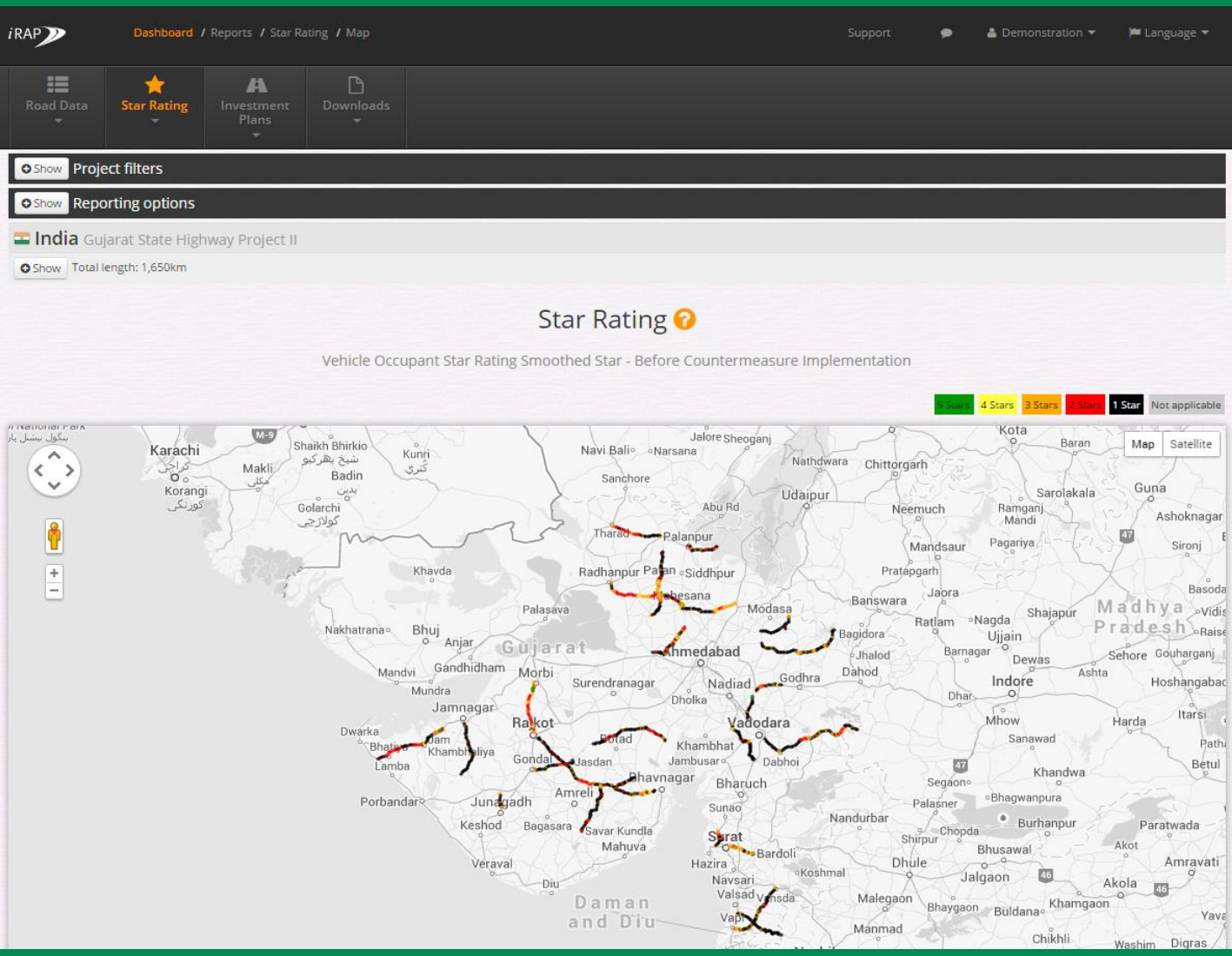
Performing Assessments and Creating Reports Using ViDA



A tour of iRAP's online software for Creator account holders

iRAP
INTERNATIONAL ROAD ASSESSMENT PROGRAMME

About iRAP

The International Road Assessment Programme (iRAP) is a registered charity dedicated to saving lives through safer roads.

iRAP works in partnership with government and non-government organisations to:

- inspect high-risk roads and develop Star Ratings and Safer Roads Investment Plans
- provide training, technology and support that will build and sustain national, regional and local capability
- track road safety performance so that funding agencies can assess the benefits of their investments.

The programme is the umbrella organisation for EuroRAP, AusRAP, usRAP and KiwiRAP. Road Assessment Programmes (RAP) are now active in more than 70 countries throughout Europe, Asia Pacific, North, Central and South America and Africa.

iRAP is financially supported by the FIA Foundation for the Automobile and Society and the Road Safety Fund. Projects receive support from the Global Road Safety Facility, automobile associations, regional development banks and donors.

National governments, automobile clubs and associations, charities, the motor industry and institutions such as the European Commission also support RAPs in the developed world and encourage the transfer of research and technology to iRAP. In addition, many individuals donate their time and expertise to support iRAP.

For more information

For general enquiries, contact us at:
International Road Assessment Programme (iRAP)
Worting House, Basingstoke
Hampshire, UK, RG23 8PX
Telephone: +44 (0) 1256 345598
Email: icanhelp@irap.org

To find out more about the programme, visit www.irap.org.
You can also subscribe to 'WrapUp', the iRAP e-newsletter, by sending a message to icanhelp@irap.org.

Version History

Version	Update
June 2016	Document created

Contents

1 Introduction

This guide introduces ViDA 'Creator' account holders to functionality available in ViDA, iRAP's online software.

ViDA is a suite of online tools for calculating, managing, analysing and presenting RAP Star Ratings and Safer Road Investment Plans. By using state-of-the-art cloud-computing technology, ViDA provides tools, services and workflows to manage the RAP data lifecycle, from initial dataset pre-processing to on-screen reports and downloadable detailed data.

The Creator account is for people who want to carry out iRAP assessments and generate reports.

With a Creator account, you can view and filter all types of reports, request access to reports, and create and edit Projects, Datasets and reports. Note that the creation of a dataset requires the permission of the Project Manager and the creation of a Project requires the permission of the Region Manager.

Advice:

- This guide should be read with *Accessing Results Using ViDA: A Tour for Reader Account Holders* (available at: http://downloads.irap.org/docs/ViDA_tour.pdf), which explains:
    - how to register to use ViDA
    - the three ViDA account types
    - how to access and use reports
    - how to request access to results
    - how to upgrade an account.
- It is recommended that the Google Chrome or Firefox internet browsers are used to access ViDA.

1.1 Supporting materials

The following documents provide further information about the iRAP methodology and performing iRAP assessments:

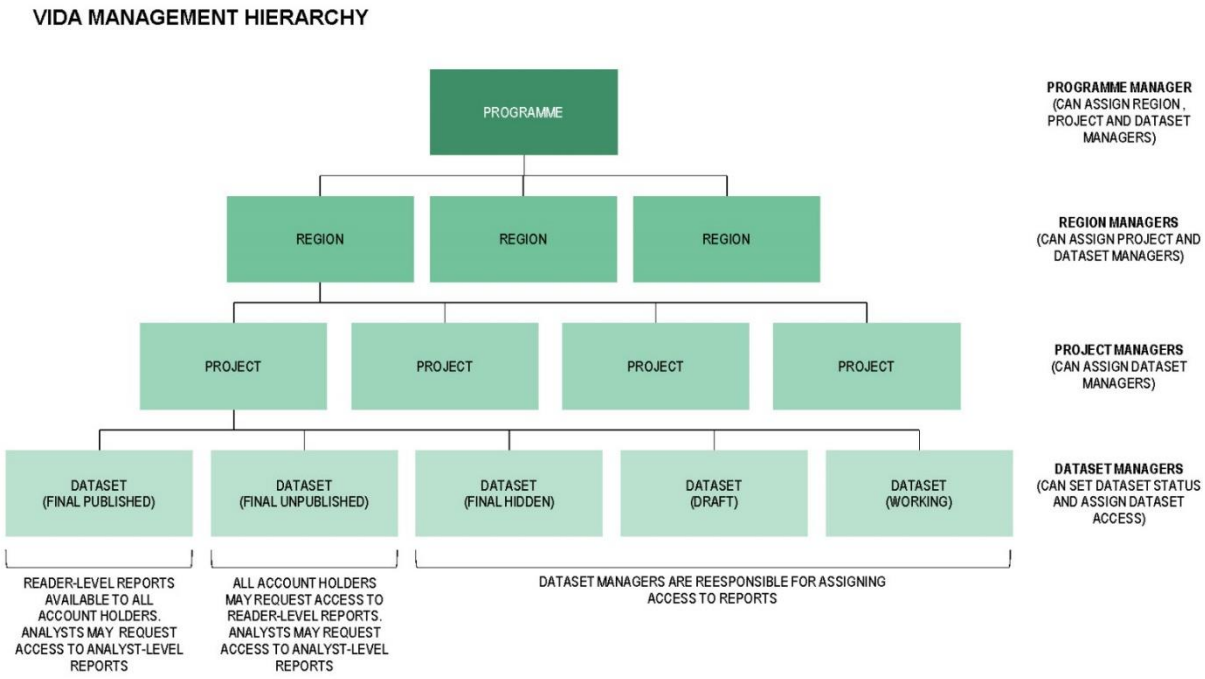
- iRAP Methodology Factsheets: http://irap.org/en/about-irap-3/methodology.
- iRAP Road Attributes Risk Factors: http://irap.org/en/about-irap-3/methodology.
- Star Ratings and Investment Plans: Coding Manual: http://irap.org/en/about-irap-3/specifications.
- Star Ratings and Investment Plans: Data Analysis and Reporting Specification: http://irap.org/en/about-irap-3/specifications.
- Star Ratings and Investment Plans: Supporting Data Template: http://irap.org/en/about-irap-3/specifications.
- Star Ratings and Investment Plans: Upload File Specification: http://irap.org/en/about-irap-3/specifications.
- Star Ratings and Investment Plans: Quality Assurance Guide: http://irap.org/en/about-irap-3/specifications.
- Implementation Support Guide: http://irap.org/en/about-irap-3/specifications.

2 Data and Management Hierarchy

Data in ViDA is managed in a hierarchy, as shown in the image below. A manager for each of these levels (it is possible for one person to be a Manager of multiple levels).

Managers are Creator Account holders that have the ability to assign other users access to the data they are responsible for. The Manager may choose a level of access that is equal to or below the user's account level. For example:

- A Programme Manager could assign an Analyst Account holder with Analyst level access to results for a Dataset within their Programme (that is, read only access).
- A Project Manager could assign a Creator Account holder with Creator level access to a Dataset within their Project (that is, the ability to edit).
- A Dataset Manager could assign a Creator Account holder with Reader level access to results for their Dataset (that is, read only access).
- Dataset Managers can also set the status of their Datasets.



The Manager of a Programme, Region, Project or Dataset is specified during the setup stages (see below).

3 Dashboard

Creator account holders have access to tools on the Dashboard that are not available to Reader and Analyst account holders. While using the dashboard, users can hover the mouse over each button to get a brief description.

Click to access the Project Setup and Access menu, where Programmes, Regions, Projects and Datasets can be created, copied and edited.

