

## Impacts of issuing new H-Tags

Assessing the financial impacts of issuing new H-Tags on existing taxi drivers

### Summary of findings

Issuing new H-Tags will have a detrimental impact on the earnings of taxi drivers in the District of Columbia as illustrated in the following table:

Take home pay - baseline	\$13.76 Per Hour	100%	Take home pay - 50 new tags	\$13.46 Per Hour	97.87%
Take home pay - 100 new tags	\$13.18 Per Hour	95.80%	Take home pay - 200 new tags	\$12.63 Per Hour	91.85%

### 1.0 Background Information

The issuing of new taxi tags in Washington DC is currently prevented as a result of a quota, restricting the total number of vehicles. This has an impact of restricting entry to the market, with issuances limited to other forms of licensed vehicles such as Limos. This document estimates the impacts of a limited number of new taxi H-tags being issued.

### 2.0 Current vehicle fleet and vehicle parc

A distinction is made between the total numbers of vehicles that are licensed to operate at any one time, and the numbers operating on street. The total number of vehicles (taxi fleet) is less significant to the calculation than the numbers that are actually operating (taxi parc), as the latter - the taxi parc<sup>1</sup>- will determine the likely impact on driver income.

Figure 1: Taxi parc, August 20th - 26th, 2014 - Vehicles Available

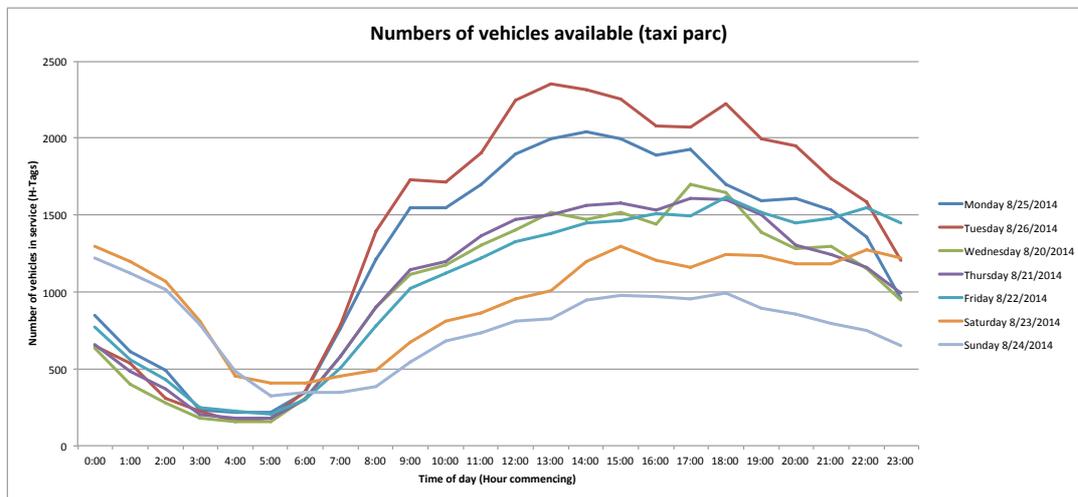
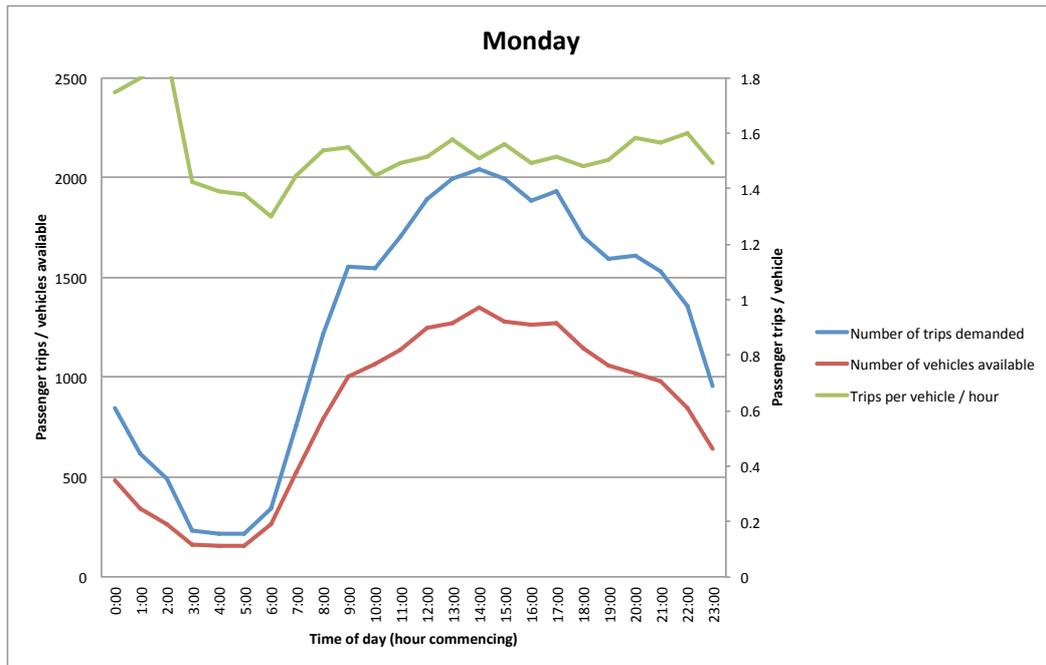


