RPS

ECONOMIC ANALYSIS OF THE QUEENSLAND TAXI INDUSTRY

Technical Research Report prepared for TCQ

Prepared by:

RPS AUSTRALIA EAST PTY LTD

L2 743 Ann Street
Fortitude Valley, Q, 4008

T: +61 7 3237 8899
F: +61 7 3237 8833
E: mark.wallace@rpsgroup.com.au

Client Manager: Mark Wallace
Report Number: 129653-1
Version / Date: FINAL

Prepared for:

TAXI COUNCIL QUEENSLAND

8/96 Cleveland St,
Stones Corner, Q, 4120

T: +61 7 3434 2100
F: +61 7 3394 4395
E: info@tcq.org.au
W: tcq.org.au

IMPORTANT NOTE

We have prepared this report for the sole purposes of Taxi Council Queensland ("**Client**") for the specific purpose of only for which it is supplied ("**Purpose**"). This report is strictly limited to the purpose and the facts and matters stated in it and does not apply directly or indirectly and will not be used for any other application, purpose, use or matter.

In preparing this report we have made certain assumptions. We have assumed that all information and documents provided to us by the Client or as a result of a specific request or enquiry were complete, accurate and up-to-date. Where we have obtained information from a government register or database, we have assumed that the information is accurate. Where an assumption has been made, we have not made any independent investigations with respect to the matters the subject of that assumption. We are not aware of any reason why any of the assumptions are incorrect.

This report is presented without the assumption of a duty of care to any other person (other than the Client) ("**Third Party**"). The report may not contain sufficient information for the purposes of a Third Party or for other uses. Without the prior written consent of RPS Australia East Pty Ltd:

(a) this report may not be relied on by a Third Party; and

(b) RPS Australia East Pty Ltd will not be liable to a Third Party for any loss, damage, liability or claim arising out of or incidental to a Third Party publishing, using or relying on the facts, content, opinions or subject matter contained in this report.

If a Third Party uses or relies on the facts, content, opinions or subject matter contained in this report with or without the consent of RPS Australia East Pty Ltd, RPS Australia East Pty Ltd disclaims all risk and the Third Party assumes all risk and releases and indemnifies and agrees to keep indemnified RPS Australia East Pty Ltd from any loss, damage, claim or liability arising directly or indirectly from the use of or reliance on this report.

In this note, a reference to loss and damage includes past and prospective economic loss, loss of profits, damage to property, injury to any person (including death) costs and expenses incurred in taking measures to prevent, mitigate or rectify any harm, loss of opportunity, legal costs, compensation, interest and any other direct, indirect, consequential or financial or other loss.

Document Status

Version	Purpose of Document	Orig	Review	Review Date
Draft A	Draft for Client Review	HJ	MW	03/06/2016
Draft B	Draft for Client Review	MW	HJ	03/06/2016
Final	Final for submission	HJ	MW	06/06/2016

Approval for Issue

Name	Signature	Date
Mark Wallace		06/06/2016

Contents

SUMMARY **1**
1.0 INTRODUCTION **5**
1.1 Research Context **5**
1.2 The Opportunities for Personalised Transport Review ("OPT Review") **5**
1.3 Economic Assessment Technical Research Paper Structure **6**
1.4 Sources of Evidence **6**
1.4.1 Consultation 6
1.4.2 Booking Company Data and Other Statistics 2
1.4.3 Market Research 2
1.4.4 Desktop Research 3
1.5 Author Profile **3**
1.5.1 RPS 3
1.5.2 Mark Wallace 4
1.6 Glossary and Abbreviations **4**
2.0 CONTRIBUTION TO THE QUEENSLAND ECONOMY **5**
2.1 Contribution Types **5**
2.2 Methodology **5**
2.3 Economic Contribution of Catching Taxis in Queensland **6**
2.3.1 Economic Contribution Assumptions and Drivers 6
2.3.2 Economic Contribution Assessment 6
2.4 Economic Contribution of Operating Taxis in Queensland **8**
2.4.1 Economic Contribution Assumptions and Drivers 8
2.4.2 Economic Contribution Assessment 9
3.0 COST BENEFIT ANALYSIS OF TAXI DE-REGULATION **12**
3.1 Proposed De-Regulation **12**
3.2 Cost Benefit Analysis Methodology **12**
3.2.1 Discount Rates and Timeframe 12
3.3 De-Regulation Options **13**
3.3.2 Option One 14
3.3.3 Option Two 14
3.3.4 Option Three 14
3.3.5 Option Four 14
3.4 Cost and Benefit Profiles **15**
3.4.1 Paratransit Costs 15
3.4.2 Regulatory Compliance Costs 15
3.4.3 Congestion Costs 16
3.4.4 Emission Costs 17