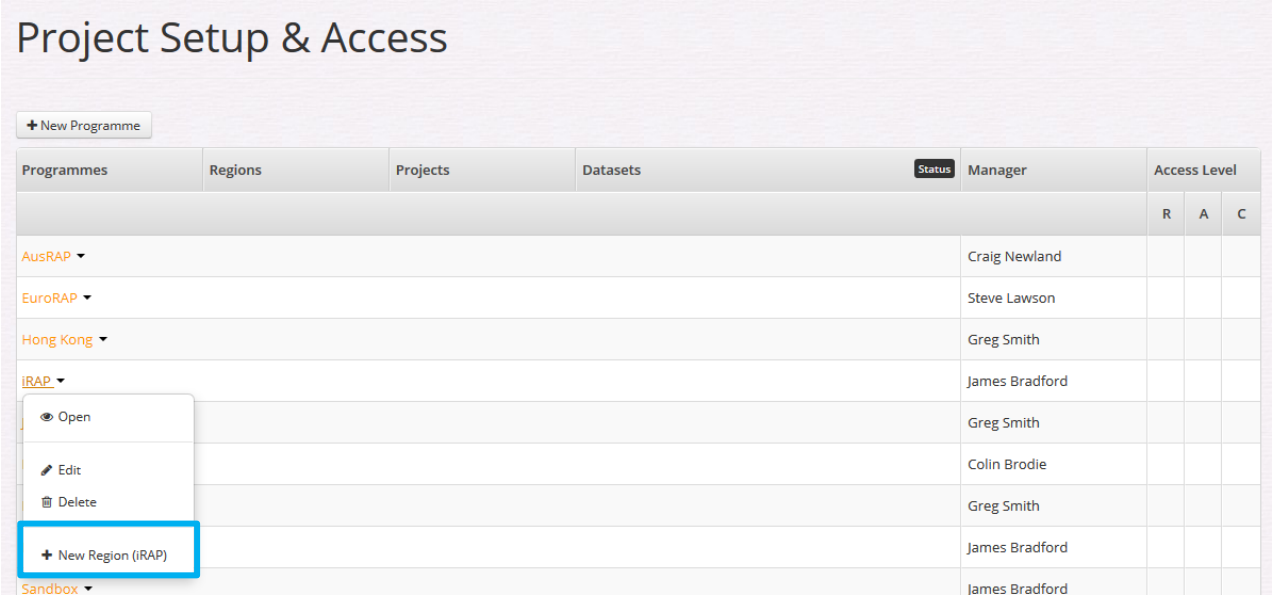
Click to upload road attribute coding data to a Dataset and process the data to produce reports.

4 Creating and Editing a Programme

Programmes may only be created, edited and deleted by iRAP staff.

5 Creating and Editing a Region

Regions may only be created by the corresponding Programme Manager. This can be done by accessing the Project Setup & Access menu, clicking once on the Programme and then clicking New Region. A Programme may have an unlimited number of Regions.

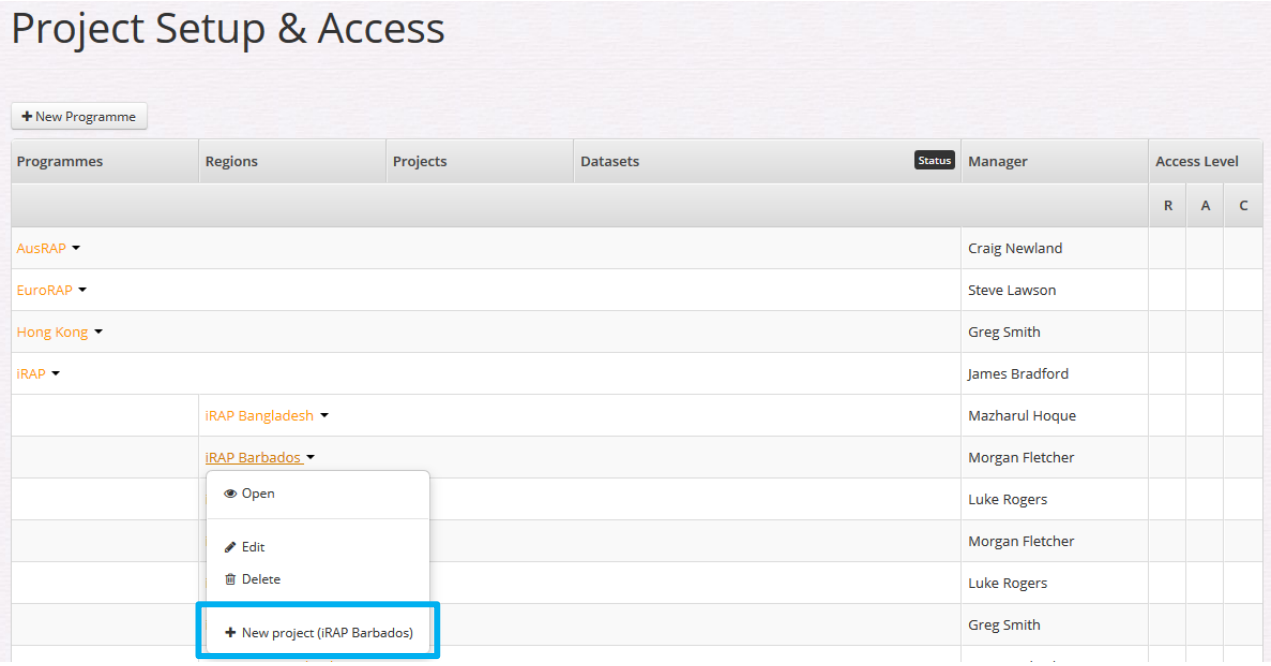


The user is then prompted to type a name for the Region, select the Region Manager and save the changes. The Region may be edited and deleted by the Region Manager and corresponding Programme Manager via the Project Setup & Access menu.

Advice: be cautious about deleting a Region as this will also delete corresponding Projects and Datasets. This action cannot be undone.

6 Creating and Editing a Project

Projects may only be created by the corresponding Region Manager and Programme Manager. This can be done by accessing the Project Setup & Access menu, clicking once on the Programme and selecting Open, then clicking once on the Region and selecting New Project. A Region may have an unlimited number of Projects.



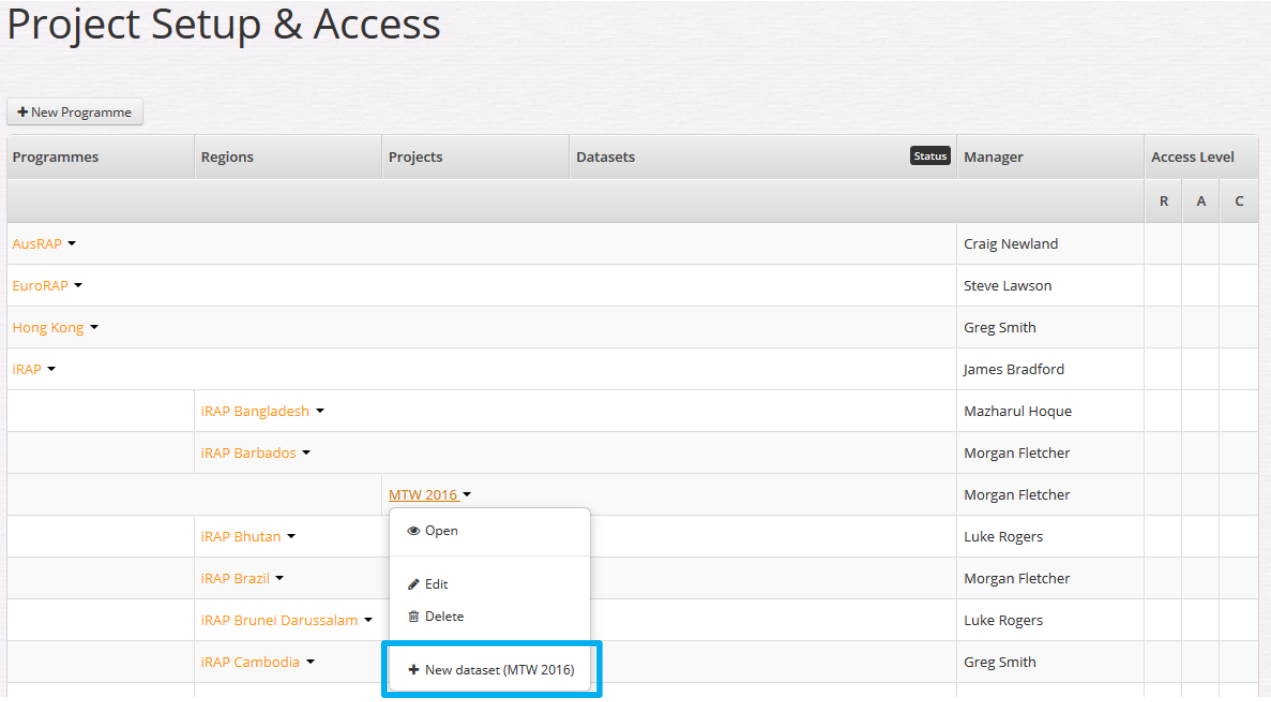
The user is then prompted to type a name for the Project, select the Project Manager, select the Country and save the changes. The Project may be edited and deleted by the Project Manager and corresponding Region Manager and Programme Manager via the Project Setup & Access menu.

Advice:

- During the Project Setup users may select the iRAP model version. It is recommended that Model v3.02 is used.
- Be cautious about deleting a Project as this will also delete corresponding Datasets. This action cannot be undone.

7 Creating and Editing a Dataset

Datasets may only be created by the corresponding Project Manager, Region Manager and Programme Manager. This can be done by accessing the Project Setup & Access menu, clicking once on the Programme and selecting Open, clicking once on the Region and selecting Open, clicking once on the Project and selecting New Dataset. A Project may have an unlimited number of Datasets.



The user is then prompted to type the Dataset name and click the Create Dataset button. The user may then click on the Dataset in the Project & Access Setup menu and select Edit.

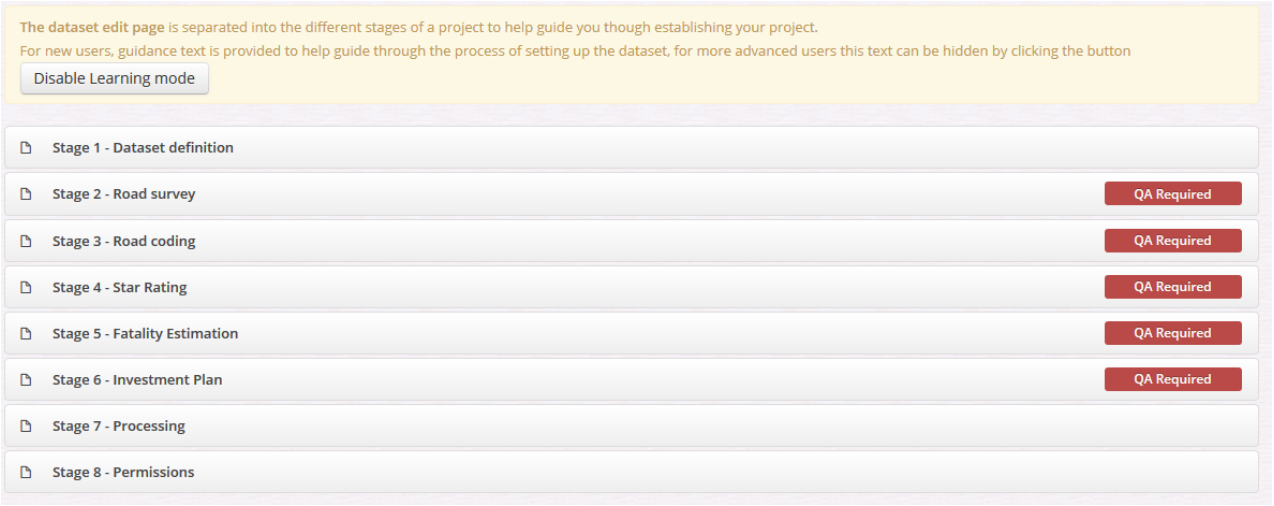
Advice: Be cautious about deleting a Datasets as this action cannot be undone.

7.1 Dataset Edit View

There are two ways in which to view the Dataset edit screens: old view and new view. To load the Dataset in the new view click the Load New View button. Note that upgrading to the new view is one-way for a dataset – the user cannot return to the old view. The user may take a tour of the new view by clicking the Preview New View button.

Advice: It is recommended that users click the Load New View button. This user guide is based on the new view.

The Dataset setup page is used to define the characteristics of a Dataset, and is structured into the stages that follow the progress of generating Star Ratings and Safer Roads Investment Plans.