Figure 1 illustrates the numbers of vehicles operating in the District of Columbia in the period from August 20th thru 26th 2014. The figure illustrates changes in the numbers of vehicles available by time of day and day of the week.

<sup>1</sup> A taxi parc is a subset of a taxi fleet, and represents the actual numbers of vehicles available to passengers at any one time. The taxi parc will be a smaller number than the taxi fleet.

At peak hours up to 2500 vehicles are available at any one time, falling rapidly after midnight to less than 500 vehicles at points of least demand. Despite rapid changes in demand and supply, the average levels of vehicle utilization remains relatively consistent between 1.5 and 2 passenger trips made per vehicle per hour. Effectively that drivers balance demand automatically by seeking to work at times of day when they feel that they will make money, see figure 2.

Figure 2: Impact of numbers of vehicles on trips made (shows Monday August 25th)



Having established the patterns of supply and demand, in this case for a week in August, it is possible to identify the incomes and estimate costs to provide a baseline level of pay. The baseline rate of pay is calculated on an hourly basis using a mean across the week. It represents an average driver. It should be noted that drivers will, in reality, earn both above and below the calculated level, depending on the individual choices of the driver.

### 3.0 Costs and comparisons

Section 4 illustrates the costs and income that a drive may make in an hour. The pay is based on mean costs and will vary between drivers. The model then tests 3 new scenarios, based on allowing the issuance of a limited number of new licenses. These are based upon:

- Test 1: Issuing a maximum of 50 new licenses
- Test 2: Issuing a maximum of 100 new licenses
- Test 3: Issuing a maximum of 200 new licenses

It is assumed that all new licenses will be used in service immediately, and that newly licensed vehicles will operate alongside the current fleet. The calculation makes the assumption that there are no new trips as a result of a larger fleet.

