INPUT

Users are provided with a data specification describing what data is to be provided. It is the user's responsibility to ensure this is complete and correct as possible.

This is saved as a .csv in their **Working Location.** This is where all outputs will be saved.

PROCESSING

1

Command line Interface

Prompt users for:

1. Their **Working Location**
2. The **Calculation Method** to be used for each Service Attribute (see table below)

Service Attribute	Calculation Methods
Access	By Limits
	By AVC
Ride Quality	By IRI
	By HATI
	By VCG
Leeway	By Geometry

2

Validity Check

The **input** dataset as a whole needs to be checked and the following calculated:

1. Number of rows of data
2. For each data category (column) the number of non-blank items (cells)
3. For each data category the number of valid items (valid = correct format and within range)
4. For the categories that contain dates, the oldest, most recent dates should be reported

3

Calculate HVIR

For data each row of the .csv there is an independent calculation of the following variables:

1. The Access Index A
2. The Ride Quality Index R
3. The Leeway Index W
4. The HVIR
5. The Maximum Expected Value of HVIR for the road category
6. The Minimum Expected value of HVIR for the road category
7. The HVIR category (Low, Medium or High)

Each row will either **success**fully calculate HVIR or fail due to **missing** or **invalid** data. Each of these outcomes should be logged.

OUTPUT

The input dataset is reproduced with 7 additional data categories

This is saved to the **Working Location**

A Processing Log is also saved to the **Working Location** that includes:

1. Time and date
2. User settings
3. Validity Check results
4. Stats on HVIR calculation outcomes (i.e. reasons for failure)