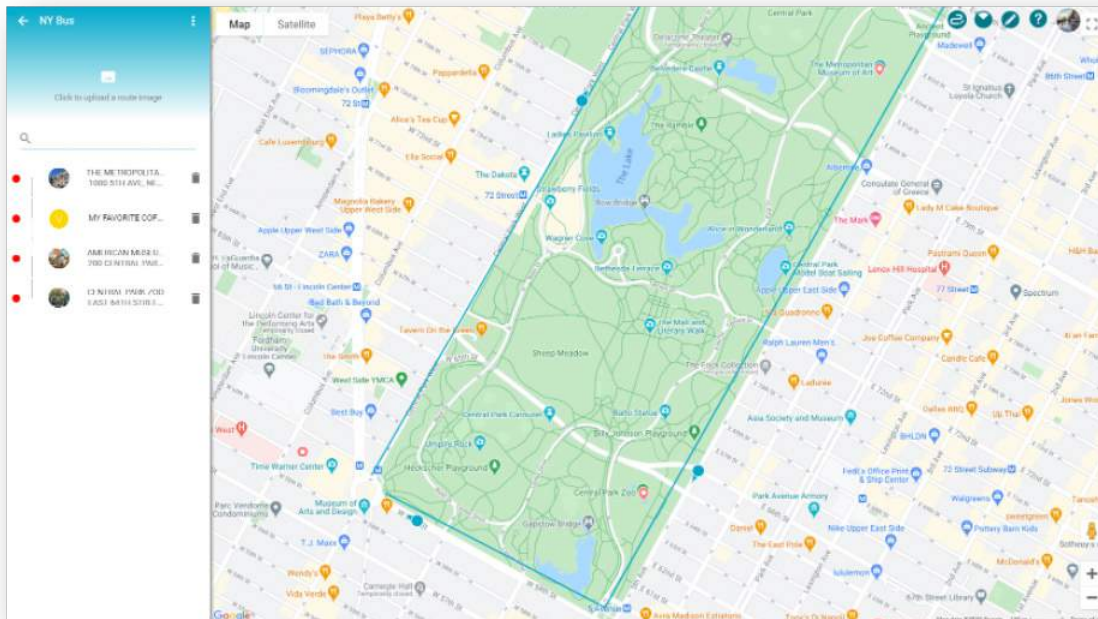
Ignore means media associated with a newly discovered Trigger Zone will not play if other media is already playing. This setting is often used where travel times vary, allowing for the layering in of content when required.

Interrupt means media playing will stop abruptly when a new Trigger Zone is encountered. This setting tends to be used only when demanded for operational requirements.

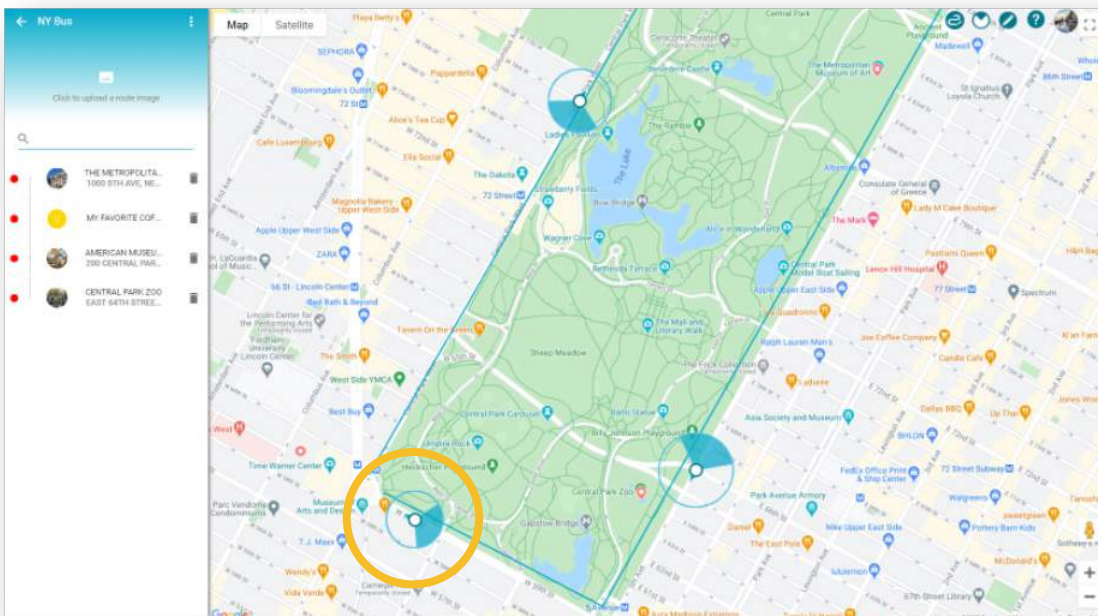


CHECK THE ROUTE USING TRIGGER ZONE TOGGLE

After placing Trigger Zones along the ROUTE, use the Trigger Zone Toggle feature to evaluate for any placement issues. Select the ROUTE to be checked the click the icon that is shaped like a Trigger Zone in the upper right corner.



The map will change to show full Trigger Zone details.



To exit the full Trigger Zone view, click on the Trigger Zone icon again.

Important: Whenever possible avoid the overlapping of Trigger Zones. Zoom in to verify that customization is correct and as desired.



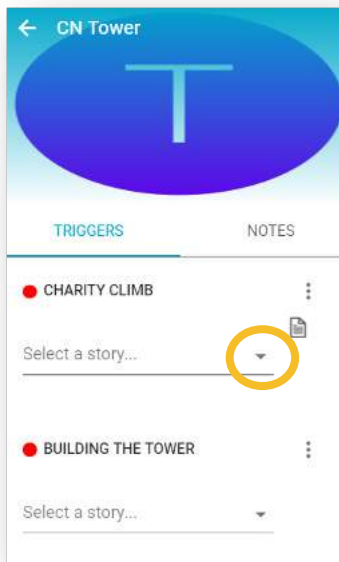
ASSIGNING MEDIA

ADDING STORIES TO TRIGGER ZONES

Stories are automatically triggered when Trigger Zone parameters have been met. Stories are assigned to each Trigger Zone at the Route level. Assign each story once all audio and video files have been uploaded to the library, following the upload process previously discussed.

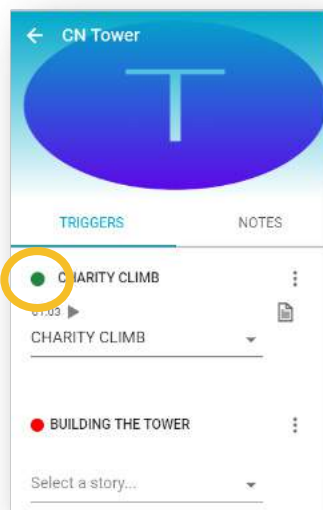
Important: If video files are added after the stories are assigned, it will be necessary to re-attach the stories in Cortex for the new video file to be recognized.

Once you are in the chosen route, click on a TOPIC.