3.4.5 Fare Price Increase 17
3.4.6 Increase in Incidences Involving Vehicles 18
3.4.7 Differentiated Product Benefit 19
3.5 Value of Costs and Benefits 19
3.5.1 Present Value of Benefits 20
3.5.2 Present Value of Costs 20
3.5.3 Net Present Values and Benefit Cost Ratios 21
3.6 Industry Compensation Not Considered 22
4.0 COST BENEFIT ANALYSIS OF PUBLIC TRANSPORT REFORMS 24
4.1 Public Transport Reform Options 24
4.2 Benefits of Public Transport Reform Options 24
4.2.1 Public Transport Efficiency Benefit 24
4.2.2 GoCard Consumer Benefit 25
4.2.3 Decreased Electronic Transaction Surcharge Benefit 25
4.3 Present Value of Benefits 25
5.0 CONCLUSIONS 27
APPENDIX A – ECONOMIC CONTRIBUTION ASSESSMENT METHODOLOGY 28
APPENDIX B – ECONOMIC CONTRIBUTION ASSESSMENT DETAILED RESULTS 31
APPENDIX C – COST BENEFIT ANALYSIS OF DE-REGULATION RESULTS 1
APPENDIX D – PRICE INCREASES OF ACCESS-A-RIDE 3
APPENDIX E – EXERTS OF PARATRANSIT PEER REPORT 8
APPENDIX F – USING TAXI VOUCHERS TO LOWER THE COST OF PARATRANSIT SERVICES 32
APPENDIX G – GROWTH IN PRIVATE HIRE CARS IN LONDON 44
APPENDIX H – TRANSPORT FOR LONDON ENFORCEMENT AND COMPLIANCE 55

Figures

Figure 1 Gross Value Add by Industry, Annual Impact of Expenditure on Taxis 7
Figure 2 Employment by Industry, Annual Impact of Expenditure on Taxis 8
Figure 3 Gross Value Add by Industry, Annual Impacts of Taxi Operations 10
Figure 4 Employment by Industry, Annual Impacts of Taxi Operations 11
Figure 5 Regulatory Reform Options, OPT Review 13
Figure 6 Present Value of Benefits, by Discount Rate 20
Figure 7 Present Value of Costs, by Discount Rates 21
Figure 8 Net Present Value, by Discount Rate 21
Figure 9 Benefit Cost Ratios by Discount Rate, De-Regulation Options 22
Figure 10 Present Value of Public Transport and Community Affordability Increases, by Discount Rate 26

Summary

Introduction

- RPS has been engaged by Taxi Council Queensland ("TCQ") to undertake comprehensive research on the Queensland Taxi Industry.
- This Technical Research Report includes research and analysis on the current economic contribution of taxis in Queensland and a full, Treasury-compliant Cost Benefit Analysis of the regulatory reform Options outlined in the Green Paper.
- This Research Report draws upon extensive information and evidence derived from consultation with industry across the State and representatives of international taxi jurisdictions in the US, UK and Singapore, data provided by Queensland taxi booking companies, market research and desktop research.

Economic Contribution of Taxis in Queensland

- The estimates of the economic contribution of taxis in Queensland were produced by RPS using Input-Output (I/O) transaction tables and models developed by RPS. Data sources used include State and National Accounts and industry specific ABS and other agency data. Input-Output models were used to produce estimates of the direct and flow-on contributions of the taxi industry to the Queensland economy.
- Two broad types of economic contributions were assessed:
  - The contribution made by the expenditure on taxi services by the Queensland community and
  - The contribution made by the expenditure on taxi operations made by the taxi industry.
- The analysis shows that the purchasing of taxi services by Queensland contributes $1.55 billion to the Gross Value Add of the Queensland economy, over $706 million to worker and household incomes and supports over 12,400 full time equivalent workers.

