

# NATIONAL TARIFF TROUBLES

## INTRODUCTION

This report / instructional document is prepared for general circulation and comes as a result of a growing awareness that the majority of all taxi tariff sheets are flawed in some way or another and is a genuine attempt to correct this situation.

Let us start by saying that this document is not aimed at any particular licensing authority, its officials or those from the taxi trade themselves who often help to compose applications for tariff increases it is meant to be helpful and constructive, it collates five years of working out tariff sheets and comes with the support of many meter manufacturers.

## THE PRESENT POSITION

In the UK many licensing authorities do not produce anything like a clear and concise tariff sheet and in a lot of cases the tariff sheet is at best ambiguous, often misleading, and consequently, when wrong cannot comply with the law. This situation arises for several reasons:-

1. Those persons producing, approving, amending, the tariff have no expertise as to how a taximeter works.
2. In the main, the self same persons are not aware of the pitfalls this can cause and consequently never seek advice.
3. The same Tariff sheet layout has been used for years. This does not mean that it was ever correct; if you like an “if it works don’t fix it” attitude.
5. There is more than enough evidence to suggest that in some cases those involved do not have a grasp of mathematics or if they do have made use of approximations.
6. The use of two units of measurement on the same tariff sheet. (yards and metres – miles and kilometres.
7. A failure, in some cases to advise councillors that tariff ‘amendments’ must be worked out properly before implementation

## THE FUNCTION OF A TARIFF SHEET

The tariff sheet has three main functions

1. To set a new byelaw.
2. To inform the travelling public of what they are paying for.
3. To advise the taximeter manufacturers and agents of what the tariff is and how it should work.

### 1. Byelaws

Section 65 (7) of the Local Government (Miscellaneous Provisions) Act 1976 states:-

*Section 236(8) (except the words “when confirmed”) and section 238 of the Local Government Act 1972 (except paragraphs (c) and (d) of that section) shall extend and apply to a table of fares made or varied under this section as they apply to byelaws made by a district council.*

Most people we have spoken to have never even read this section of the act but, nevertheless, its power creates a new Byelaw each and every time a new tariff is set. The reason for this power is so that the new tariff sets the limit for charging fares which, if exceeded creates an offence under section 58 of The Town Police Clauses Act 1847. In simple terms, no Byelaw, no offence, ergo there is more than a passing responsibility on those who produce the new Tariff sheet to ensure that it is correct in all details.

There are also knock on effects if a tariff sheet is incorrect, for instance, the fact that a tariff sheet may be interpreted in different ways by the public and meter manufacturers may amount to a

defence to overcharging. Going further, enforcement may be impossible and just an embarrassment to councils if meters are set two or three different ways by the meter 'setters' because each of them has read the tariff sheet correctly but applied that information in a different way.

## 2. Public protection.

Nearly every tariff sheet we see has some information included to the effect that "If you feel that you have been overcharged please contact the Council Licensing Department" We have to ask, having seen so many tariff sheets which are not just overly complicated but so mathematically flawed that professors of mathematics and even meter manufacturers cannot work them out is there any need for these errors and how do we correct them?.

We received this comment from a nationally known supplier of meters

*"We often receive tariff cards that are very ambiguous and have to spend a lot of time and effort trying to understand what is required. We then sometimes find other manufacturers have done the same tariff in another way. If the so called experts in this field can spend a day or two working out the a tariff and still come up with a different interpretation, how is some one travelling in a taxi for 10 minutes ever going to understand what they are paying for?"*

## 3. Meter Manufacturers

The way taximeters in the UK work is the time or distance method (as in European standard EN50148), this means that the meter charges for either time or distance. As a taxi slows down the speed at which the meter changes from charging for time to charging for distance is known as the speed cross over point. The speed cross over point is governed by the ratio of time and distance.  
*Please see Appendix 1 for how to calculate the speed cross over point*

In order to conform to the European Standard and all the new byelaws, presented to these meter manufacturers by every new tariff sheet they receive, they are under some pressure to "get it right". However, they have one basic parameter which they have to comply with before any targets can be achieved and it is one which cannot be sidestepped, and that is the rather rigid workings of the meter itself.

In attempting to try to explain the workings of a meter we will "have to get technical" but we hope that we can put across the fact that without accuracy in the tariff sheet setting meters can be impossible. Certain rules therefore have to be followed.