Click the small grey triangle beside Select a story to see available media files. Select the media file that should play. Once selected, media file for all channels selected will automatically save to the Trigger Zone. Triggers that have a video associated with them will display a camera icon next to the story name.

When a story has been added and is available in all channels identified under settings, the indicator beside the Trigger Zone will change from red to green, as in the example shown.



Continue adding stories to all Trigger Zones within the Route.

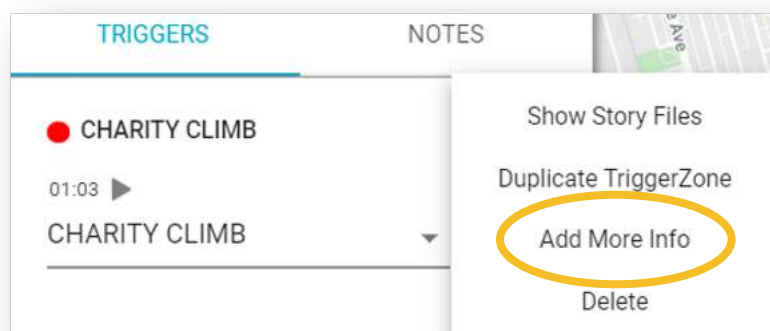


ADDING MORE INFO

Cortex will allow for one additional story to be added to a Trigger Zone as **MORE INFO**. The listener, has the choice of listening to this audio or not. This functionality is available only for EVO systems, accessed using the seatback controller.

Any number of Trigger Zones can have MORE INFO added however each Trigger Zone will only support one additional audio segment. Video is not supported in MORE INFO.

To add MORE INFO, click on the three dots to the right of the Trigger Zone name and select **Add More Info**.



Click the small grey triangle beside Select a story to see available media files. Select the media file that should play. Once selected, the file will automatically save to the Trigger Zone.

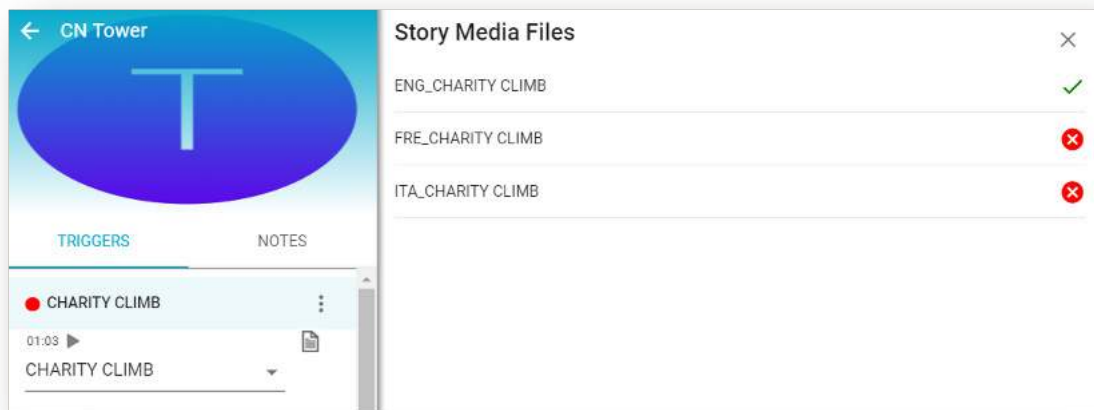
When a story has been added and is available for all channels, the Trigger Zone indicator light will be green.



VERIFYING MEDIA FILE ASSOCIATION WITH A TRIGGER ZONE

To verify correct association between a Trigger Zone and a media file, hover over the name of the Trigger Zone and then click on the 3 dots that appear. Click Show Story Files.

A list of successfully uploaded media files, with the 3-letter channel prefix, for that Trigger Zone will appear to the right. A green check mark appears when media has been assigned correctly, while a red x appears if a file has not been successfully uploaded.



In this example, while we have added a story to the Trigger Zone, media files are missing for two of the channels, French and Italian. The indicator to the left of the Trigger Zone – CHARITY CLIMB will remain red until these two files are uploaded to the library.

USING THE SAME STORY MORE THAN ONCE

A story can be used more than once... within a route or in more than one route.

Within a route, create a separate Trigger Zone to identify each location where you want the story to play.

Example:

In heavy traffic, varied paths for travel may be used. The story would play on each of the alternate paths by setting a Trigger Zone in more than one location.

To use a story in more than one route, add the TOPIC that the story is associated with to each route.

Example:

Toronto's CN Tower can be seen throughout the city and, as such, any route created could include one or more stories about the tower. Add the CN Tower topic to each route and select the story.

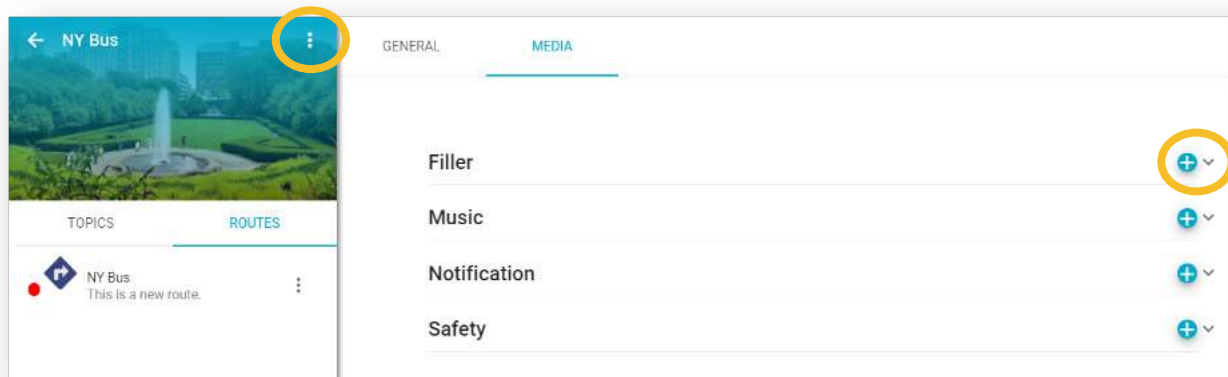
Important: Once a story is associated with a topic, it cannot be associated with a different topic.



ADDING FILLERS, MUSIC, NOTIFICATION SOUNDS AND SAFETY

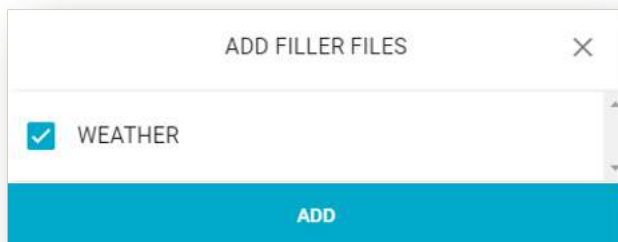
These files are added at the tour level.

The three-dotted icon that appears beside the tour name in the top right-hand corner of the side panel. Select **Tour Settings**. Select the **Media** tab.



