## INTRODUCTION

This overview document is intended to provide high level support and direction to better understand the criticality of robust traffic count data at a network level, and how to develop a traffic count strategy and structured count programme.

Any relevant current industry guidance material and case studies have been referenced where they provide more detailed assistance. It is important to remember suitable quality assurance processes are needed for the physical collection of the count data to have confidence in its accuracy.

## WHAT IS TRAFFIC COUNT DATA?

Traffic count data is a representation of the level of demand at a location on a network for the period that a counter was collecting data. This level of recorded demand is typically summarised in terms of average daily traffic (ADT), speed, peak hour traffic and traffic mix.

Traffic mix is the percentage distribution of the ADT by vehicle classification (car, light commercial vehicles, medium commercial vehicles and heavy commercial vehicles). To collect classified data an appropriate counter technology is required.

It is common practise across Road Controlling Authorities (RCAs) to record traffic count data in Road Assessment and Maintenance Management (RAMM).

Types of common current traffic counter technologies include:

- Manual counting
- Single tube (volume only)
- Twin tube (speed and classified by axle groupings)
- Induction loops
- Telemetry sites

## WHY IS THIS DATA IMPORTANT TO ME?

Traffic count data is a key input into a number of decision making processes. Robust traffic count data allows us to understand the current and changing demand on our networks. It is the basis for developing traffic estimates for the full network beyond those locations that are counted.

Without good traffic data it is very difficult to reliably plan asset and maintenance management activities to achieve a desired outcome and make evidence based investment decisions.

## KEY POINTS

**Traffic count data is:**

- ✓ A record of the traffic volume and possibly loading at a defined location of road for the period the counter was collecting data

- ✓ To be collected in accordance with a strategy and structured programme

- ✓ The basis for developing traffic estimates for the network

- ✓ Needed to understand the current and changing traffic demand on the network

- ✓ A key input into our asset management processes including forward works programme development

- ✓ 80 percent of the network vehicle kilometres travelled can typically be counted on 20 percent of the network

*Traffic count data provides the level of traffic activity in terms of volume, loading and growth. It is a key input on estimating the level of demand on a road network.*

## WHERE IS THIS DATA USED?

Traffic count data is a key data input into our asset management and decision making processes. The adjacent figure highlights some key areas and aspects where traffic count data is used.

Traffic count data recorded in RAMM is summarised into other tables including the carriageway and treatment length tables. These core tables are commonly the basis on which a roading network is maintained and management efficiently and effectively.
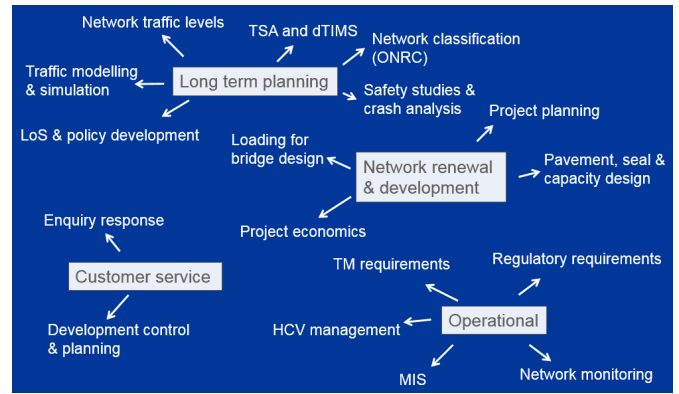


## WHAT IS THE CONSEQUENCE OF POOR TRAFFIC COUNT DATA?

There are significant issues associated with poor traffic count data.  Some examples include:

- Poor estimation of the non-counted network
- Sub optimal funding decisions
- Poor understanding of renewals need and forward works programme development
- Poor customer service
- Poor asset performance analysis and reporting

- Incorrect allocation of asset life cycles
- Incorrect traffic management levels
- Poor asset risk management
- Inappropriate resurfacing or rehabilitation designs
- Understanding of traffic patterns (i.e. growth)

## HOW CAN I DEVELOP A STRUCTURED COUNT PROGRAMME?

A network level structured count programme should look to maximise resources to gain information on the current and changing demand on the network.  A stratified count programme fitted to a rationalised network achieves greater coverage of the count programme through the use of traffic links to 'join' carriageway section of similar traffic activity.



The structured traffic count programme should include:

- Core sites - frequently repeated sites (i.e. annual) to understand changes in demand, either through growth and/or traffic mix
- Rotational sites - geographical and use coverage of network (e.g. rural, industrial, commercial, quarries, forestry blocks, dairy operations etc.)

Current best practise is to count 80 percent of the network vehicle kilometres travelled. The concept behind this is that the greater the proportion of the network demand counted, the smaller the proportion that has to be estimated. This should result in a lower error and a more accurate dataset.  As a guide 20 percent of the network typically carries 80 percent of traffic activity. The frequency of the rotational sites can be structured to align with budgets, resources, etc.

Counted locations need to be considered for seasonal adjustment where relevant.
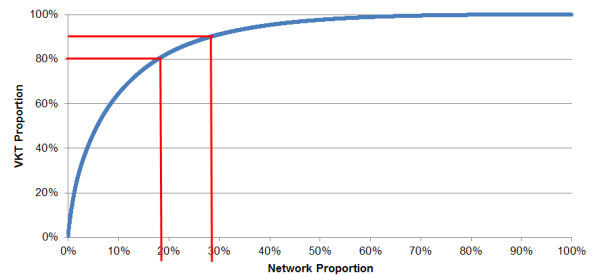
## CONCLUSION

Traffic count data is the basis for developing estimates for the entire road network. This is a key dataset for understanding the current and changing demand on the network.

A structured programme targeted at the sections of network carrying the greatest proportion of network vehicle kilometres travelled can reduce errors in estimation.

## REFERENCES

- RIMS Guideline for Traffic Counting

THE ROAD EFFICIENCY GROUP