## 4.0 CALCULATIONS

BASELINE			NEW LICENSES Test 1		
Baseline mean vehicles in service/ hr	933	per hour	Baseline mean vehicles in service/ hr	933	per hour
Number of new licenses issued	0	H-Tags	Number of new licenses issued	50	H-Tags
Mean Vehicles / hr	933	per hour	Mean Vehicles / hr	948	per hour
Mean trips/hr	1551	per hour	Mean trips/hr	1551	per hour
MeanTrips/veh	1.66	/ vehicle per hour	MeanTrips/veh	1.64	/ vehicle per hour
Mean trip Income before cost	\$12.79	per hour	Mean trip Income before cost	\$12.79	per hour
Mean hourly income before cost	\$21.26	per hour	Mean hourly income before cost	\$20.93	per hour
Estimated driver working hours	50	hours per week	Estimated driver working hours	50	hours per week
COSTS			COSTS		
Distance driven/trip (with pass)	4.18	Miles	Distance driven/trip (with pass)	4.18	Miles
Distance driven/trip (empty)	2.09	Miles	Distance driven/trip (empty)	2.09	Miles
Miles driven / hour	10.42	Miles	Miles driven / hour	10.26	Miles
Fuel efficiencies Crown Vic = 75% of fleet	13	MPG	Fuel efficiencies Crown Vic = 75% of fleet	13	MPG
Fuel efficiencies Others = 25% of fleet	25	MPG	Fuel efficiencies Others = 25% of fleet	25	MPG
Fuel efficiencies combined	16	MPG	Fuel efficiencies combined	16	MPG
Fuel cost	\$3.39	per gallon	Fuel cost	\$3.39	per gallon
Fuel cost	\$2.21	per Hour	Fuel cost	\$2.17	per Hour
Vehicle rental cost	\$180	per week	Vehicle rental cost	\$180	per week
Vehicle rental cost	\$3.60	per Hour	Vehicle rental cost	\$3.60	per Hour
Insurance Cost	35	Per week	Insurance Cost	35	Per week
Insurance Cost	\$0.70	Per Hour	Insurance Cost	\$0.70	Per Hour
Maintenance costs	\$50	Per week	Maintenance costs	\$50	Per week
Maintenance costs	\$1.00	Per Hour	Maintenance costs	\$1.00	Per Hour
PAY AFTER COSTS			PAY AFTER COSTS		
Income before costs	\$21.26	per Hour	Income before costs	\$20.93	per Hour
Costs per hour	\$7.51	per Hour	Costs per hour	\$7.47	per Hour
PAY per hour	\$13.76		PAY per hour	\$13.46	

NEW LICENSES Test 2

Baseline mean vehicles in service/ hr	933	per hour
Number of new licenses issued	100	H-Tags
Mean Vehicles / hr	962.166	per hour
Mean trips/hr	1551	per hour
MeanTrips/veh	1.61	/ vehicle per hour
Mean trip Income before cost	\$12.79	per hour
Mean hourly income before cost	\$20.62	per hour
Estimated driver working hours	50	hours per week

COSTS

Distance driven/trip (with pass)	4.18	Miles
Distance driven/trip (empty)	2.09	Miles
Miles driven / hour	10.10	Miles
Fuel efficiencies Crown Vic = 75% of fleet	13	MPG
Fuel efficiencies Others = 25% of fleet	25	MPG
Fuel efficiencies combined	16	MPG
Fuel cost	\$3.39	per gallon
Fuel cost	\$2.14	per Hour
Vehicle rental cost	\$180	per week
Vehicle rental cost	\$3.60	per Hour
Insurance Cost	35	Per week
Insurance Cost	\$0.70	Per Hour
Maintenance costs	\$50	Per week
Maintenance costs	\$1.00	Per Hour

PAY AFTER COSTS

Income before costs	\$20.62	per Hour
Costs per hour	\$7.44	per Hour
PAY per hour	\$13.18	

NEW LICENSES Test 3

Baseline mean vehicles in service/ hr	933	per hour
Number of new licenses issued	200	H-Tags
Mean Vehicles / hr	991	per hour
Mean trips/hr	1551	per hour
MeanTrips/veh	1.56	/ vehicle per hour
Mean trip Income before cost	\$12.79	per hour
Mean hourly income before cost	\$20.01	per hour
Estimated driver working hours	50	hours per week

COSTS

Distance driven/trip (with pass)	4.18	Miles
Distance driven/trip (empty)	2.09	Miles
Miles driven / hour	9.80	Miles
Fuel efficiencies Crown Vic = 75% of fleet	13	MPG
Fuel efficiencies Others = 25% of fleet	25	MPG
Fuel efficiencies combined	16	MPG
Fuel cost	\$3.39	per gallon
Fuel cost	\$2.08	per Hour
Vehicle rental cost	\$180	per week
Vehicle rental cost	\$3.60	per Hour
Insurance Cost	35	Per week
Insurance Cost	\$0.70	Per Hour
Maintenance costs	\$50	Per week
Maintenance costs	\$1.00	Per Hour

PAY AFTER COSTS

Income before costs	\$20.01	per Hour
Costs per hour	\$7.38	per Hour
PAY per hour	\$12.63	