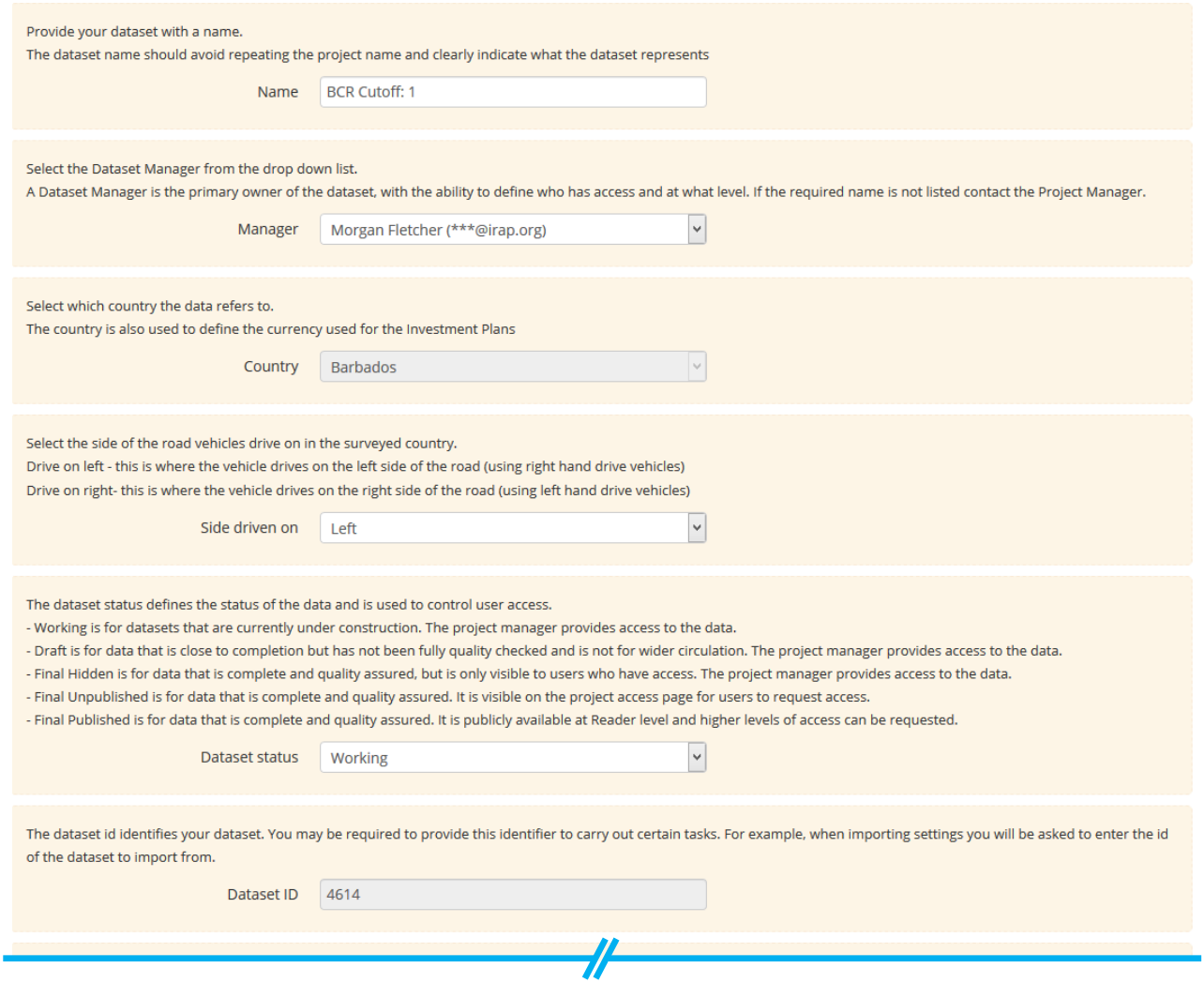


7.2 Learning Mode

For new users, text is provided to help guide through the process of setting up the Dataset. For more advanced users this text can be hidden by clicking the button Disabled Learning Mode button.

7.3 Stage 1: Dataset Definition

The Dataset definitions are the key defining characteristics for a Dataset.



1. Provide your dataset with a name. The dataset name should avoid repeating the project name and clearly indicate what the dataset represents. The Dataset name can be changed at any time.
2. Select the Dataset Manager from the drop down list. A Dataset Manager is the primary owner of the Dataset, with the ability to define who has access and at what level. If the required name is not listed contact the Project Manager. The Project Manager can be changed at any time.
3. Select which country the data refers to. The country is also used to define the currency used for the Investment Plans.
4. Select the side of the road vehicles drive on in the surveyed country. Drive on left - this is where the vehicle drives on the left side of the road (using right hand drive vehicles). Drive on right- this is where the vehicle drives on the right side of the road (using left hand drive vehicles).
5. The dataset status defines the status of the data and is used to control user access:
    a. Working is for datasets that are currently under construction. The Project Manager provides access to the data.
    b. Draft is for data that is close to completion but has not been fully quality checked and is not for wider circulation. The Project Manager provides access to the data.

c. Final Hidden is for data that is complete and quality assured, but is only visible to users who have access. The Project Manager provides access to the data.

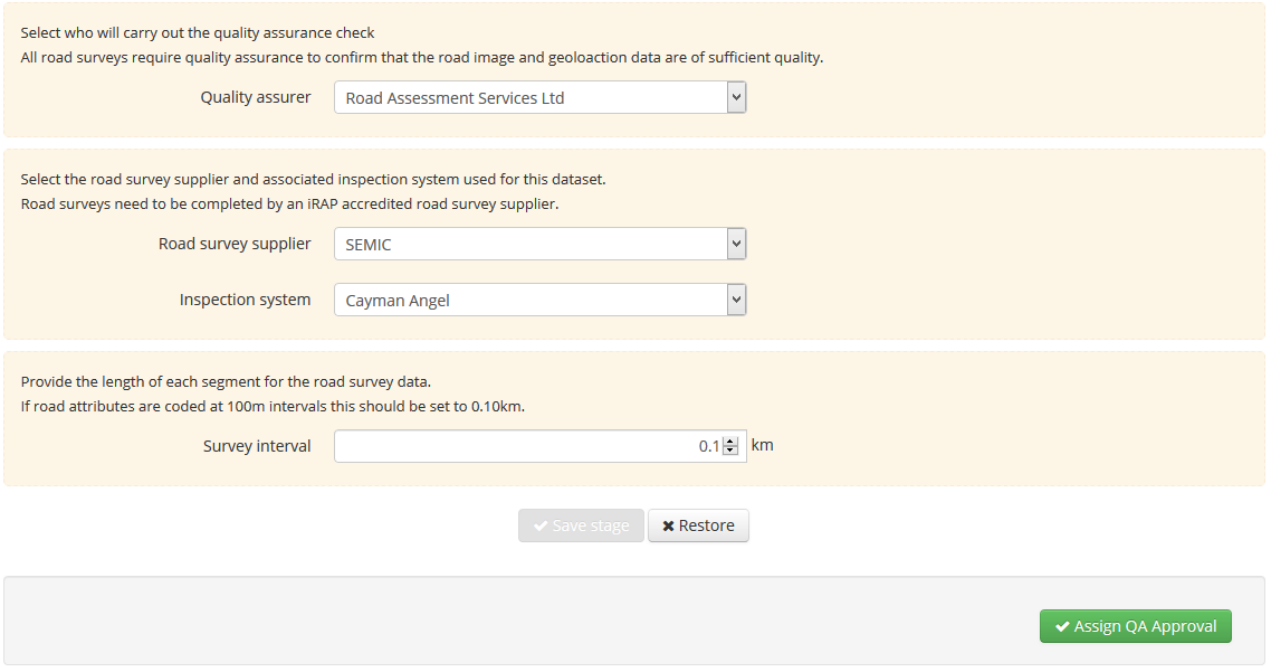
d. Final Unpublished is for data that is complete and quality assured. It is visible on the Project Access page for users to request access.

e. Final Published is for data that is complete and quality assured. It is publicly available at Reader level and higher levels of access can be requested on the Project Access page.

6. The dataset ID identifies the dataset. The user may be required to provide this identifier to carry out certain tasks. For example, when importing settings you will be asked to enter the ID of the dataset to import from.
7. The model name identifies the model being using. This is defined at the Project level, and all datasets within a project must use the same model.
8. The user can save changes by clicking the Save Stage button, or undo changes made since the last save, by clicking the Restore button.

7.4 Stage 2: Road Survey

The road survey is the collection of geo referenced image data of a road network.



1. Select who will carry out the quality assurance check. All road surveys require quality assurance to confirm that the road image and geolocation data are of sufficient quality.
2. Select the road survey supplier and associated inspection system used for this dataset. Road surveys need to be completed by an iRAP accredited road survey supplier.
3. Provide the length of each segment for the road survey data. If road attributes are coded at 100m intervals, this should be set to 0.1km.
4. The user responsible for quality assurance must click the Assign QA Approval button in order accept that the data is of adequate quality. Clicking this button will cause the red “QA Required” label will change to a green “QA Approved” label.
5. The user can save changes by clicking the Save Stage button, or undo changes made since the last save, by clicking the Restore button.

Advice: It is recommended that the survey interval is 0.1km.

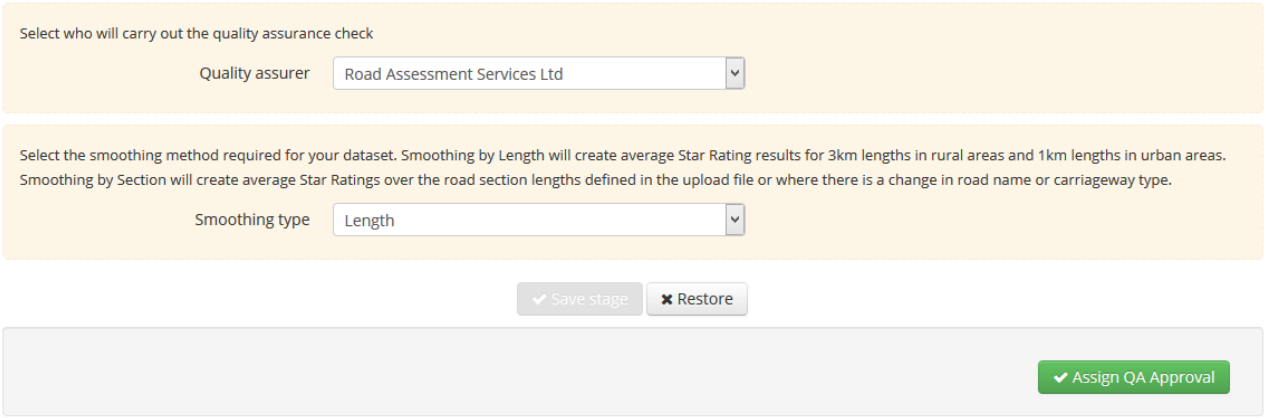
7.5 Stage 3: Road Coding

Road coding is the process of recording the road attributes required for Star Rating.

1. Upload files need to comply with the relevant upload specification for the model assigned to the Project. The user can check this by selecting the View Upload Specification link.
2. By default, the delimiter for a .csv file is set to "," and decimal mark is set to ".". The user can change these by clicking the Change Settings link.
3. Select who will carry out the quality assurance check. All road coding requires a minimum 10% quality assurance check. The template for carrying out coding quality assurance checks can be accessed by clicking the Coding Quality Assurance Template link.
4. Select the road coding supplier used. Road coding needs to be carried out by iRAP accredited road coding suppliers.
5. The user responsible for quality assurance must click the Assign QA Approval button in order accept that the data is of adequate quality. Clicking this button will cause the red “QA Required” label will change to a green “QA Approved” label.
6. The user can save changes by clicking the Save Stage button, or undo changes made since the last save, by clicking the Restore button.

7.6 Stage 4: Star Rating

Star Ratings are calculated using the coded road attributes.