Fillers, **Notification Sounds**, **Music** and **Safety** media files uploaded to the library must be added to a Tour by clicking on the blue plus icon opposite the corresponding section.

A new box will appear with all media files that were previously uploaded to that section of the library.



Click the checkbox beside each media file needed for the tour location, then click the blue ADD button at the bottom of the box. The media file name appears under the section heading.

To remove a file, click on the trash icon to the right of the media file.

WHAT DO THE RED AND GREEN DOTS MEAN?

These dots are indicators that assist in letting you know when the information needed in Cortex is complete. Red indicates there is something missing. Green indicates that all requirements are complete. To ensure all requirements for operation of the Navilution® system are satisfied, the red/green indicators appear within Cortex at different levels.

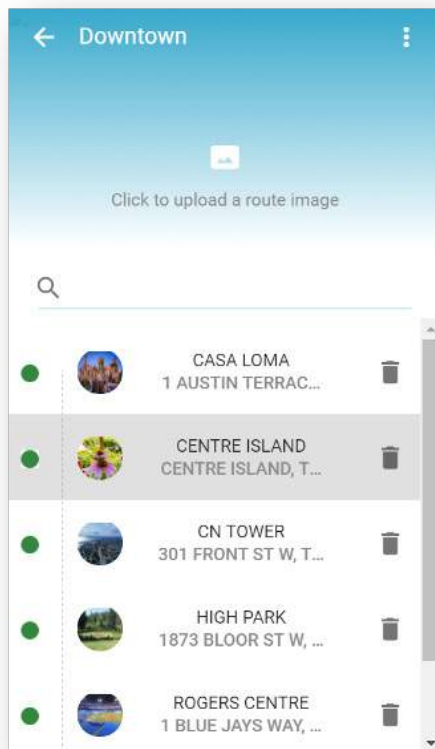


At the Trigger Zone level, each Trigger Zone must have a story attached for each channel the tour has been set up for. Additionally, if files are in the incorrect format, the indicators will remain red.

The screenshot shows the Cortex Software interface for configuring a trigger zone named 'CASA LOMA'. The interface is divided into two main sections. The left section, titled 'CASA LOMA', has a header image of a large, ornate building. Below the header, there are two tabs: 'TRIGGERS' (selected) and 'NOTES'. Under the 'TRIGGERS' tab, there is a green circular indicator next to the text 'CASA LOMA', followed by a play button icon and the text '00:55'. Below this, the text 'CASA LOMA' is displayed with a dropdown arrow. The right section, titled 'Story Media Files', lists four audio files: 'ENG_CASA LOMA', 'GER_CASA LOMA', 'ITA_CASA LOMA', and 'SPE_CASA LOMA'. Each file name is followed by a green checkmark, indicating that the files are in the correct format.

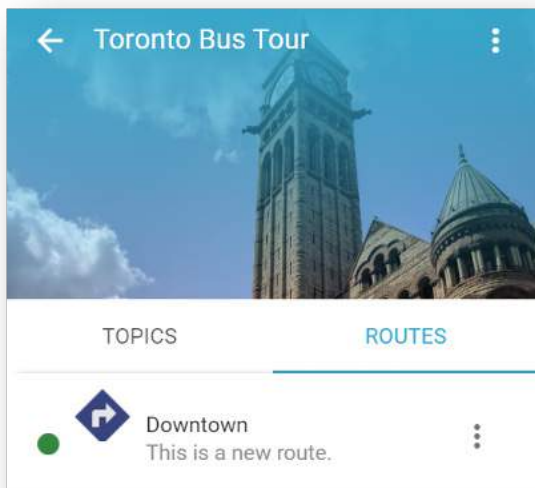
In this example, the indicator for the Trigger Zone is green. All four languages as defined under settings are available and are in the correct format, as indicated by the check marks to the right of the audio file names.

At the Topic level, each topic in the route must have at least one Trigger Zone associated with it.



In this example, 5 Topics are completed as identified by the three indicators which are green.

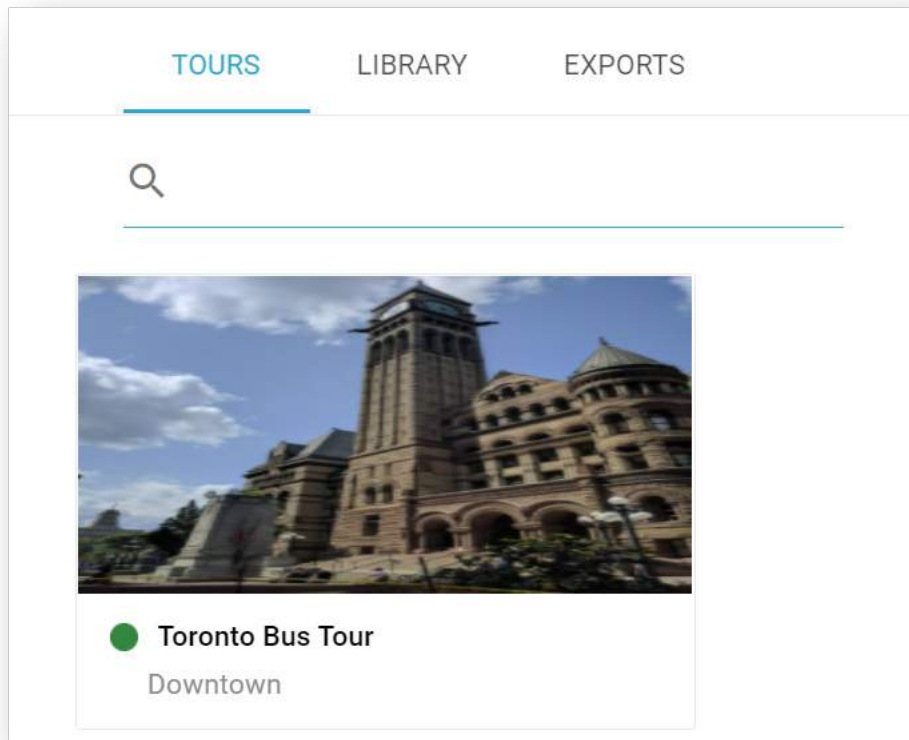
At the Route level, the route is considered complete when each Topic has at least one Trigger Zone, to which a Story has been attached for each Channel.



In this example, the Downtown route is complete, as identified by indicator which is green.



At the Tour level, look for the indicator adjacent to the Tour Name. When green, the Tour is complete and ready to Export. If red, drill down to find where information is missing.



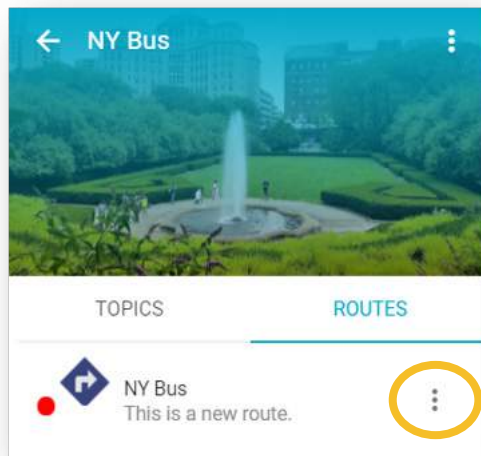
COPY A ROUTE WITHIN A TOUR

Cortex includes a feature that allows for the copying of Routes. The copy can then be renamed and located beneath the same Tour or it can be moved to another Tour.