Table 1 Direct and Indirect Impacts of Catching Taxis in Queensland

Contribution	Gross Value Add ($M)	Income ($M)	Employment (FTE)
Direct Contribution			
Transport, Postal and Warehousing	503.8	250.7	5,102
Financial and Insurance Services	60.0	39.3	161
Total Direct Contribution	**563.8**	**290.0**	**5,262**
			Indirect Contributions
Supply Chain Effects (Type I)	375.1	173.0	2,915
Household Consumption Effects (Type II)	611.4	243.1	4,267
Total Indirect Contributions	*986.5*	*416.1*	*7,181*
Total Contribution	**1,550.3**	**706.0**	**12,443**

- Transport, finance and professional services sector receive the greater benefits, as does the broader household sector.
- In terms of taxi vehicle operations, the Queensland taxi industry contributes $359 million per year to the Queensland economy, including $158 million in incomes and 2,488 jobs.

Cost Benefit Analysis of Taxi De-Regulation

- The OPT Review has outlined a series of Options which represent varying forms of de-regulation of the

Queensland taxi industry.

- However, the historical experiences of other national and international jurisdictions that have implemented programs of taxi de-regulation have been broadly negative, with a range of perverse outcomes being realised.
- This is due to the industry experiencing structural market failure in the absence of Government intervention, owing to (among other things):
  - imperfect information
  - conflicting objectives of different components of the industry
  - the shift of the industry to a low cost, low quality service model that fails to meet the needs of the community
- The OPT Review did not provide costings of the de-regulation Options outlined in the Green Paper. RPS has prepared these costings in line with the Queensland Government Treasury Department guidelines for project and program evaluation, using a Cost Benefit Analysis methodology.
- Key costs of personalised transport de-regulation identified through international research over the past 30 years include:
  - **Paratransit Costs** – the cost to the Government of shifting from an industry funded on-demand disabled taxi service to a Government funded, pre-booked (typically 24hrs in advance) paratransit system.
  - **Regulatory Compliance Costs** – increase in cost to Government of regulatory enforcement and compliance from the removal of co-regulation and the increase in personalised transport vehicles.
  - **Congestion Costs** – the cost to the community of the increase in congestion in major economic nodes, particularly CBDs and airports in a de-regulated environment.
  - **Emission Costs** – the cost of additional emissions from an increased personalised transport fleet, coupled with a shift away from hybrid and LPG fuels and sub-optimal vehicle utilisation.
  - **Fare Price Increases** – increased cost of fares to the community from de-regulation mirroring the outcome of every de-regulated market in the world for the past 30 years.
  - **Increase in Incidences Involving Vehicles** – the social and community cost of increased serious crashes resulting from the shift of private motor vehicles to personalised transport vehicles.
- Only one benefit was identified from research – reduced waiting times. While the relevance of this benefit to Queensland is questionable (it only accrues in urban areas and is based on markets where TBCs are not contractually obligated to hit Minimum Service Levels, it has been included to ensure the results of the analysis are comprehensive and conservative.
- Based on this analysis, RPS estimates that the net impact to the community and Government of the proposed de-regulation Options (Options 2-4) will be negative over the next four years. The net cost to Queenslanders is estimated at between $650 million and $1.0 billion per annum depending on the Option and the relevant Discount Rate.
- The biggest impact will be on the fiscal position of Government with the cost of delivery paratransit and of increased compliance burden costs representing two of the largest negative impacts.