1. Select who will carry out the quality assurance check.
2. Select the smoothing method required for your dataset. Smoothing by Length will create average Star Rating results for 3km lengths in rural areas and 1km lengths in urban areas. Smoothing by Section will create average Star Ratings over the road section lengths defined in the upload file or where there is a change in road name or carriageway type.
3. The user responsible for quality assurance must click the Assign QA Approval button in order accept that the data is of adequate quality. Clicking this button will cause the red “QA Required” label will change to a green “QA Approved” label.
4. The user can save changes by clicking the Save Stage button, or undo changes made since the last save, by clicking the Restore button.

7.7 Stage 5: Fatality Estimation

Fatality estimation can be calculated from the using the road attribute data. Fatal estimations are calibrated to the using network level crash data.

1. Select who will carry out the quality assurance check.
2. Import Settings from Another Dataset. This function is primarily used in 'scenario testing' (which is explained further later in this guide.
3. The user can save changes by clicking the Save Stage button, or undo changes made since the last save, by clicking the Restore button.

Advice: *iRAP Methodology Fact Sheet 10: Casualty Estimation and Calibration* explains the fatality estimation and model calibration process in more detail. The fact sheet is available at: http://irap.org/en/about-irap-3/methodology?download=138:irap-methodology-fact-sheet-10-casualty-estimation-and-calibration.

7.7.1 Total network fatalities

The first step of calibration is to determine the number of fatalities on the network annually. It is recommenced a sample period of at least three years is used.

1. Enter the number of reported deaths. This is the number of deaths for all road users that are reported to have occurred on the roads assessed during the sample period.
2. Enter the start and end year for the reported deaths sample period.
3. Click the Calculate From Years Covered button to generate the sample period in years.
4. Enter the fatality under reporting factor. In some jurisdictions, the reported number of deaths is less than the actual number of deaths. One potential source of information about whether a country's fatalities are under reported is the World Health Organization (WHO) Global Status Report on Road Safety (available at: http://www.who.int/violence_injury_prevention/road_safety_status/2015/en/). For example, if the number of reported traffic fatalities is 1,000, but the WHO estimated road traffic fatalities is 2,000, then the fatality under reporting factor would be 2.
5. Click the Calculate button to calculate the Estimated Number of Annual Fatals on Network. This is the reported number of deaths, adjusted for under reporting, divided by the sample period.
6. Enter text into the fatality data source and assumptions field. This text can be used by others to determine the sources of the data and any assumptions that were made.

7.7.2 Toggle advanced

To explore how trends in fatality growth would affect an investment during the analysis period, the annual fatality growth exponent can be used. For example, to explore a 5% annual increase in road fatalities this value can be set to 1.05 in order to include the projected fatality growth in the analysis.

Advice: This value is recommended for research purposes only.

1. Annual fatality growth exponent.
2. Basis for growth exponent. Enter text to explain sources and assumptions for the growth exponent.

7.7.3 Auto or manual calibration

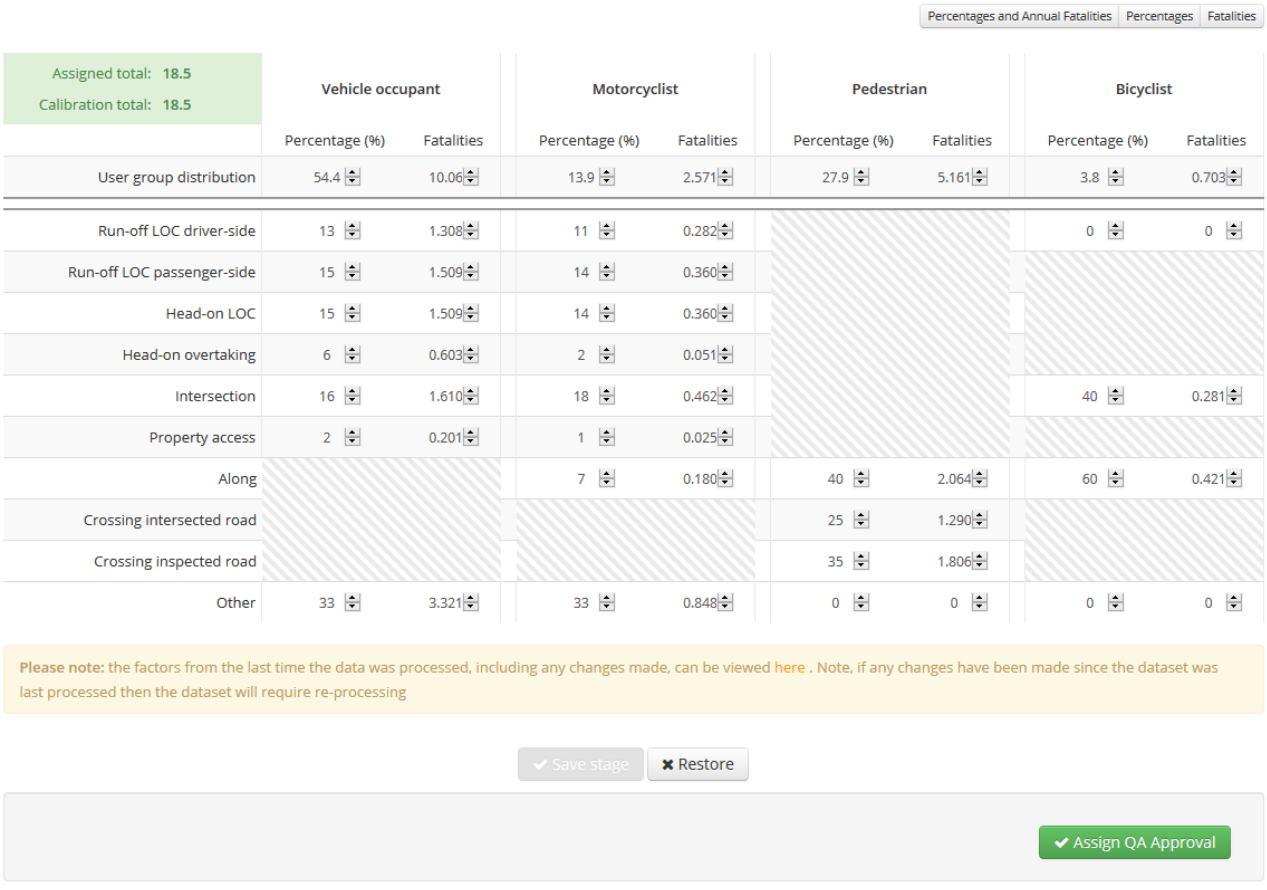
The fatality estimation can be calibrated using crash data (auto calibration) or manually. Manual calibration requires the user to calculate fatality calibration factors outside of ViDA.

1. Click the Disable Auto Calibration button to switch to manual calibration.

Advice: Unless a 'scenario test' analysis that uses settings imported from another dataset, it is recommended that Auto Calibration is used.

7.7.4 Distribution of fatalities by road user category and crash type (%)

The second step of calibration is to distribute the fatalities into user groups and then split them again into crash types. The distribution can either be done as percentages or as number of fatalities. Note that the values shown in this table may be truncated. In order to see full values, choose either the Percentages or Fatalities buttons.



In the distribution table:

- Assigned Total must equal the Estimated Number of Annual Fatals on the Network in the Total Network Fatalities table. If it does not, Assigned Total box will be coloured red to indicate that there is an error.
- The Calibration Total is the number of annual fatals on the network calculated by the model after processing. Note that until data is processed, this value will be blank.
- When the Assigned Total and Calibration Totals are the same, the total number of fatals is correctly calibrated.
- The User Group Distribution (top row of numbers) contains the number of fatalities and/or percentage of fatalities by road user type (vehicle occupant, motorcyclist, pedestrian and bicyclist). In this row, the number of Fatalities must sum to match the Assigned Total and the percentages must sum to 100%. If they do not, the Assigned Total will not equal the Estimated Number of Annual Fatals on Network and the box will coloured red. A red "!" icon will also appear; hover over this icon to see details about the error.
- The user type columns contain the number of fatalities and/or percentage of fatalities by crash type. In these columns the Number of Fatalities must sum to match the corresponding Number of Fatalities in the User Group Distribution row, and the percentages must sum to 100%. If they do not, a red "!" icon will also appear; hover over this icon to see details about the error.
- The presentation of the numbers can be adjusted by clicking the Percentages and Annual Fatalities, Percentages, and Fatalities buttons at the top of the table.
- The fatality calibration factors from the last time the data was processed, including any changes made, can be viewed by clicking the link at the bottom of the table. This function is most useful when the factors are being calibrated manually. Note, if any changes have been made since the dataset was last processed then the dataset will require re-processing.
- The user responsible for quality assurance must click the Assign QA Approval button in order accept that the data is of adequate quality. Clicking this button will cause the red "QA Required" label will change to a green "QA Approved" label.
- The user can save changes by clicking the Save Stage button, or undo changes made since the last save, by clicking the Restore button.

Suggested approach:

1. Click either the Percentages or Fatalities button, so that only one type of number can be seen or edited.
2. Input numbers into the User Group Distribution row. If this distribution is not available in the reported data, estimates will need to be made. One potential source for this estimate is the World Health Organization (WHO) Global Status Report on Road Safety (available at: http://www.who.int/violence_injury_prevention/road_safety_status/2015/en/).
3. Input crash type numbers into the road user type columns. If this distribution is not available in the reported data, estimates will need to be made based on professional judgement.

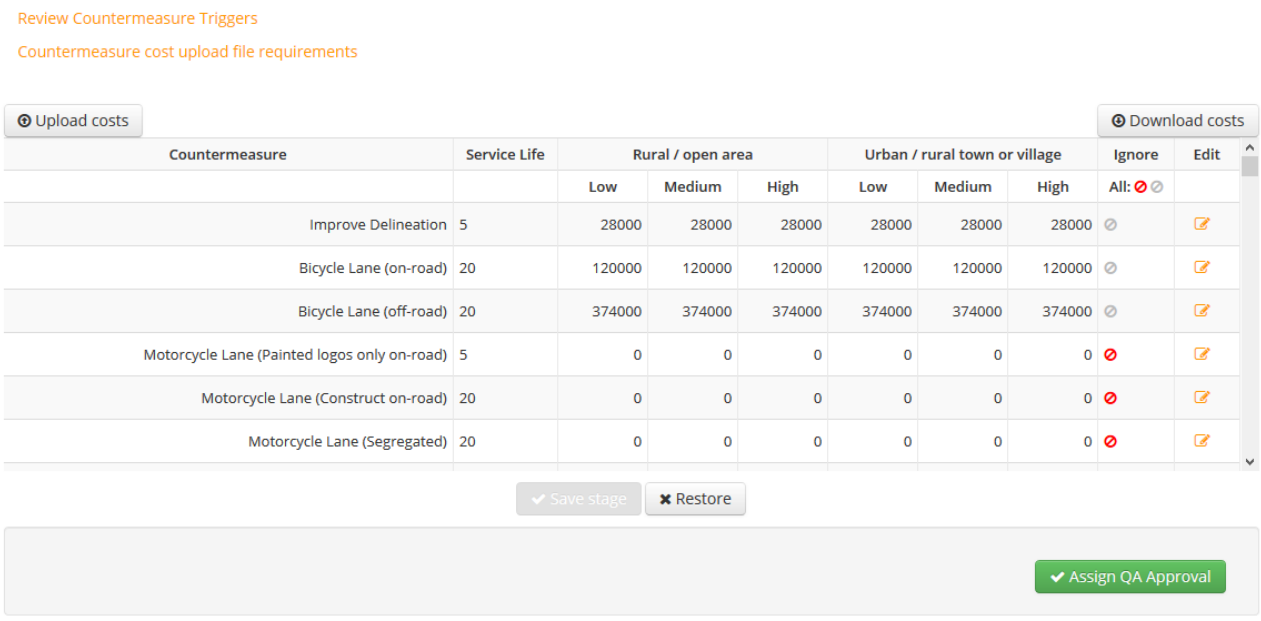
7.8 Stage 6: Investment Plan

Investment plans are used to explore possible road improvement options.