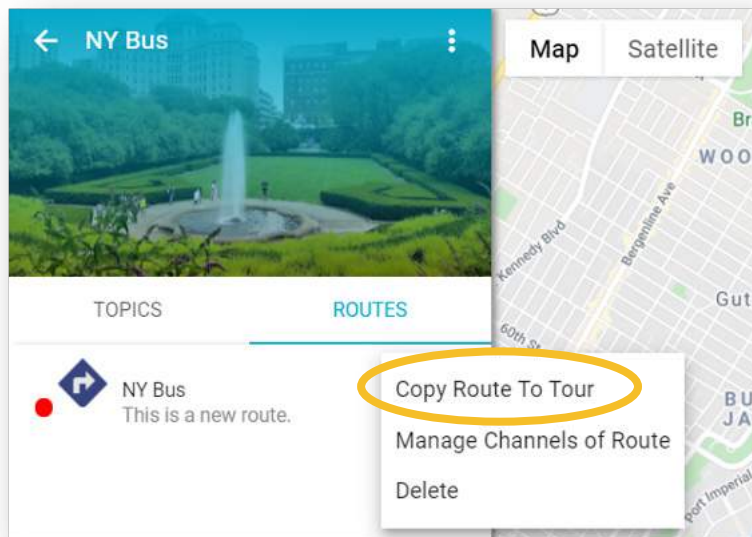
When a Route is copied, all Topics, Trigger Zone parameters, Stories and MORE INFO content is carried into the new route. Design notes are **not** copied to the new ROUTE.

Important: Design notes will need to be manually added to the new Route if required. For assistance, refer to the Adding Notes section.

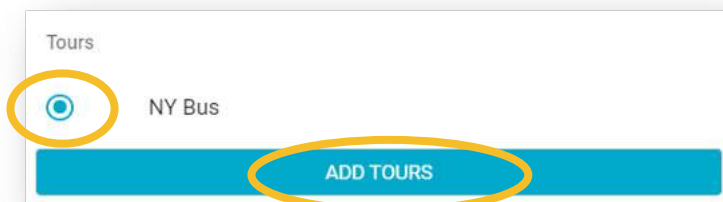
To copy a Route, return to the page that lists all routes within the tour and select the three dots beside the route to copy.



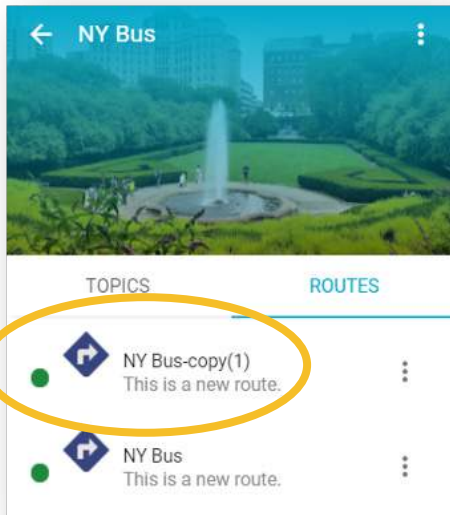
Then, select **Copy Route to Tour** from the list of options.



Then, select which Tour you would like to copy the Route to and click **Add Tours**.



The new (copied) Route will appear in the list of routes within your Tour.

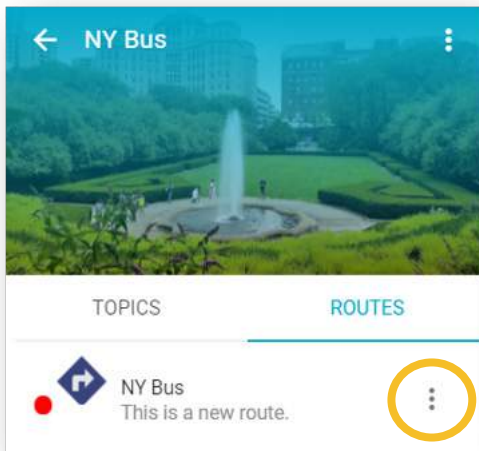


Important: Copying a Route can only be done if the indicator to its left is green. Create your main Routes first, ensuring all indicators are green, then copy it and adjust for the new Route. This new Route may this be customized through the removal of items or the addition of items, keeping the bulk of the route the same. This minimizes your work as you develop multiple routes. An example may be a on season and off season route where a few of the stops have been removed due to access or a day vs night tour where media which direct you to look at something that cannot be seen after dark is replaced with other media.

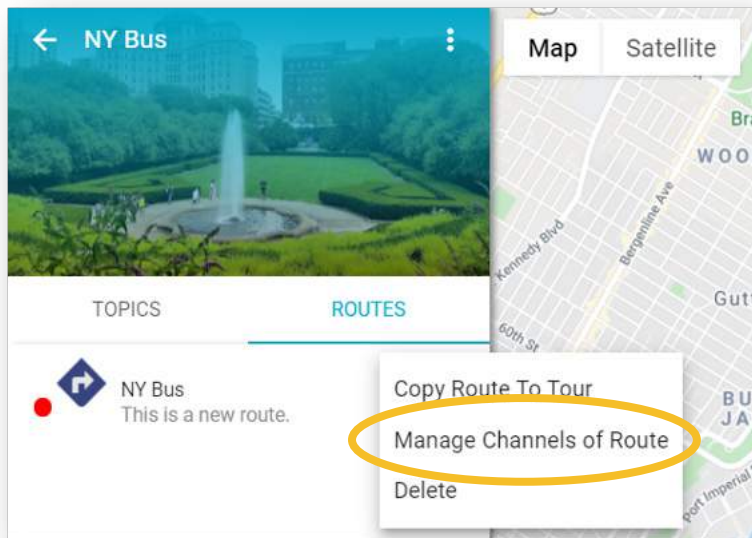
MANAGING CHANNELS WITHIN ROUTE

Cortex includes a feature that allows for the management of channels within each route. This allows for different routes to be created that have different channels associated.

To manage a channel in a route, return to the page that lists all routes within the tour and select the three dots beside the route to manage.