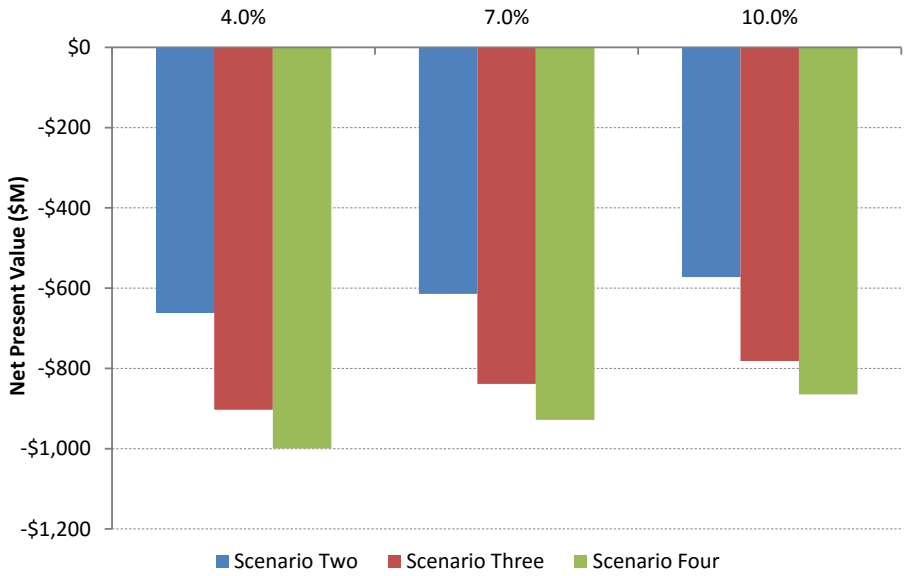


Figure 1 Net Present Value, by Discount Rate, De-Regulation Options

- This analysis has not included consideration of the costs to Government and the community, directly or indirectly, of compensation to the industry and licence owners of the implementation of any of the de-regulation options.
- This reflects the objective of ensuring the results of the Cost Benefit Analysis are conservative and defensible in nature. It also reflects the fact that the level of compensation can vary dependent on the compensation package developed by Government and the de-regulation Option implemented.
- RPS estimates that compensation of up to $1.15 billion could be required in the forward estimates, if licences are bought back by the Government at pre-2015 market prices. The addition of this cost would have the effect of more than doubling the nominal cost to Queensland of the proposed reform options.

Cost Benefit Analysis of Public Transport Reforms

- The Green Paper of the OPT Review Taskforce also identified several potential future reform options for integrating the Queensland taxi industry into the broader public transport network. These reform options align with the current role of taxis in the movement of Queenslanders and the views and preferences of the community. This reform would have the potential to yield significant benefits for the Queensland public transport system as well as the wider community.
- Public Transport-related benefits have not been assessed as part of the core Cost Benefit Analysis of the proposed regulatory reform Options in section 3.0. This is because the implementation of public transport options is not contingent on or related to de-regulation of taxis.
- It is instead an independent reform option that can be adopted and implemented separate to the broader de-regulation reform Options proposed in the Green Paper.
- The future options assessed in this section are:
  - The integration of Go Cards into taxis
  - A decrease of the credit card surcharge currently applied to electronic payments within taxis
  - The integration of taxis into first and last mile trips to feed into the public transport system
- In total, these three benefits are estimated provide $319 million worth of benefits to the Queensland community through decreased prices and increased accessibility under a 7% discount rate. These benefits and these potential future options have the ability to be implemented irrespective of which scenario is recommended by the OPT Review Taskforce.

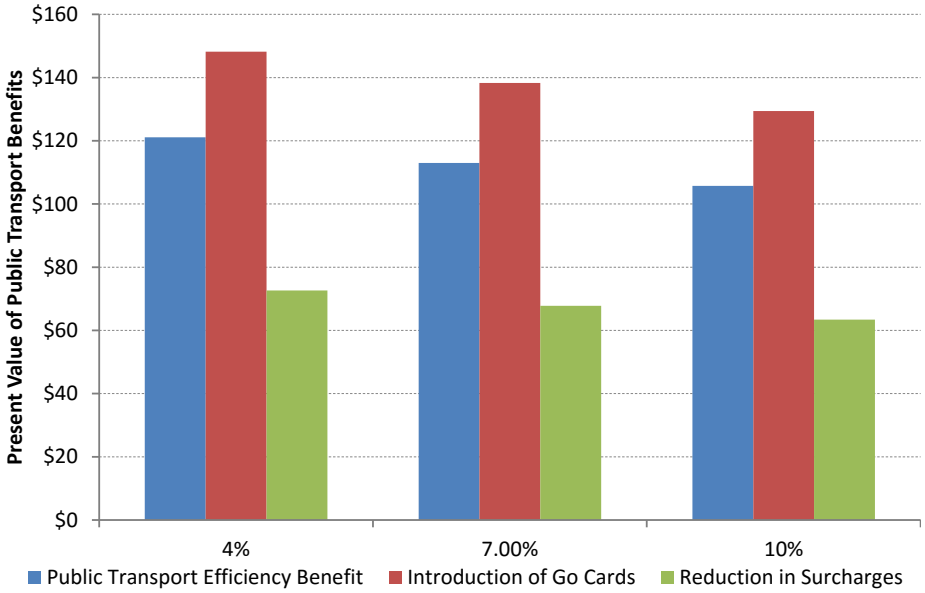


Figure 2 Present Value of Public Transport and Community Affordability Increases, by Discount Rate