1. Select who will carry out the quality assurance check.
2. Enter the analysis period, which is the number of years over which the economic benefits of the Safer Roads Investment Plan is calculated (note this is not the treatment life of individual treatments). The default analysis period is 20 years although the number can be updated to reflect local client requirements as needed.
3. Discount rate is used to estimate net present values. The discount rate is typically set to 4% however this can be adjusted depending on the usual practice in each country.
4. Minimum attractive rate of return is the minimum rate of return that the government or road owner is willing to accept before investing in the various road engineering countermeasures. The default is provided as the discount rate divided by 100. Click the Action button to calculate the minimum attractive rate of return.
5. Provide a value to be used to estimate a value of life for economic analysis. GDP per capita in current prices (local currency) for the surveyed country can be attained from the IMF World Economic Outlook Databases http://www.imf.org/external/ns/cs.aspx?id=28.
6. Set the Value of Life Multiplier. The iRAP research paper The True Cost of Road Crashes provides an estimate of the value of life in a country based on a multiplier of GDP per capita recorded above. This provides the basis of all economic assessments and is recommended as 70 x GDP per capita (current prices) where an official figure for value of life is not available.

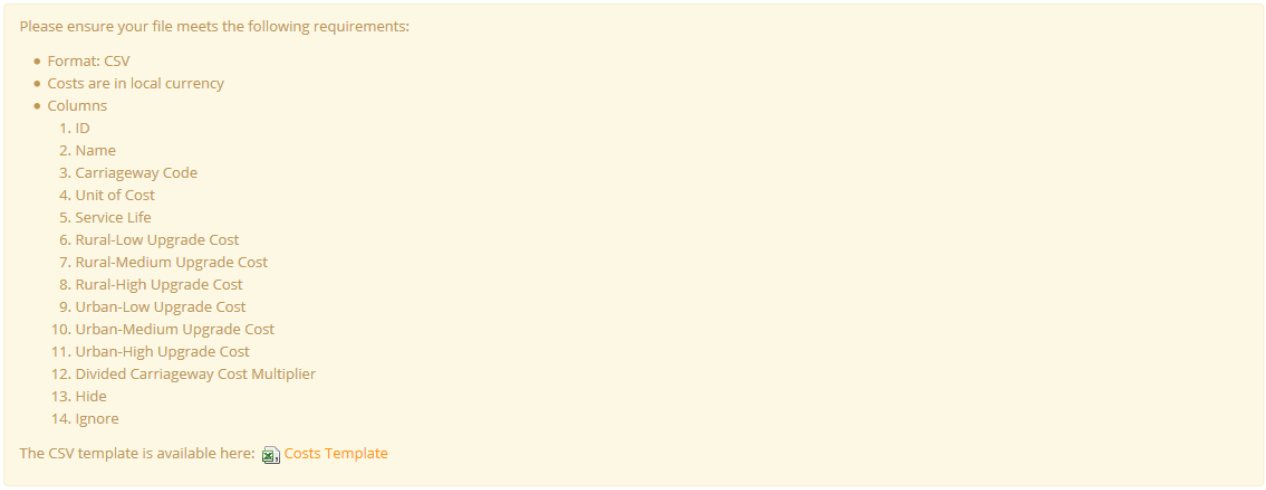
7. Set the Value of Life. The figure should reflect the official national or jurisdiction value of life if available. If not available the default value of GDP per capita x Value of Life multiplier can be used. Click the Action button to calculate the value of life.
8. Set the Serious Injury to Fatalities Ratio, which is the number of serious injuries to each fatal. The default is 10. This may be changed based on supporting evidence.
9. Select the Countermeasure Qualification criteria. This is used to select type of threshold used for the Investment Plan. - BCR, Benefit Cost Ratio - IRR, Internal Rate of Return - Cost per FSI saved.
10. Provide the Qualification value. This is the threshold value used for the Investment Plan. For example if the Qualification criteria is set to BCR and Qualification value is set at >= 5 only those countermeasures estimated to have a BCR of 5 or more will be considered for further investigation
11. Multiple countermeasure adjustment to Advanced, Simple or None. **Advice:** It is recommended that Advanced is selected. For more information about multiple countermeasure adjustments, see: *iRAP Methodology Fact Sheet 12: Multiple Countermeasures* (available at: http://irap.org/en/about-irap-3/methodology).
12. If the Simple Multiple countermeasure adjustment has been selected, provide the Multiple countermeasure multiplier. This figure is used to adjust the effect of each countermeasure.
13. Provide details here of data sources and any assumptions made in the text box.

7.8.1 Countermeasure costs



1. Users can review the countermeasure Triggers by clicking the corresponding link. Countermeasure triggers refer to the logic used in the iRAP model to determine whether or not a given countermeasure could be considered at a particular location. Note that triggered countermeasures still must pass further checks against minimum spacing and economic criteria before they are included in the SRIP.

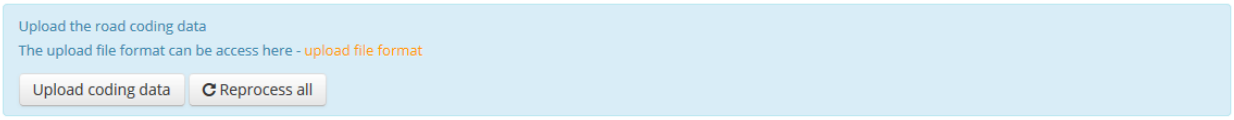
2. Users can review the Countermeasure Cost Upload File Requirements by clicking the corresponding link. The Costs Template may also be downloaded at this point.



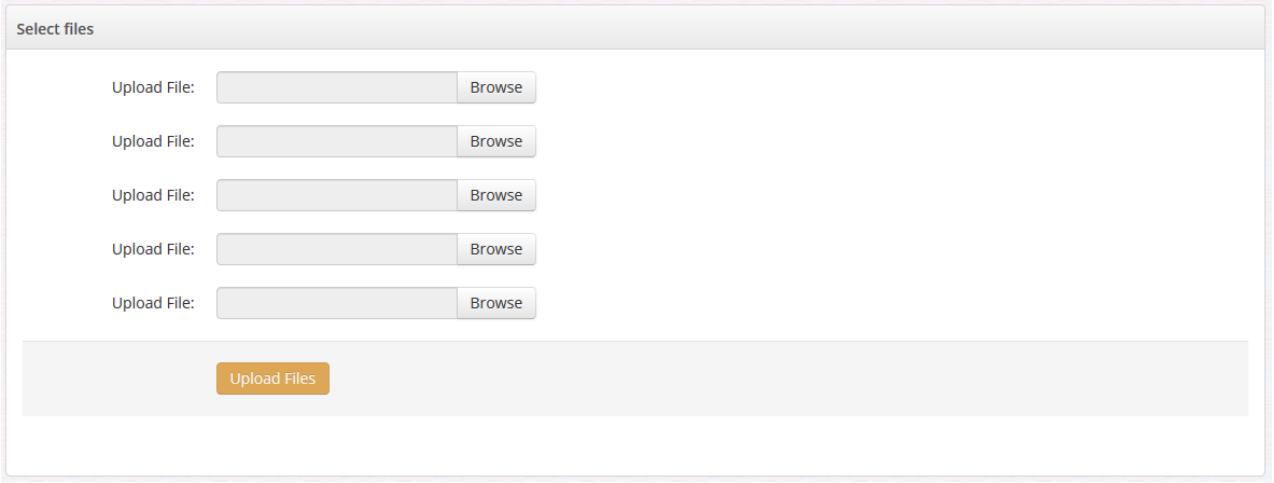
3. Click the Upload Costs button to upload countermeasure costs in bulk to the Dataset. Note that the upload file must comply with the File Requirements.
4. Click the Download Costs button to download countermeasure costs from the Dataset. This costs will download in Microsoft Excel .csv format.
5. Individual Countermeasure costs can be removed from the assessment by clicking the corresponding icon in the Ignore column. The red icon indicates that the countermeasure will not be included in the assessment (that is, it will not be included in any Safer Roads Investment Plan).
6. Individual Countermeasure Costs can be edited by clicking the corresponding icon in the Edit column if the table.
7. The user responsible for quality assurance must click the Assign QA Approval button in order accept that the data is of adequate quality. Clicking this button will cause the red “QA Required” label will change to a green “QA Approved” label.
8. The user can save changes by clicking the Save Stage button, or undo changes made since the last save, by clicking the Restore button.

7.9 Stage 7: Processing

Once the dataset is set up data can be uploaded for processing.

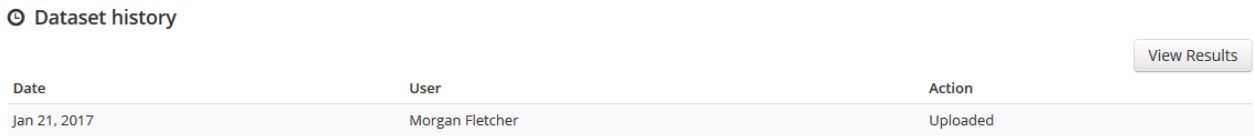


1. Click the Upload Coding Data button (the Upload File Format can be accessed by clicking the corresponding link).



2. Click the Browse button to select the Upload File from the computer, then click the Upload Files button. It is possible to upload a series of files at once. (Note that upload files need to comply with the relevant upload specification for the model assigned to the project).
3. ViDA will then perform a validation test on the data. If there are errors, the user is notified and corrections to file coding are necessary before attempting the upload coding data again.

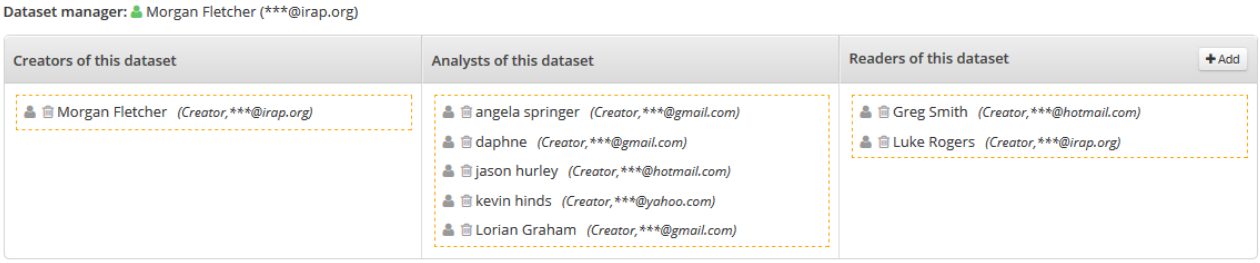
4. If the validation is successful, the user has the option to Proceed or Cancel the assessment. Note that proceeding will overwrite any existing coding data in the Dataset.
5. Progress with the assessment is indicated on the Dashboard. The user will receive a Notification in Primary Navigation Ribbon when the assessment is complete. At this point, Reports and Download files will be available.
6. Users may click the Process All button if road attribute coding has already been uploaded. This button is used when Dataset settings have been changed by road attribute coding has not changed. Progress with the assessment is indicated on the Dashboard. The user will receive a Notification in Primary Navigation Ribbon when the assessment is complete. At this point, Reports and Download files will be available.



7. The Dataset History lists dates that the Dataset was processed and by which user. Users can click the View Results button to jump directly to the Reports.

7.10 Stage 8: Permissions

The Manager and User Managers of a Dataset can use the Permissions interface to configure access to the Dataset.



Users can be 'dragged and dropped' from list to list depending on their overall account access level and the overall account access level of the user manager. User managers with the ability to move a user between lists will see additional details next to users, including their account level and their email suffix. Once the interaction of dragging a user begins, the background colour of lists, the user is permitted to be dropped into, turn green. For example, a username in the list with an account type of Analyst can be moved between the Analyst and Readers groups by a User Manager with at least user manager rights 'Analyst'.

Users can be added to the readers list by using the 'Add' button (and subsequently moved into the required list by 'dragging and dropping'. Users can be removed from the dataset by clicking the 'trash' icon next to the user and choosing save.

The principal user of the dataset has the added functionality of interacting with the user manager icon to enable or disable a user's 'user manager' ability.