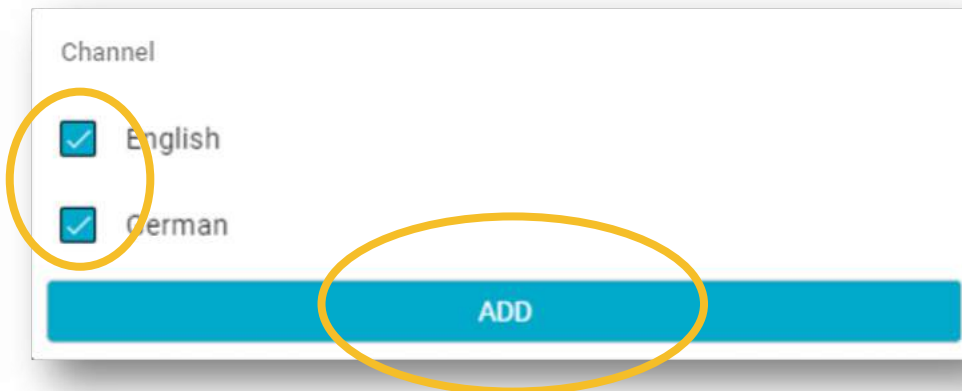


Then, select **Manage Channels of Route** from the list of options.



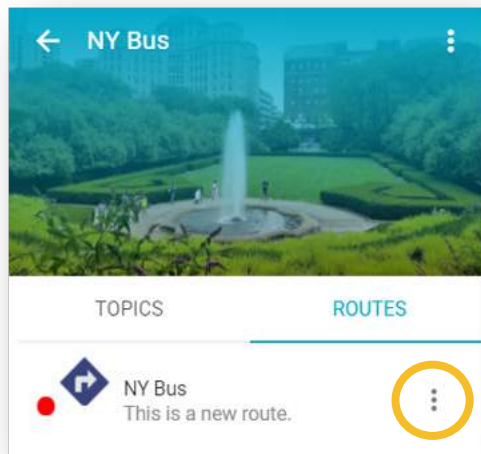
Then, identify which Channels you would like to include in your Route and click Add.

Important: The list of channels shown are what have been added at the Tour level, in the Tour Settings. If a channel is needed and not shown within the list, you will need to first add that channel at the Tour level.

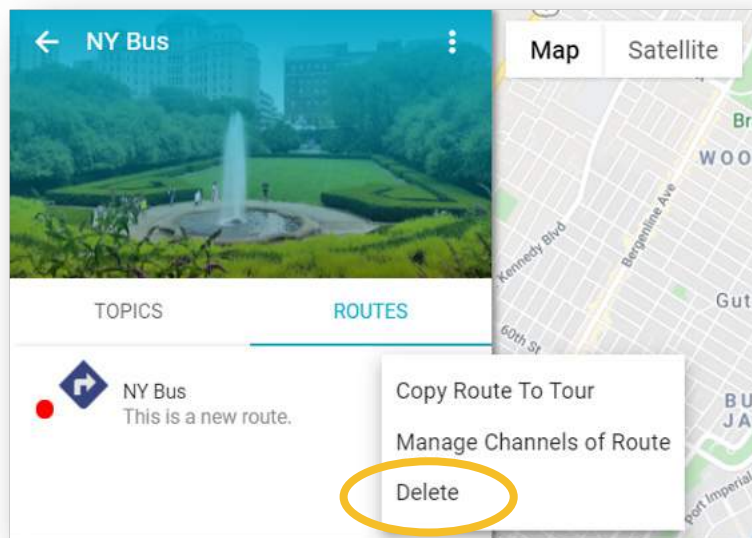


DELETING A ROUTE

If required, a Route can be deleted. To delete a Route, return to the page that lists all routes within the tour and select the three dots beside the route you wish to delete.



Then, select **Delete** from the list of options.

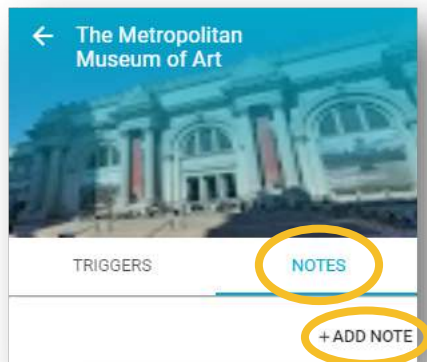


ADDING NOTES

During Tour Development where the blueprints for your experiences are created, the Designer uses strategies regarding how the routes were chosen, where Trigger Zones were positioned and how they were customized as well as other considerations. It's important to capture this history in notes which is possible under both Topics and Trigger Zones.

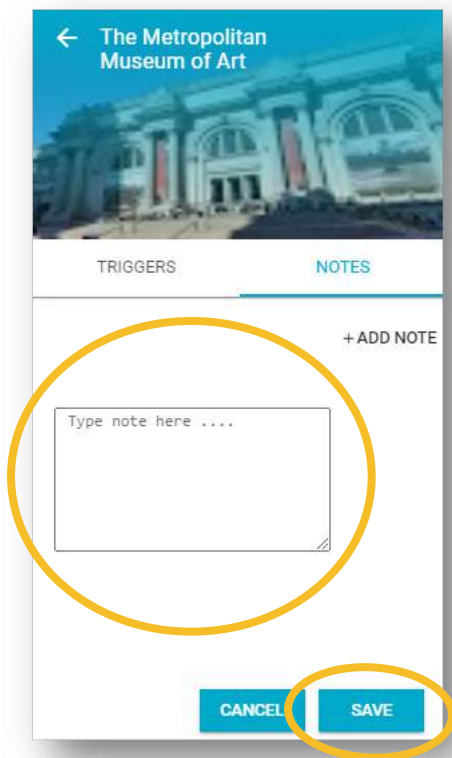
Important: Adding the initials of the note provider will direct coworkers to the appropriate party should they have any questions.

If a Tour or Route is copied, design notes are not copied to the new Tour or Route and would need to be manually added.



ADD NOTES TO A TOPIC

Within the Route, choose the Topic, select Notes then click Add Note.



Type the note in the designated box followed by clicking **SAVE**.



← MET

SETTINGS NOTES

Activate Proximity Radius Distance (m) 71.42

Heading 207.94 Tolerance (deg) 60

Mode Queue Delay (s) 0

Latitude 40.77958283528365

Longitude -73.96183852247621

ADD NOTES TO A TRIGGER ZONE

For the Topic, choose a Trigger Zone, then click Notes.

← MET

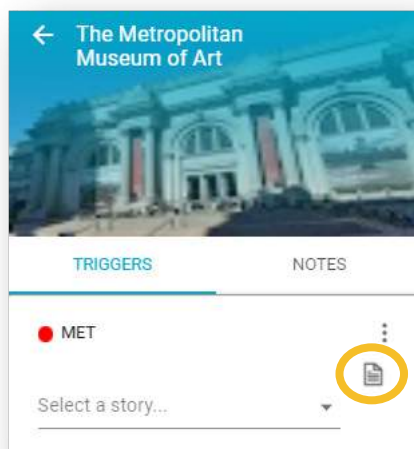
SETTINGS NOTES

+ ADD NOTE

Type note here

CANCEL SAVE

Click Add Notes. Type the note in the designated box followed by clicking **SAVE**.



Once a Trigger Zone note has been added, an icon of a typed page, is added to the right of the Trigger Zone Name. Click on the icon to view the note.