### 1. Taximeters always charge in advance:-

*£2.00 for the first 880 yards or 300 seconds, then 20p for the following 176 yards or 60 seconds.*

In this simple example the meter will show £2.00 as soon as it is hired and then another 20p as soon as the initial time or distance or combination of both has expired. However this is not as simple as it seems.

#### 1. Initial waiting time:-

This is an element of the tariff that is nearly always missed off the tariff sheet because either the taxi licensing department or the taxi owners do not know what it is or, conversely, they do not know how to calculate it. However if this time element is not included on the tariff card no one can complain if a meter manufacturer or his agent enters an incorrect value.

In this connection it is also important to note that there is no such thing as 'free time' at the start of the trip, As soon as the taximeter is engaged in the "Hired" mode it will begin to charge.

As an example of basic functionality: - assume that the initial period of waiting time is 4 minutes and the initial distance is 880 yards. If the meter is engaged in the "Hired" mode and the driver waits 2 minutes before driving off, as half of the initial time has elapsed he will only

have to drive 440 yards, half of the initial distance before the meter drops the next unit.

The calculation of initial waiting time is very straight forward and is compatible with the speed cross over calculations. *Please see Appendix 1 for how to calculate the initial waiting time.*

## 2. General waiting time

The waiting time element of any tariff is **not under any circumstance “an extra”** it is a fundamental part of the tariff. (a number of councils list waiting time as extras)

The waiting time in each tariff should be set out clearly with the corresponding distance.

The waiting time **must** be in the same units as the distance, if it is not, whoever is writing the taximeter programme will have to convert the time element to be in the same units as the distance no matter what is written on the tariff sheet.

*20p for 176 yards or 15p for 60 seconds will be programmed as 20p for 176 yards or 80 seconds).*

In the above example of “engineering” the programmer had no option but to ignore what was on the tariff sheet because, as the meter has to charge in advance for time or distance or any combination of either and as it cannot know in advance what ratio of time or distance will occur it follows that the units must be standard. In short because the tariff sheet was in error the meter could NOT comply with the tariff sheet or byelaw.

## 3. Units of distance.

In this document and in all following calculations you will notice that yards have been used as opposed to meters furthermore you will see that on **no** occasions do we use **both** yards and meters **or** miles and kilometres. Bitter experience has shown that there are virtually **NO** councils who manage to properly convert yards to miles or vice versa. At this moment we are calculating how many councils’ actually get it right but it looks like **less than five percent**.

The reason we and the vast majority of meter manufacturers and their agents use miles and yards is because taxi's are used on the road and up until the time of writing the imperial system is still used on the roads in the UK. Road signs show how far it is to the next town in miles, the speed limit is set in miles per hour, and the car speedometer is also set in mph. Most importantly if a customer wants to know how much the fare will be they invariably ask how much a mile. Until this changes miles/yards are the standard units used by most, unfortunately not all, of those who programme meters. Some councils have dropped miles and yards altogether which means that most meter programmers have to convert those tariff sheets to miles and yards so the tariff sheet bears no relationship to what the meter, the speedometer, milometer or road-signs are showing .

If you are council or indeed a taxi driver who has both yards and metres displayed on your tariff sheet we urge you to please do a test of how accurate your tariff sheet is by dividing the number of initial and then running yards into the number of yards in a mile and then do the same for metres.

Without any embarrassment we give those figures below:-

**Yards in a mile = 1760**  
**Metres in a mile = 1609.34**

We are at this moment calculating how many tariff sheets show the wrong conversion figure for metres but there are many. If you have 1609 or 1610 on your tariff sheet and the meter agent has used metres to set his meters that meter will show either one drop below or one drop more than the equivalent meter set in yards. In simple terms if the initial fare is £2.00 for the first mile then at 1760 yards the meter will change to the next unit but the meter set in metres (1609 ) will already show £2.10 or £2.20 while the driver with a 1610\_set meter won't have passed his mile

yet. Neither metre set meter would pass a measured mile test.  
We genuinely ask all councils to drop the use of metres from their tariff sheets as soon as possible.

#### 4. Drops per mile

The calculation of the drops per running mile should be an easy task. All that has to be done is to divide the mile into equal units having first decided how much per mile should be permitted. So if that figure is for example £1.40 per running mile then the meter can be set to either 14 x 10p drops or 7 x 20p drops.