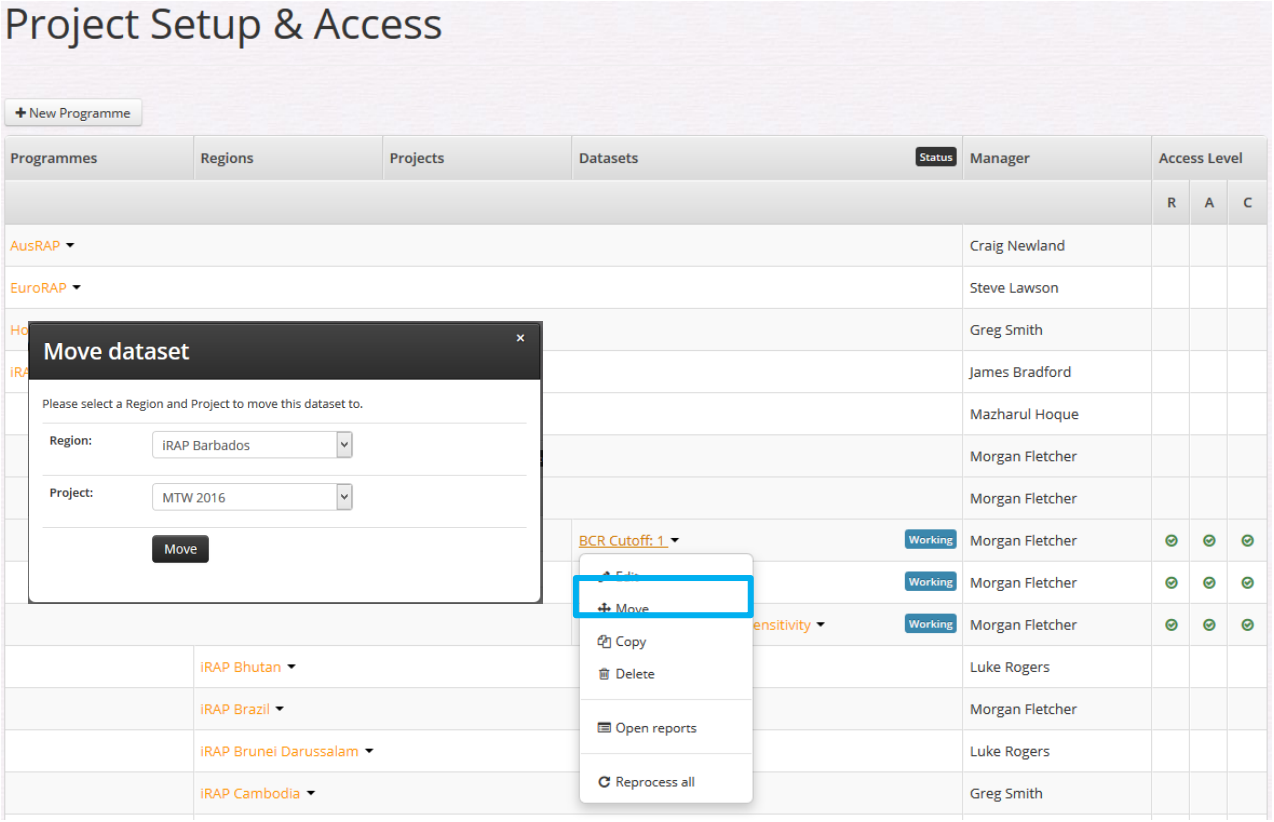
The user can save changes by clicking the Save Stage button, or undo changes made since the last save, by clicking the Restore button.

Advice: It is recommended that only one user should have Creator permissions on a dataset. Granting Creator permissions to additional users could cause the dataset to be overwritten.

7.11 Moving Datasets

Datasets can be moved to different Regions and Projects. To do this, click once on the Dataset name in the Project Setup & Access menu, select Move and when, prompted, select the Region and Project that the Dataset will be moved to.

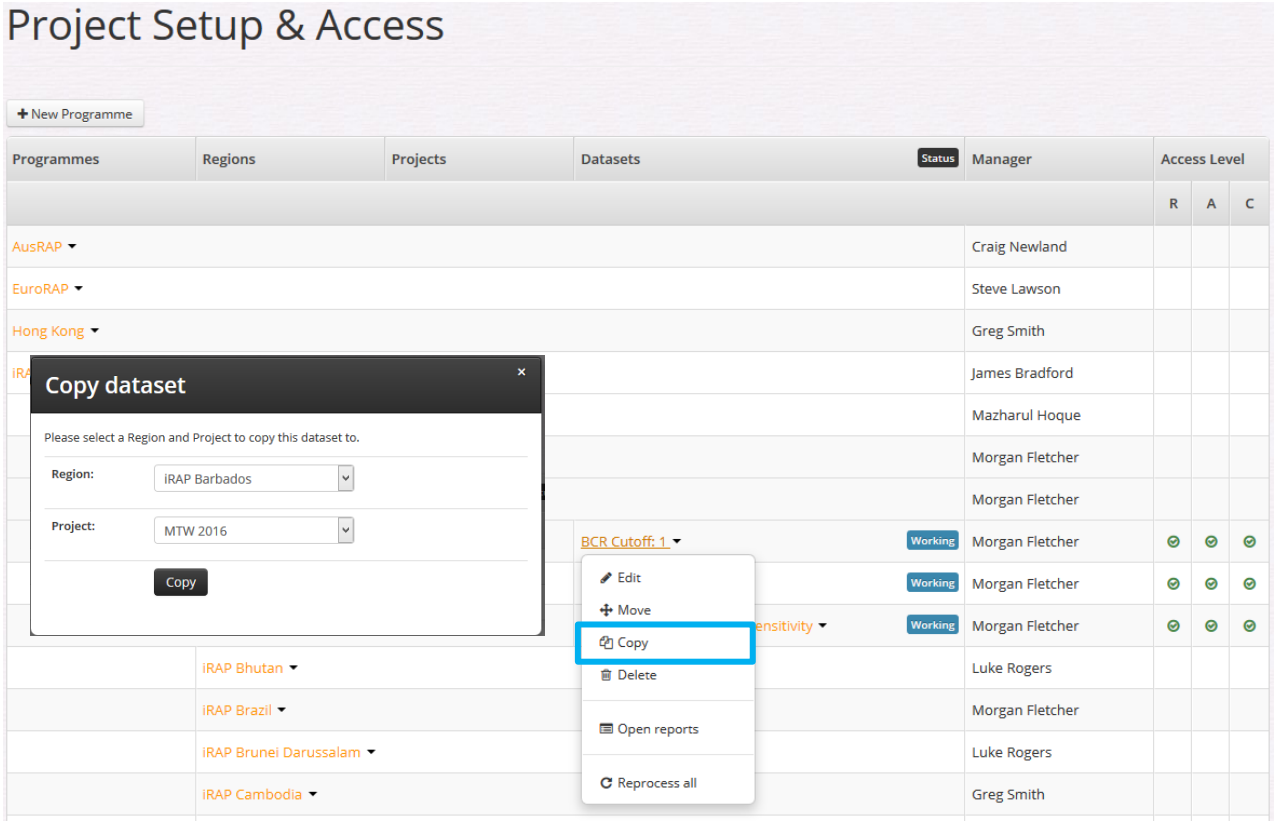
Note: Datasets can only be moved to a project with the same country setting.



7.12 Copying Datasets

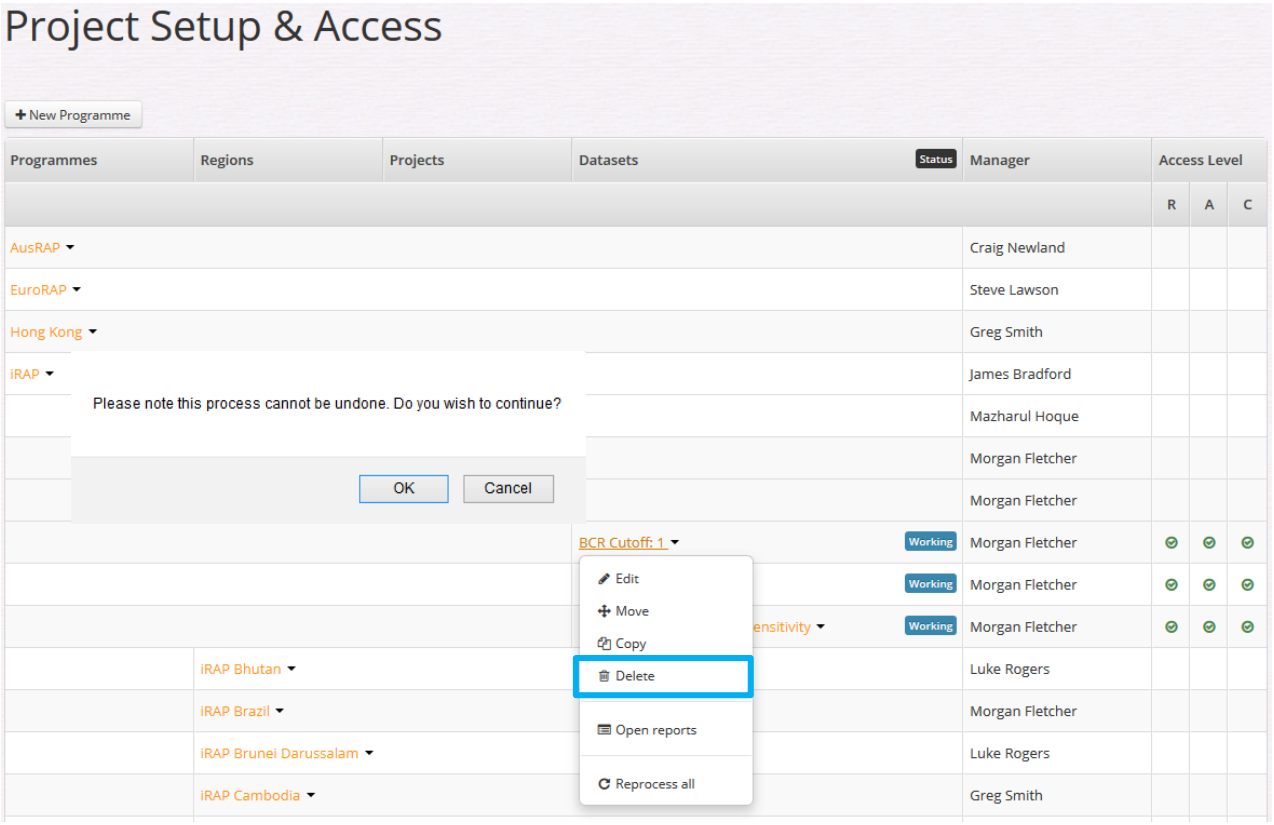
Datasets can be copied. To do this, click once on the Dataset name in the Project Setup & Access menu, select Copy and when, prompted, select the Region and Project that the Dataset will be copied to.

Note: Datasets can only be copied to the original project or another project with the same country setting.