COPY A TOUR

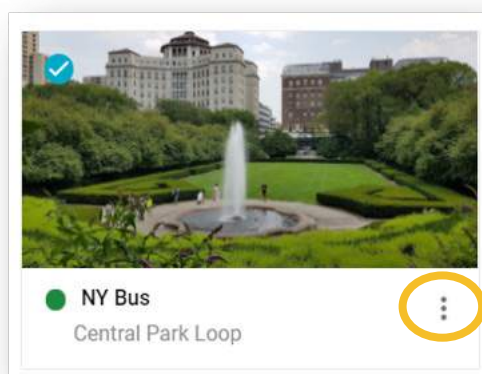
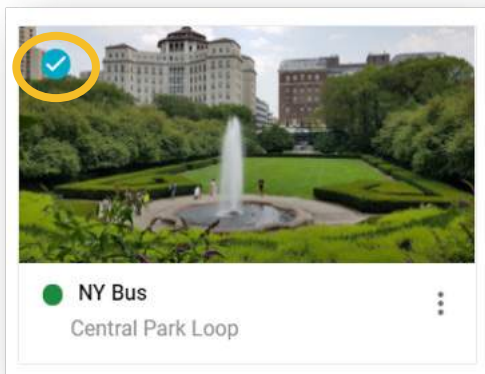
Cortex includes a feature that allows for the copying of Tours. The copy can then be renamed and located beneath the same Client.

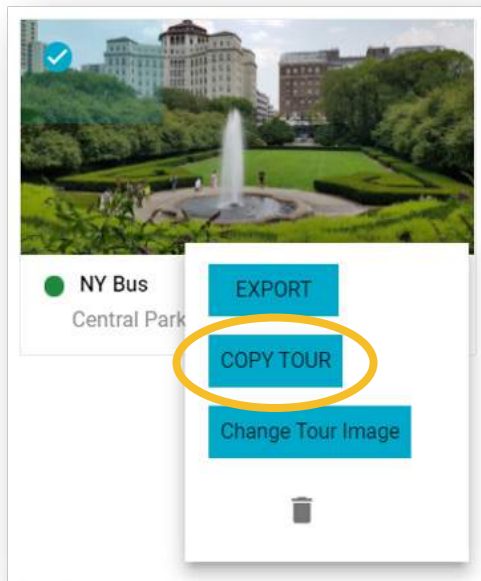
When a Tour is copied, all Routes, Topics, Trigger Zone parameters, Stories and MORE INFO content is carried into the new Tour. Design notes are **not** copied to the new Tour.

Important: Design notes will need to be manually added to the new Tour. For assistance, refer to the Adding Notes section.

To copy a Tour, return to the page that lists all Tours within Tours Page and click in the small circle at the top left of the Tour to be copied.

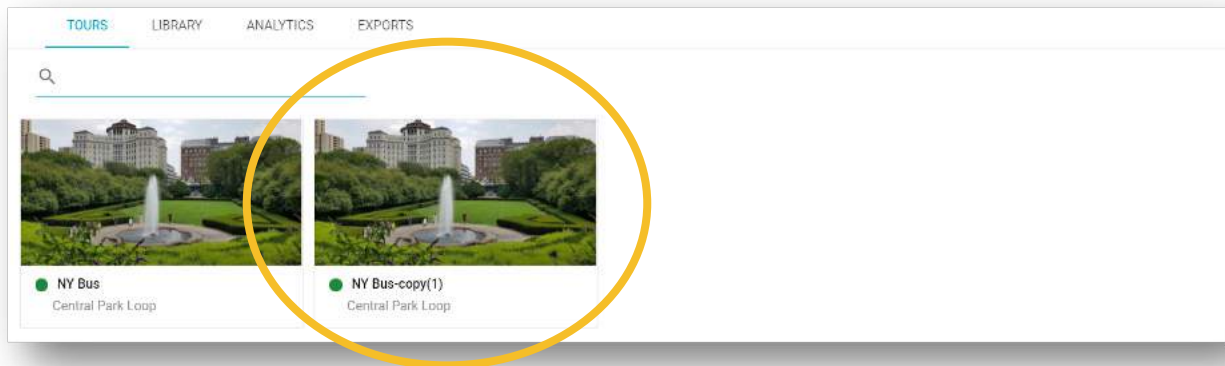
Once selected, click on the three dots to the right of the Tour name.





Then, select **Copy Tour** from the list of options.

The new (copied) Tour will appear in the list of Tours.

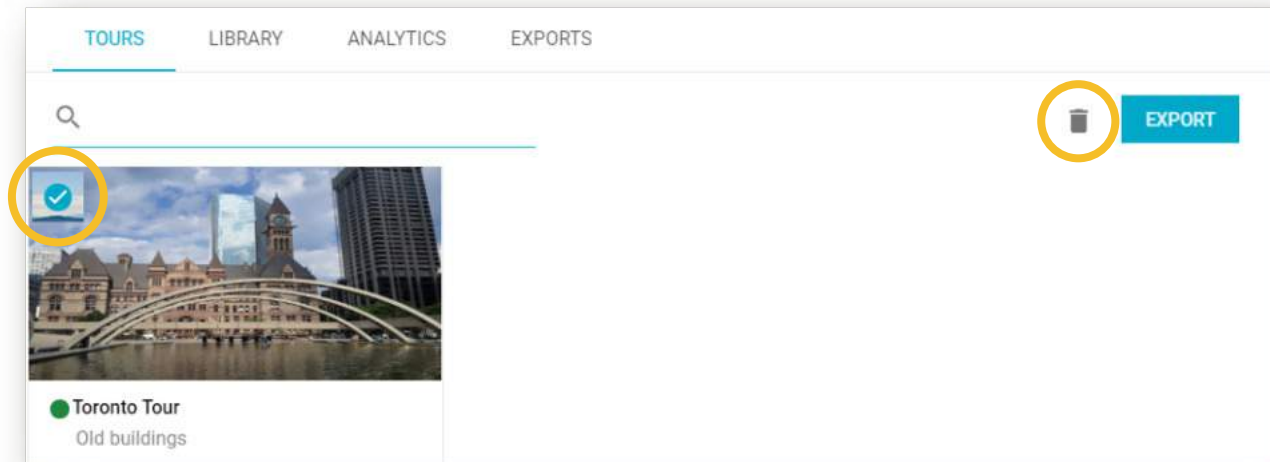


Important: Coping a Tour can only be done if the indicator along the left is green. Create your main Tour first, ensuring all indicators are green, then copy it and adjust for the new Tour that will be similar.



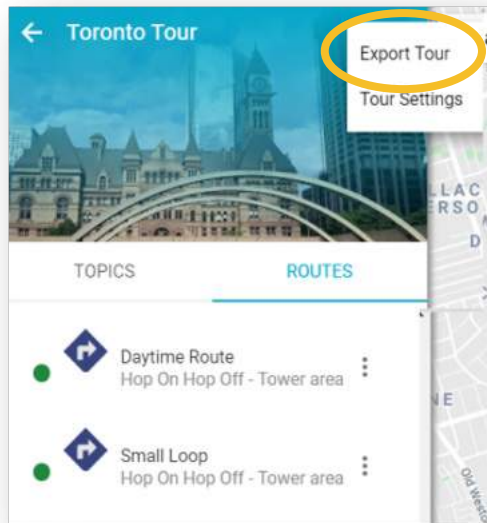
DELETING A TOUR

On the home page, select the white circle in the upper left corner of the Tour that requires deletion followed by clicking the grey trash icon on the right side of the screen.