Conclusions

- Queenslanders utilise taxis more than any other State and get better value for money due to lower fares, longer trips and more frequent travel in groups. In 2015, Queenslanders spent over $1 billion on taxis resulting in a **total annual contribution to the economy of $1.6 billion**. This contribution is captured by a range of sectors including transport, retail, finance and property sectors.
- The operations of the Queensland taxi industry also generate benefits. Businesses in the taxi industry supply chain receive a benefit in the order of $360 million each year associated with the operation and maintenance of the fleet and the purchase and fitout of new and replacement vehicles.
- The Options identified by the OPT Review Green Paper do not benefit Queenslanders or the Government. All de-regulation Options (Options 2-4) have a negative impact on the community and on the fiscal position of Government over the next four years.
- The full de-regulation of the Queensland taxi industry and personalised transport sector is estimated to cost over $1.2 billion dollars over the next four years, with the majority of this cost being a financial cost to Government in the operation and delivery of a paratransit fleet. However, Queenslanders will also be impacted through increased traffic congestion, worsening vehicle safety and higher fares. These trends are in line with the experiences of international markets over the past 30 years.
- The Benefit Cost Ratios of each of the reform Options identified are all well below the 1.0 threshold that indicates a return on investment for the community and Government. Therefore, the evidence and analysis in this Report indicate that the implementation of the reform Options presents cannot be justified from an economic, social, environment or fiscal perspective.
- And this does not include the cost to the Government of any compensation package in response to the adoption and implementation of one of the de-regulation reform Options. This compensation could be valued at anything up to $1.15 billion in the forward estimates depending on the compensation model adopted by Government.
- The Green Paper also identifies independent reforms focused on further integrating taxis into the public transport sector. These reforms can be implemented and the benefits realised without the implementation of any of the broader reform Options identified in the Green Paper. If achieved, the Queensland community and Government will accrue between $300 million and $350 million per year.

1.0 Introduction

1.1 Research Context

RPS has been engaged by Taxi Council Queensland ("TCQ") to undertake comprehensive research on the Queensland taxi industry. This research forms the basis of TCQ's submission to the Opportunities for Personalised Transport Review ("OPT Review").

It also represents the first comprehensive profiling and analysis of the Queensland taxi industry in twenty years and will form a key reference source of the characteristics, trends, challenges and opportunities facing the industry over the next several decades.

The research undertaken is comprised of a series of concise, interrelated technical research reports that cover all aspects of the Queensland taxi industry. Research topics covered by the reports include:

- Analysing the characteristics and drivers of demand for taxi services in Queensland.
- Profiling and analysing the supply of taxi services in Queensland, including the current characteristics and structure of the industry, comparisons with the way taxi services are delivered around Australia and overseas and opportunities for improvements in the way taxi supplies are regulated.
- Assessment of the way in which pricing and fares are regulated and set, the appropriateness of these settings based on both industry viability and community affordability concerns, the underlying cost structure of delivering taxi services and complying with regulations.
- Identifying and profiling recent and future innovations in the delivery of taxi services including digital and online dispatch services, in vehicle equipment and technology, business and service delivery models and in the regulations themselves.
- Assessment of the economic contribution of the taxi industry to the Queensland economy including direct and indirect impacts and support provided to industry, the economy and wider community.

These reports include a series of practical recommendations and insights into future development and growth of the industry, including business, service, technological and regulatory enhancements that would benefit all stakeholders in the industry and the wider community.

1.2 The Opportunities for Personalised Transport Review ("OPT Review")

In late 2015, the Queensland Government commissioned an independent review of taxi, limousine and rideshare services in Queensland. The purpose of the review is to:

"…ensure Queenslanders are provided with safe and efficient personalised transport services and with a sustainable industry to deliver the services."

The terms of reference for the Review – referred to the Opportunities for Personalised Transport or OPT Review – are broad in nature and cover all aspects of the personalised transport services sector. The scope includes:

- The safety of the community and drivers
- The delivery of a flexible legislative framework that supports competition and innovation for all participants
- Customer opinions of rideshare services
- Steps undertaken by the taxi industry in adapting to changing customer needs and expectations
- Supporting a sustainable industry that is forward-looking and fosters innovation

- Competition in the sector, including vertical integration, anti-competitive practices and incentives for innovation
- The provision of affordable and customer-focused services
- The needs of the community across Queensland, including those with disabilities or reduced mobility
- The current and potential role of taxis, limousines and rideshare services in an integrated transport system, with a focus on the role of these services to foster social inclusion
- Transitional arrangements from the current regulatory and service arrangements to the recommended model
- Other models and new approaches to delivering personalised transport services both in Australia and overseas
- Potential use of personalised transport services by participants of the National Disability Insurance Scheme ("NDIS")
- Operational procedures and practices within the sector
- Any other related matters

TCQ, supported by RPS, has prepared a submission to the Review.