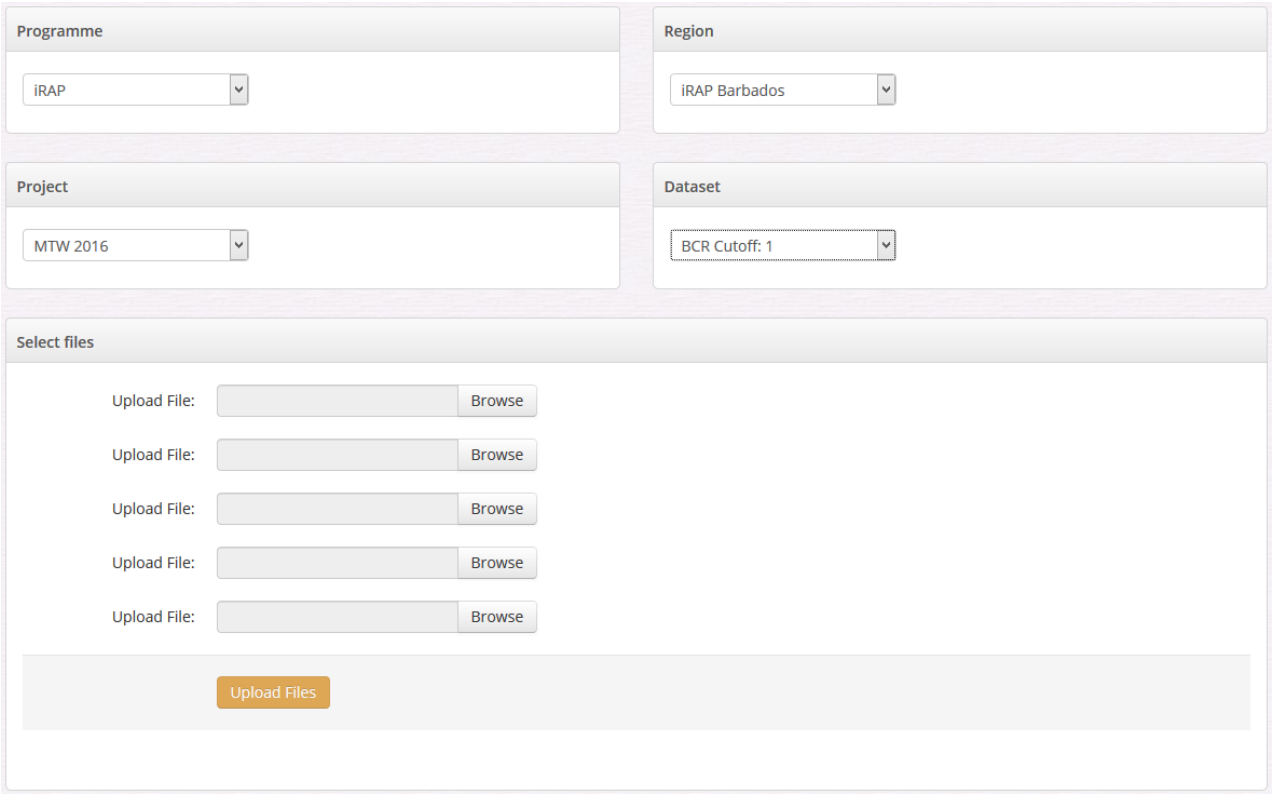
7.13 Deleting Datasets

Datasets can be deleted. To do this, click once on the Dataset name in the Project Setup & Access menu, select Delete and when, prompted, confirm that the Dataset should be deleted.

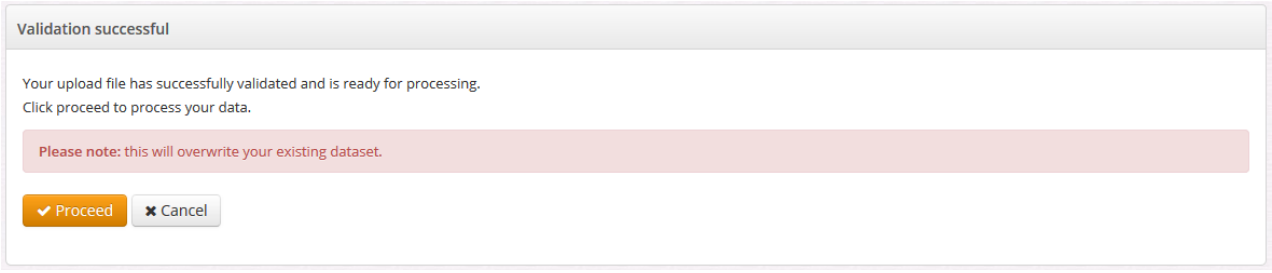


8 Upload Coding Data

Users may upload road attribute coding data to a Dataset by clicking the Upload Coding Data on the Dashboard. This has the same function as clicking the Upload Coding Data button in the Dataset setup (Stage 7: Processing).



1. After clicking the Upload Coding Data on the Dashboard, the user is prompted to select the Programme, Region, Project and Dataset.
2. Click the Browse button to select the Upload File from the computer, then click the Upload Files button. It is possible to upload a series of files at once. (Note that upload files need to comply with the relevant upload specification for the model assigned to the project).
3. ViDA will then perform a validation test on the data. If there are errors, the user is notified and corrections to file coding are necessary before attempting the upload coding data again.



4. If the validation is successful, the user has the option to Proceed or Cancel the assessment. Note that Proceeding will overwrite any existing coding data in the Dataset.
5. Progress with the assessment is indicated on the Dashboard. The user will receive a Notification in Primary Navigation Ribbon when the assessment is complete. At this point, Reports and Download files will be available.

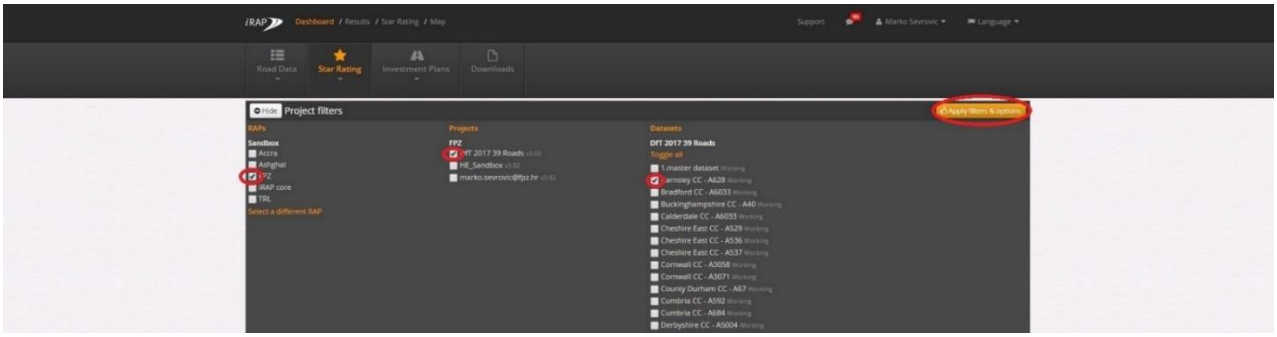
9 Worked Examples

The following are examples of typical processes used in ViDA.

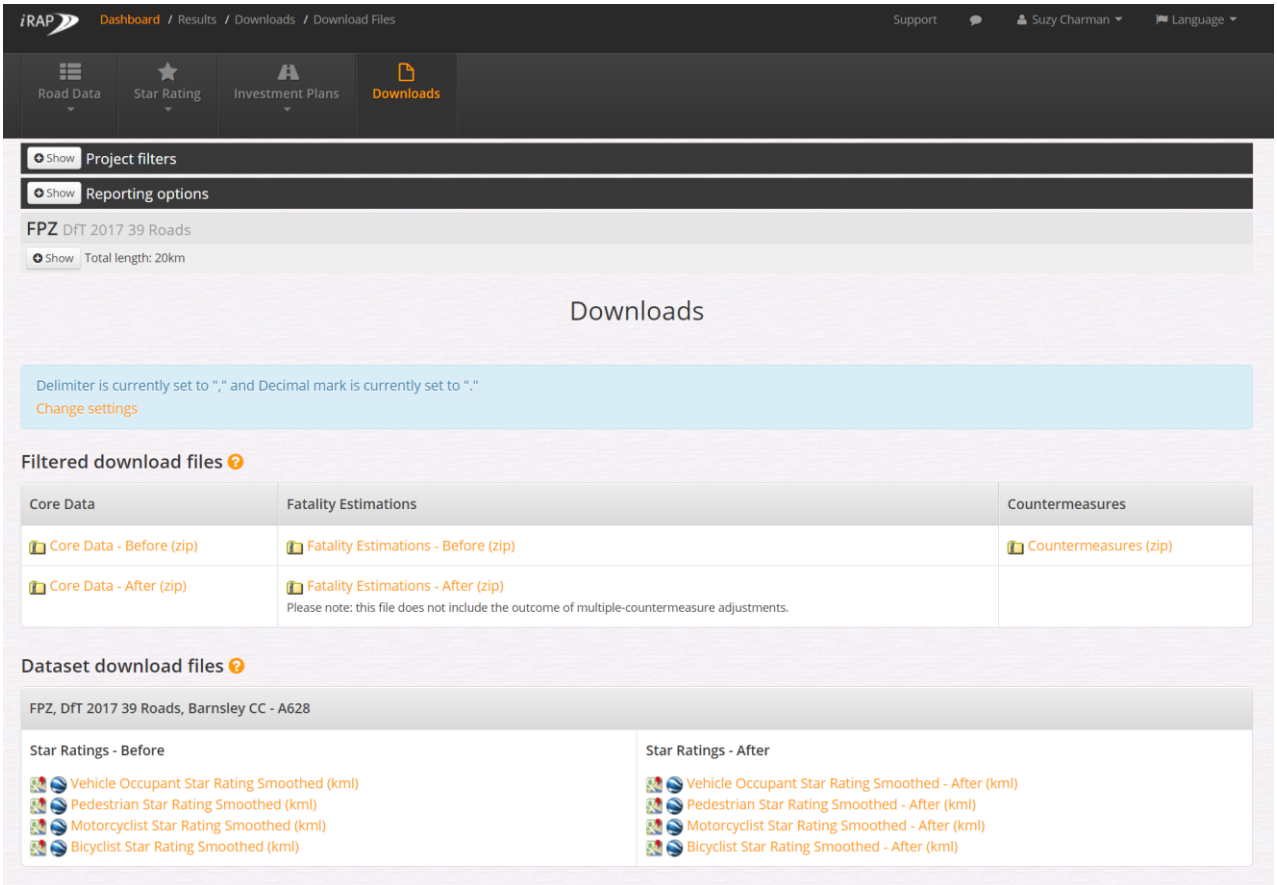
9.1 Updating Road Attribute Coding

It is often necessary for road attribute coding in a Dataset to be edited after it has been processed in ViDA. This may occur when, for example, final quality assurance checks of the Safer Roads Investment Plan (SRIP) reveal errors in the coding. The process for updating the coding is as follows:

1. Log in to ViDA and select Results in the dashboard.
2. Select the Project in Project Filters and the Dataset(s) where coding will be edited using the checkboxes. Press the Apply Filters & Options button.



3. Select Downloads at the top of the screen and the following screen should appear.

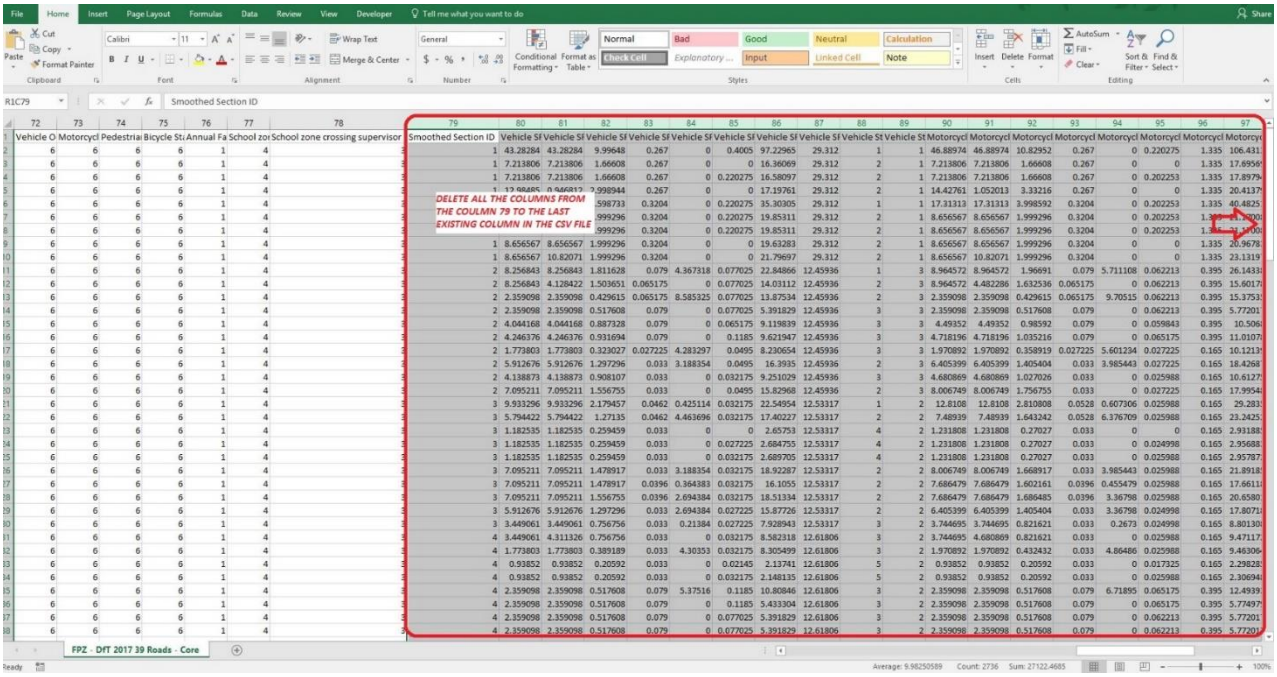


4. Click on the link to the Core Data – Before (zip) file and, when prompted, select Request. This file contains the road attribute coding for the Dataset before any Safer Roads Investment Plan countermeasures have been added, as well as Star Rating Scores and Star Ratings.