Unfortunately it is true to say that we have seen some tariff sheets that clearly show £1.30 is the intended running rate but then show 20p distance of time units.

More importantly many councils have abandoned simple and logical, customer friendly tariff sheets in favour of unexplainable mathematical units. These units usually stem from the false premise that giving say, a three and a half percent rise in fares can be achieved by reducing the tariff drops by three and a half percent.

All this exercise does it to ensure that the driver has to travel a minute distance less to get to the next meter drop but that does not increase his wages by three and a half percent. It also ensures that the driver is at a complete loss to be able to tell a customer how much a mile is being charged.

Eventually, sometimes after many years of such increments the running mile may indeed get to an exact amount but in the meantime meter programmers and the customers will just have to put up with confusion.

#### 5. Taximeter modes.

If you are a council that still tests meters on a running mile test remember there are three meter modes

- For hire. The meter is not charging.
- Hired. The meter charges for time or distance.
- Stopped. The waiting time element of the tariff is suspended to enable the customer to pay without the fare increasing. If the car is driven the meter will only charge for distance. When testing a taximeter for distance it should always be tested in the Stopped mode to ensure no element of waiting time is calculated.

#### Some do's don'ts

When compiling a tariff sheet always remember that you may know what you want but if your tariff sheet is ambiguous it may not be what you get.

Always set out the tariff including all of the required distance, times and unit values. Include the times of operation for each tariff. Try to avoid tariffs with multi levels and remember, the simpler is not always the better.

Never simply say that, for instance tariff 2 is tariff 1 plus 25% as this can be undertaken in different ways. For example, in this example, the unit values (10p or 20p) could be increased or, alternatively, the time and distance elements could be reduced, both would give slightly different fares but neither is wrong on the strict reading of the tariff sheet.

The real problem comes when one supplier does it one way, a second supplier uses an alternative way and a third uses a combination. Then you have three taxis all with meters that comply with the same tariff but all are actually different.

Always spell out exactly what you want and that way if the tariff in a meter is not what you want there can be no argument or defence to a charge of overcharging or having a meter not set to the correct tariff.

## APPENDIX 1

### Calculations.

#### Speed cross over point

This is simply the speed at which the meter changes from charging time to distance and vice versa

Example 1:- units values = 160yards or 45 seconds

Speed = distance divided by time therefore 160yards divided by 45seconds = 3.556 yards/second to convert to mph multiply by a factor of 2.04545 which gives 7.27 mph below this speed the meter will charge for time over this speed for distance

Example 2:- 176 yards or 30 seconds

176 divided by 30 = 5.867 yards/second (times constant factor 2.04545) = 12.0 mph If the waiting time is increased the speed cross over point will be higher. If the charge for distance is increased the speed cross over point will be lower.

**Initial waiting time.** This calculation is done to keep the speed cross over point constant throughout the journey.

Example 1. The initial distance is 1 mile (1760 yards) and the subsequent distance every 176 yards with a waiting time of 40 seconds the ratio between the initial distance and subsequent distance is 10:1 so the ratio between the initial time and subsequent time should be the same 10:1 giving an initial waiting time of 400 seconds. Or Initial distance ÷ subsequent distance = Initial time + subsequent time

$$1760 \div 176 = 400 - 40$$

Or

$$1760 \div 176 \times 40 = 400$$

Example 2. Initial distance 960 yards subsequent distance 140 yards waiting time 40 seconds

$$960 \div 140 \times 40 = 274.3 \text{ seconds}$$

*In all examples it is assumed that the time and distance are correctly configured in the same monetary values. So you should never set tariff drop units i.e. **13pence** for each 176 yards if you intend to set waiting time at **10 pence per minute**.*

*13p per 176 yards is £1.30 per mile- so say so. Just divide your mile; 1760yds by 13 = 135.,3846153 yds and **you have decimalised the mile**. If you then use the **word** version of that decimal on your tariff sheet- write "10p for each thirteenth of a mile" or just "thereafter £1.30 per mile" then even the customer knows what the cost per mile is.*

*Yes if you have 10p unit drops and 20pence waiting time units the meter programmers **can** "work it out" but it is just as easy to set, for example - 10p for each 176 yards and 10p per 30seconds than - 20p per minute.*