A warning message appears, asking you to confirm that the Tour should be deleted. Once you click **OK**, the tour will be permanently deleted and cannot be recovered. If you have collected analytical data for the tour, it will also be deleted.

Media files that have been uploaded are not affected by this action and will still be found in the library.



EXPORTING A TOUR

All indicators will be green, when a Tour is complete and ready to export.

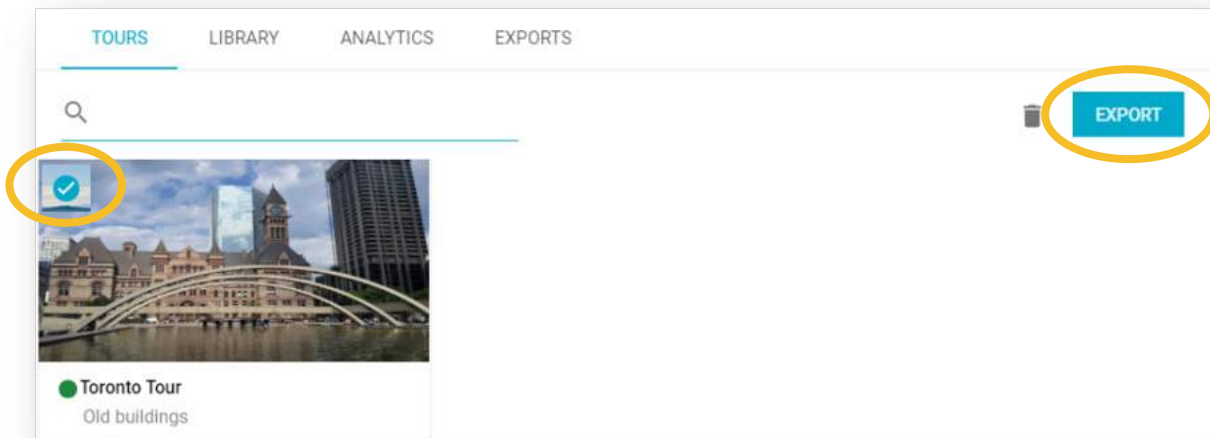
Important: If you see red, drill down until you find the lowest level in which you've missed something. Correct this and then move up through the levels, completing anything you've missed until you see green at the Tour level.

There are two ways to export a tour. The first is from within the Tour itself. Click on the three dots to the right of the tour name, then Select **Export Tour** from the options that appear.

Alternative method is by exporting from the Tours view on the home page.

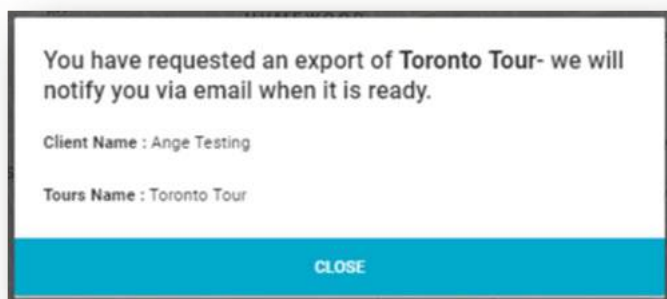
Click in the small circle at the top left of the Tour to be exported, then click EXPORT at the top right.

Important: The alternative method is used when there is more than one Tour. This allows for the export of all tours or a subset of Tours depending on where they are required.





In both cases, a message will appear advising that the export is underway.



At this point, you can choose to close Cortex and work on other tasks. When the export process is finished, you will receive an email (based on your Cortex login details) to let you know the exported file is ready for downloading.

Important: If you are using a shared computer or one that had another user before you, the link in the email may bring up the login credentials for another user. To prevent this problem from recurring, check your Google Account Settings and remove any user information that is no longer required.

Once the Export has been completed, the file can be download from the Exports tab. To download the Export file, click the blue **Download** link.

| TOURS LIBRARY ANALYTICS EXPORTS | | | | | | | |
|--|---------------------|---------------------|------------------------------|--------------------------|-------------|--------------------|--|
| EXPORT ID | REQUESTED TIME | FULFILLED TIME | EXPORT TARBALL | | DESCRIPTION | STATUS | |
| 1199 | 2020-10-26 13:06:27 | 2020-10-26 13:06:29 | appdata_client_77_119.tar.gz | Download | Herriman | Ready To download. | |

You will then be prompted to save the Export file to a location on your computer.

Once downloaded, copy the Export file onto a blank formatted USB drive. You will then take this USB to the Navilution® system to program it. Further details for this process are available in the Navilution® user manual.

Important: Analytical data being collected by each EVO system must be downloaded, or it will be lost, when you upload a new Export. Ensure that you follow the EXPORT DATA process described in the Navilution® user manual.



EXPORT FILE SECURITY MEASURES

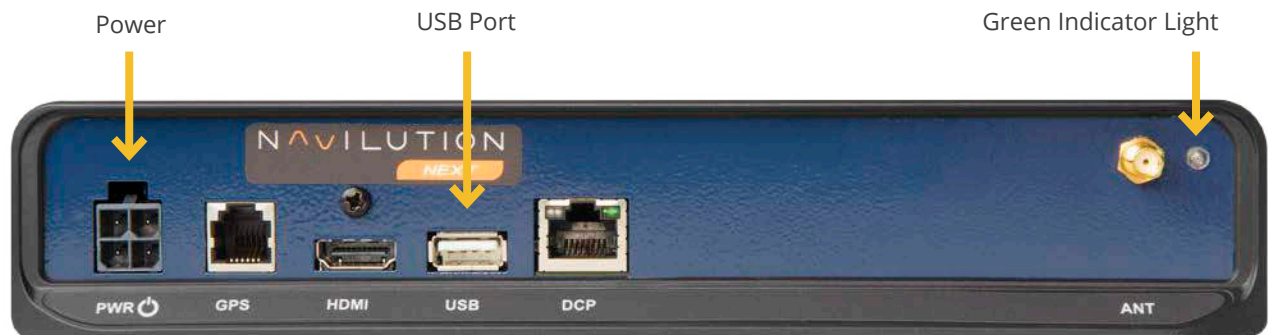
Cortex is a live, cloud-based system. As such, once you make a change, it is permanent.

While the EXPORTS tab will keep the last two files created, we strongly encourage you to archive completed files, renaming them to include the date created..

Example:

| | |
|---------------|--|
| Original file | appdata_client_23_48.tar.gz |
| Renamed file | 2019-01-21_appdata_client_23_48.tar.gz |

If you ever need to go back to an earlier version of the tour, you have a history. Simply copy the earlier version to a blank formatted USB and remove the date from the file name on the USB.