5. Wait for a few seconds (for the file to be built), and a Notification should appear in the Primary Ribbon at the top of the screen. Click on the Notification indicator and select the file then, when prompted, save the file .csv to the computer.

6. Open the downloaded .csv file:

    a. Go to column number 79 (or column CA) where the Smoothed Section ID is recorded and delete all the columns starting with this column and those to the right (only the columns from 1 to 78 or A to BZ should remain in the csv. file).



7. Once the columns are deleted, the user can save the file and start editing the cells that need to be updated. **Advice:**

    a. Refer to the Star Ratings and Investment Plans Coding Manual (available at: http://irap.org/en/about-irap-3/specifications) for details on road attribute coding.

    b. Refer to the Star Ratings and Investment Plans: Upload File Specification (available at: http://irap.org/en/about-irap-3/specifications) for details about the upload file specification.

8. The next stage is to upload the coding data again into ViDA. This may be done by clicking the Upload Coding Data button on the Dashboard or in the Dataset Setup page (which is accessed via the Project Access & Setup menu).

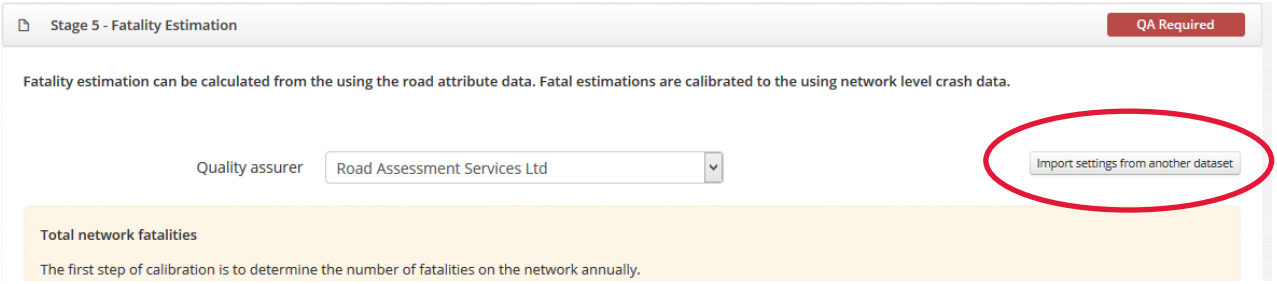
10.1 Performing a Scenario Test

It is possible to test the impact that changes to a road's attributes has on the Star Ratings Scores, Star Ratings, fatality estimates and Safer Roads Investment Plan. This process is often used to explore different options for improving a road or formally assessing road designs. For example, the impact of installing a safety barrier or an increase in operating speeds may be tested.

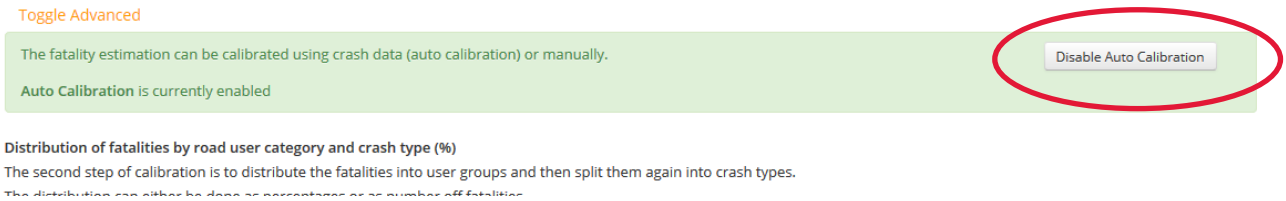
The process requires an existing dataset which may be thought of as the 'baseline' scenario. If the user wishes to test the impact on fatality estimates and the Safer Roads Investment Plan, the Dataset needs to be correctly calibrated and have countermeasure costs uploaded.

The process is as follows:

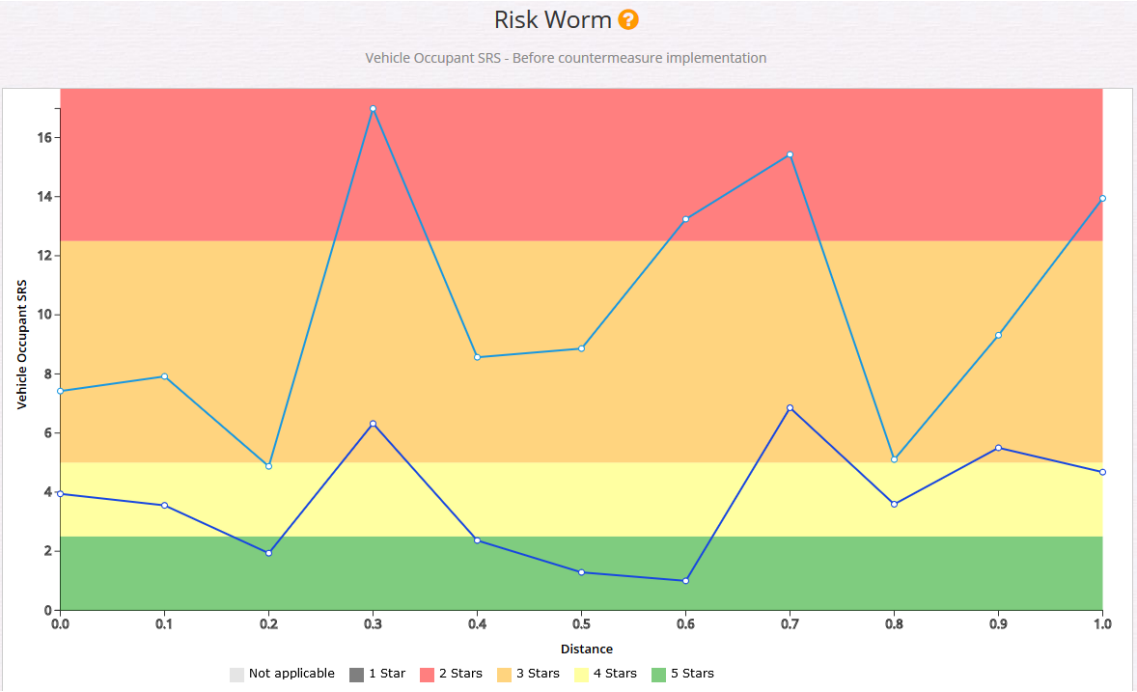
1. Go to the Edit Dataset screen for the baseline Dataset and make a note of the Dataset ID (as per Section 7.1).
2. In the Project Setup & Access screen, copy the baseline Dataset (as per Section 7.12). The copied Dataset can be thought of as the design Dataset.
3. Go to the Edit Dataset Screen for the design Dataset edit screen. In the Fatality Estimation section, click the Import Settings from Another Dataset. When prompted enter baseline Dataset ID and click Continue.



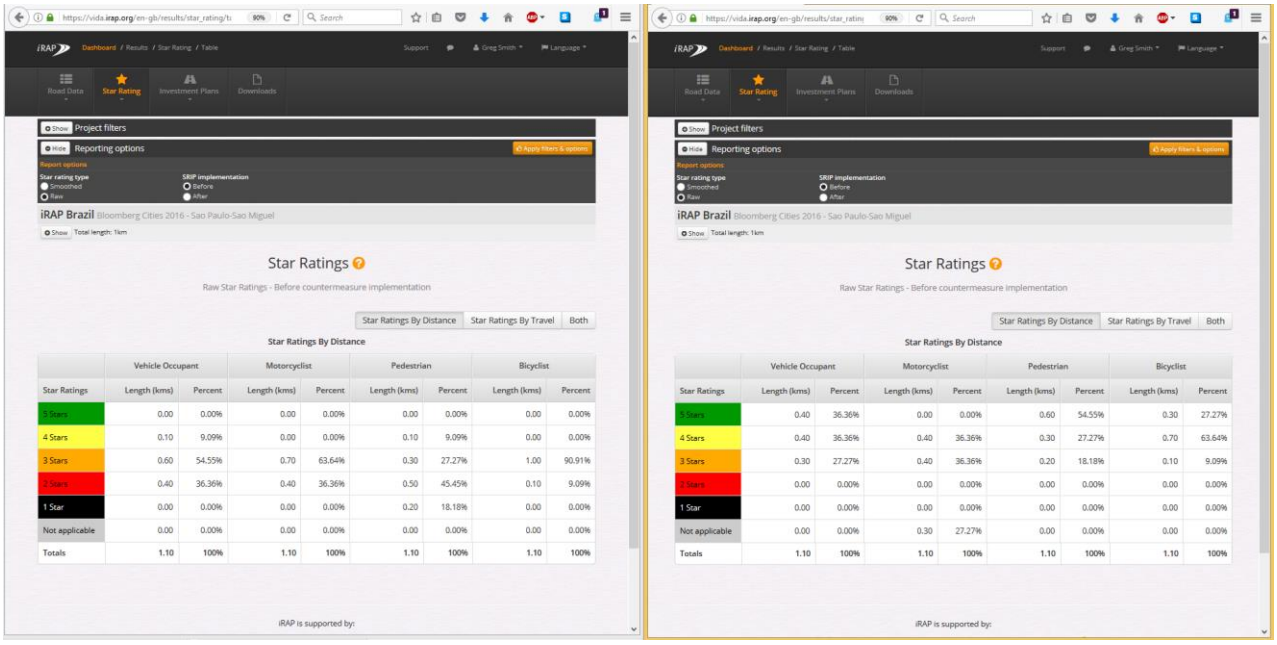
4. Still in the Fatality Estimation section, click the Disable Auto Calibration button. These steps will ensure that the design Dataset uses the same fatality calibration factors as the baseline Dataset, and therefore will enable the impact on fatality estimations to be calculated.



5. Following the steps described in Section 9.1 Updating Road Attribute Coding, make the desired changes to the coding for the design Dataset. Do not make changes to the baseline Dataset.
6. At the completion of the analysis, the results for the baseline and design Datasets may be compared:
    a. The Risk Worm function may be used to plot Star Rating Scores for sections of each Dataset (see: *Accessing Results Using ViDA: A Tour for Reader Account Holders* (available at: http://downloads.irap.org/docs/ViDA_tour.pdf) for more information about Risk Worms.



7. The Star Ratings for each Dataset can be compared. To make this easier, it is suggested that the user open ViDA in two separate browser windows, with window 1 showing the baseline Dataset Star Ratings and window 2 showing the design Star Ratings.



8. The impact on fatalities can be calculated by downloading the Fatality Estimations - Before (zip) download files for each of the Datasets and comparing the results (see: *Accessing Results Using ViDA: A Tour for Reader Account Holders* (available at: http://downloads.irap.org/docs/ViDA_tour.pdf) for more information about Risk Worms.

Advice:

- If at anytime changes are made to the baseline Dataset coding and calibration, then these changes also will need to be made in the design Dataset.
- When editing the road attribute coding, consider how changes in one attribute might impact another. For example, it is common that improving pavement condition from poor to good results in higher operating speeds.