1.3 Economic Assessment Technical Research Paper Structure

This report compiles the results of technical research and analysis of the economic contribution of the taxi industry within Queensland during the 2014-15 financial year. This technical report also conducts a high level cost-benefit analysis of the Four Regulatory Options proposed by the Opportunities for Personalised Transport Review Panel. It includes a number of key sections:

- **Economic Contribution of Taxis in Queensland** – analysis into the level of economic activity generated by taxis services and the industry in Queensland.
- **Cost-Benefit Analysis of Taxi De-Regulation –** analysis of the costs and benefits of the partial or full de-regulation of personalised transport in Queensland based on Options 2-4 of the Green Paper.
- **Cost Benefit Analysis of Public Transport Integration –** estimate of the benefits to Government and the community of the integration of taxis into public transport.
- **Conclusions** - summary of key findings from the technical report.

1.4 Sources of Evidence

This Technical Report, and the broader Submission, relies upon an extensive base of both quantitative and qualitative information and evidence. The sources of this evidence can be broken into four broad categories.

1.4.1 Consultation

RPS, in partnership with TCQ, undertook a series of consultation workshops and interviews in Queensland and around the world.

Between November 2015 and February 2016, RPS facilitated workshops with industry stakeholders in the following locations.

- Brisbane Metro North
- Brisbane Metro South
- Ipswich
- Gold Coast
- Sunshine Coast
- Toowoomba

- Gympie
- Bundaberg
- Cairns
- Townsville
- Mackay
- Rockhampton
- Gladstone
- Mount Isa

These workshops included representatives from the taxi industry – including drivers, licence owners, operators and booking companies.

Additionally, in March 2016, representatives of RPS, TCQ and the Australian Taxi Industry Association ("ATIA") travelled to a series of overseas taxi jurisdictions to gain an insight into the regulatory, operational and market characteristics of each location. The jurisdictions visited included:

- San Francisco
- New York
- London
- Singapore

In each location, RPS met with representatives of local regulators, operators and politicians and gained an understanding of both the unique and shared attributes of the local taxi industry in each location and the lessons that could be learnt for the Queensland context.

1.4.2 Booking Company Data and Other Statistics

TCQ facilitated the delivery of a comprehensive set of taxi industry performance and operational data to RPS from a number of major booking companies in the State. These statistics included a full profile of the number, duration, cost, frequency and distribution of taxi jobs and trips, as well as information on the operational costs of delivery taxi services and the level of utilisation of the Taxi Subsidy Scheme ("TSS").

Additionally, data sets and other information was made available to RPS by those overseas taxi jurisdictions with which RPS and TCQ consulted in February and March 2016. The nature and scope of this information varied depending on the jurisdiction and their capacity to collect, collate and analyse data.

In addition to this information, RPS drew on statistics information from a range of publicly available sources. This included the Australian Bureau of Statistics ("ABS"), Queensland Government Statistics Office ("QGSO"), ATIA and individual reports, surveys and other publicly available data sets from desktop research.

1.4.3 Market Research

TCQ engaged the public opinion and strategic market research firm, UMR Strategic Research, to undertake qualitative and quantitative market research on issues and attitudes affecting the Queensland taxi industry.

Research included a combination of facilitated workshops and interviews (via online survey) with representative samples of the Queensland population aged 18+.The surveys were conducted in late February and early March 2016 and covered a range of topics including:

- Classification of taxis as public transport and the level of integration of taxis into the Queensland public transport network
- Attitudes towards taxis and public understanding of the industry
- Service satisfaction levels and key areas of impacting satisfaction both positively and negatively
- Frequency of use of taxis

- Level of discretionary and non-discretionary usage
- The degree to which taxis provide a benefit to the community
- The role of Government regulation in the taxi industry
- the level of support for passengers with disabilities and the Taxi Subsidy Scheme
- level of familiarity with usage of and attitudes towards uber
- Socio-economic and demographic characteristics of uber supporters
- Classification of “ride sharing” as taxis
- Level and type of regulation of “ride sharing” services
- Attitudes towards a range of specific potential changes to the regulation of the Queensland taxi industry

1.4.4 Desktop Research

RPS has also undertaken desktop research on the issue of taxi industry regulation to complement other sources of information and evidence outlined above. The focus of this desktop research has been on gaining further appreciation of national and international taxi jurisdictions and recent and past experiences with regulatory reforms. Additionally, RPS has undertaken extensive research on the role of “ride sharing” in overseas markets as well as the economic theory and practice around the causes and regulation of informal economic activity.