HOW TO LOAD CONTENT

1. Unplug the power.
2. Insert the formatted USB (USB must contain nothing other than the Export File)
3. Plug in the power.
4. The green indicator light will start to blink.
 - As long as the light continues to blink, the tour is in the process of uploading. Be patient.
 - The time required to load depends on the amount of content.
5. When the green indicator light stops blinking, remove the USB.
6. It may take a few moments for the Tour name to appear on the Display Control Panel (DCP).
When it appears, you are ready to go.



CORTEX GLOSSARY

| Term | Definition |
|---|---|
| Activate (Trigger Zone Parameter) | Indicates where the vehicle must be in relation to the Trigger Zone (TZ) for a media file to trigger. Three settings: <ul style="list-style-type: none"> • Proximity (default setting): Media files will begin to play at the point when the vehicle is closest to the center of the TZ. • Enter: Media files will begin as soon as the vehicle enters the TZ. • Exit: Media files will begin as soon as the vehicle leaves the TZ. |
| Analytics | A 3-letter prefix, followed by an underscore which: <ul style="list-style-type: none"> • identifies languages used in a tour • identifies theme for the tour (i.e., historical, architectural etc.) |
| Delay (Trigger Zone Parameter) | The amount of time (in seconds) between activation of a TZ and media starting to play |
| Display Control Panel (DCP) | Touchscreen used to interface with the system |
| Fillers | The section of the Library used to hold media that will be manually played using the Display Control Panel (DCP). |
| Heading (Trigger Zone Parameter) | The direction in which the vehicle must travel for media to trigger. |
| Indicators Red/Green | Red or Green dots that function in a hierarchy indicating if items within Cortex have been completed. Located adjacent to these items, a green indicator (dot) indicates that all parameters required have been successfully fulfilled. A red indicator indicates that something has been forgotten or is missing, requiring completion. |
| Latitude (Trigger Zone Parameter) | A numeric value that, when combined with Longitude, identifies the geographic location of a Trigger Zone. |
| Library | Used to store the media files for all tours in sections: <ul style="list-style-type: none"> • Stories • Fillers • Music • Notification Sounds • Safety |
| Longitude (Trigger Zone Parameter) | A numeric value that, when combined with Latitude, identifies the geographic location of a Trigger Zone. |
| Media file - Audio | Audio files, whether played automatically using TZ or manually, must be in .mp3 format, encoded at 128 Kbps, Mono at 44.1 kHz |
| Media file - Video | Video files (cannot have an audio component) that are played automatically using TZ and are associated with audio files. Each video file must be in .mp4 format. |
| Mode (Trigger Zone Parameter) | Determines when a media file will play. Three settings: <ul style="list-style-type: none"> • Queue (default setting): Media for the TZ will not start if another file is still playing. It will wait until the file ends, then play the new content. • Ignore: media associated with the TZ will not play if media is still playing. • Interrupt: media playing will stop abruptly when the new Trigger Zone is encountered. |
| Music | A section of the Library that holds music files that can be set to play between media segments if desired. |
| Notification Sounds | A section of the Library that holds audio files used for notification purposes (such as chimes, horns, whistles). |
| Radius (Trigger Zone Parameter) | Indicates the full size of the TZ, measured in meters. The default value is a 40-meter radius, meaning the full TZ is an 80-meter circle. |



CORTEX GLOSSARY

| Term | Definition |
|---|---|
| Route | <p>A route exists within a tour. Each route is defined by three parameters:</p> <ul style="list-style-type: none"> • Path the vehicle travels • Direction of travel • Trigger Zones <p>Examples:</p> <ul style="list-style-type: none"> • If the same path is travelled in two different directions (e.g., clockwise and counter-clockwise), you must create two routes. • If you take the same path but include different TZ, you must create two routes. |
| Safety | The section of the Library used to hold media that is operational, instructional or safety in nature, which will be manually played using the Display Control Panel (DCP) |
| Stories | The section of the Library used to hold media that will be managed using TZ. (automated playing of media based on GPS coordinates) |
| Tarball (Export File) | The format of a Tour after it has been exported which is then uploaded onto the Navilution® system. |
| Tolerance (Trigger Zone Parameter) | <p>The directional cone of entry for a Triggers Zone. The default value is 60 degrees; however, it can be changed to be narrower, a straight line (180 degrees) or omnidirectional (360 degrees).</p> <p>Represented visually on the map by the shaded area attached to the blue TZ map marker when the TZ is clicked on.</p> |
| Topic | <p>Specific locations or landmarks that can be searched using Google Maps</p> <p>The location of a topic is identified on the map by a google pin (an inverted red teardrop).</p> |
| Tour | <p>The general location or geographic area where you develop specific Routes.</p> <p>A Tour can have one or more Routes.</p> <p>A Tour has a customer defined number of Channels.</p> |
| Trigger Zone (TZ) | <p>The geographic location to which specific media files are assigned. Media files will begin to play based on 8 TZ parameters.</p> <p>For each route, there is a limit of 120 TZ per Route.</p> |
| Trigger Zone (TZ) (Default Values) | <p>Activate: Proximity</p> <p>Delay: 0 seconds</p> <p>Heading: 0 degrees or North</p> <p>Mode: Queue</p> <p>Radius: 40 m</p> <p>Tolerance: 60 degrees</p> |
| Virtual Topic | A topic that is not searchable using Google Maps. When created it must be positioned on the map manually. Visually a Virtual Topic appears as a red circle. |



CONTACT US

For support or information, please contact us via telephone, email, or through our Helpdesk.

CALL US:

+1.801-233-8992
+1.800-330-0891

WEBSITE:

www.listentech.com

EMAIL US:

support@listentech.com

Every effort has been made to assure the accuracy of the information contained in this manual, and the reliability of the Cortex Software for the Navilution® Systems. Errors can sometimes go undetected. If you find one, please bring it to our attention so that we can correct it for others.

Listen Technologies welcomes comments and suggestions on the content and layout of its documentation.

Applications described herein are for illustrative purposes only. Listen Technologies assumes no responsibility or liability for the use of these products and makes no representation or warranty that the use of these products for specific applications will be suitable without further testing or modification. Listen Technologies products are not intended for use in applications where a malfunction can reasonably be expected to result in personal injury.

Customers using Listen Technologies products for use in such applications do so at their own risk and agree to fully indemnify Listen Technologies for any damages resulting from such improper use.

Listen Technologies reserves the right to make changes to these products, without notice, to improve their design or performance.

Copyright © 2021 Listen Technologies Corp. All rights reserved.

Documentation: Version 17



LISTEN TECHNOLOGIES 14912 Heritage Crest Way, Bluffdale, Utah 84065-4818 USA

Phone: +1.801.233.8992 Toll-Free: 1.800.330.0891 www.listentech.com

Copyright © 1998 - 2020 Listen Technologies Corporation. All rights reserved. 20201017