Research has been comprehensively cited throughout the Report.

1.5 Author Profile

1.5.1 RPS

RPS is an international consultancy providing world-class local solutions in infrastructure, urban growth, energy, mining and natural resource management.

RPS employs 5,000 people in the UK, Ireland, the Netherlands, the United States, Canada, Brazil, Africa, the Middle East, Australia and Asia and undertake projects in many other parts of the world. In the Australia and Asia Pacific region, our 1,000 professional and technical staff work from offices in 26 locations, including metropolitan and regional centres in high growth areas.

The geographic spread and experience in these strategic locations means our on-the-ground staff have a strong understanding of the local environment and can be mobilised quickly to respond to client’s needs. RPS has a reputation for meeting the challenges posed by large, complex projects and for conducting business in an open and responsible manner.

1.5.2 Mark Wallace

Mark Wallace is the Regional Technical Director and head of Economics Advisory Services for RPS in Australia Asia Pacific.

He is one of Australia's leading economics consultants and strategic advisor, providing market research, project evaluation, policy development and reform and detailed economic analysis for a wide range of public and private sector clients across Australia.

His career has included time with the Queensland Government, Brisbane City Council, the employment and training sector and economic consultancies.

Over the past decade as an economic consultant, Mark has developed nationally recognised expertise in a range of areas including:

- Innovation policy and implementation
- Regulatory reform in major public utilities
- Property development economics
- Major project evaluation and cost benefit analysis
- Health economics
- Regional and local economic development

Mark is the principal author of the submission by TCQ to the OPT Review and associated Technical Research Reports.

1.6 Glossary and Abbreviations

ATIA	Australian Taxi Industry Association
CBA	Cost Benefit Analysis or Assessment
EIA	Economic Impact Assessment
GVA	Gross Value Added
GSP	Gross State Product
I/O	Input/Output
IPNRC	Infrastructure, Planning and Natural Resources Committee
MSL	Minimum Service Levels
OPT Review	Opportunities for Personalised Transport Review
TCQ	Taxi Council Queensland
WAT	Wheelchair Accessible Taxi
USO	Universal Service Obligations

2.0 Contribution to the Queensland Economy

This chapter examines and analysis the economic contribution and significance of the taxi industry to the Queensland economy. This assessment includes estimates of direct and flow-on contributions to other industries where relevant.

2.1 Contribution Types

The contribution that different sectors make to the wider economy and community can be measured in a number of ways. Traditionally, the Economic Impact Assessments ("EIAs") measure the direct and indirect impacts of final expenditure on goods and services. However, it is also possible to use the same approach to get an understanding of the impact of the expenditure by the sector itself on its supply chains.

RPS has assessed Two different contributions made by the taxi industry to the Queensland economy:

- The contribution made by the expenditure on taxi services by the Queensland community
- The contribution made by the expenditure on taxi operations made by the taxi industry

2.2 Methodology

The estimates in this report are produced using Input-Output (I/O) transaction tables and models developed by RPS. Data sources used include State and National Accounts and industry specific ABS and other agency data. Input-Output models were used to produce estimates of the direct and flow-on contributions of the taxi industry to the Queensland economy.

All estimates are presented in current prices. Measures used in this report include Gross State Product ("GSP"), Gross Value Added ("GVA") activity, employment, and income (i.e., wages and salaries). Further detail can be found in **Appendix A**.

The contribution of the taxi industry to the Queensland economy is estimated across the following Three key measures:

- **Gross Product**: The value of all outputs of an industry including taxes and subsidies on its final products after deducting the cost of goods and services inputs in the production process.
- **Incomes:** Level of wages and salaries paid to employees in each industry.
- **Employmen**t: Level of employment supported by the industry, and is expressed in as full time equivalent ("FTE") positions.

Output is also used within this assessment. Output refers to the total value of all goods and services produced within the year (the final value of the good/ service). This measure results in an overestimate of the economic contribution as it results in double counting of goods/services throughout the supply chain.

The contribution of the taxi industry to the Queensland economy is measured through:

- **Direct impacts**: the activity which directly results from operational expenditure on goods and services by the taxi industry within Queensland.
- **Flow-on impacts**: the second and subsequent round effects of the increased level of purchases by suppliers in response to increased sales. Flow-on impacts are disaggregated to:
  - **Supply Chain Effects (Type I):** which represent the production induced support activity as a result of additional expenditure by the taxi industry on goods and services, and subsequent round effects of increased purchases by suppliers in response to increased sales.

» **Household Consumption Effects (Type II):** which represent the consumption induced activity from additional household expenditure on goods and services resulting from additional wages and salaries being paid within the economy.

2.3 Economic Contribution of Catching Taxis in Queensland

This section examines the economic contribution, and economic activity created through passengers catching taxis within Queensland. This analysis seeks to quantify the economic contribution riders purchasing taxi services have on the Queensland economy.

2.3.1 Economic Contribution Assumptions and Drivers

Based on Queensland taxi industry data provided to RPS by Taxi Council Queensland and by Taxi Booking Companies ("TBCs"), there were 46,472,662 taxi jobs within Queensland in 2015, with an average fare of $24.16. Based on consultation with the taxi industry within Queensland, 80% of all fares are processed as part of electronic transactions, with these electronic transactions currently attracting a 10% surcharge for Cabcharge cards and 11% (10% plus GST) for other cards. The remaining 20% of job transactions are in cash.

As a result, it has been estimated that the average taxi fare within Queensland is $22.40, with an average of $1.76 for electronic transactions (accounting for 80% of jobs being paid electronically).

The average taxi fare and surcharge were then applied to the total number of taxi jobs within Queensland in 2015 to obtain the total value of jobs taken within Queensland. This amounted to $1.04 billion worth of expenditure on the taxi industry within Queensland, and $81.7 million worth of surcharges.

These expenditures were then applied to the corresponding ANZSIC industries, prior to being included in the economic contribution assessment.

2.3.2 Economic Contribution Assessment

Passengers catching taxis within Queensland are estimated to have directly spent over $1.1 billion worth of output (or revenue) in 2015, contributing over $564 million worth of gross value add through direct impacts and, based on the input-output modelling, 5,262 full time equivalent employees. However, it should be noted that due to the limitations of input-output modelling, and the operating structure of the taxi industry, this employment estimate underestimates the number of employed persons in the industry, given there are 13,586 taxi driver authorisations in Queensland during 2015. This reflects significant variations in the hours worked by taxi drivers in the State.

Furthermore, people catching taxis within Queensland directly provide $290 million in incomes to taxi drivers and other taxi industry workers within Queensland.

The table below identifies the total indirect impacts from people catching taxis within Queensland. Direct expenditure on taxis within Queensland supports an additional $986.5 million worth of gross value add, with $375.1 million in gross value add through supply chain contributions (the taxi industry purchasing goods and services) and $611.4 million worth of household contributions. In total, people catching taxis within Queensland help to support $1.55 billion worth of gross value add.

Furthermore, people catching taxis within Queensland helps support $416.1 million worth of indirect incomes, with $173.0 million through supply chain contributions and $243.1 million through household consumption contributions. This supported income results in 2,915 full time equivalent employees through supply chain contributions and 4,267 full time equivalent employees through household consumption contributions

Table 2 Direct and Indirect Impacts of Catching Taxis in Queensland

Contribution	Gross Value Add ($M)	Income ($M)	Employment (FTE)
Direct Contribution			
Transport, Postal and Warehousing	503.8	250.7	5,102
Financial and Insurance Services	60.0	39.3	161
Total Direct Contribution	**563.8**	**290.0**	**5,262**
Indirect Contributions			
Supply Chain Effects (Type I)	375.1	173.0	2,915
Household Consumption Effects (Type II)	611.4	243.1	4,267
Total Indirect Contributions	*986.5*	*416.1*	*7,181*
Total Contribution	**1,550.3**	**706.0**	**12,443**

A breakdown of the contribution to industry value add, as a result of people catching taxis within Queensland, is shown in the figure below. This figure indicates that the largest industry contributing to gross value add as a result of passengers catching taxis within Queensland is the transport, postal and warehousing industry, contributing a total of $582.7 million of gross value add to the Queensland economy.

Furthermore, passengers catching taxis within Queensland contributed in total $166.5 million in gross value add to the financial and insurance service sector, and $127.3 million in gross value add to the ownership of dwellings sector.

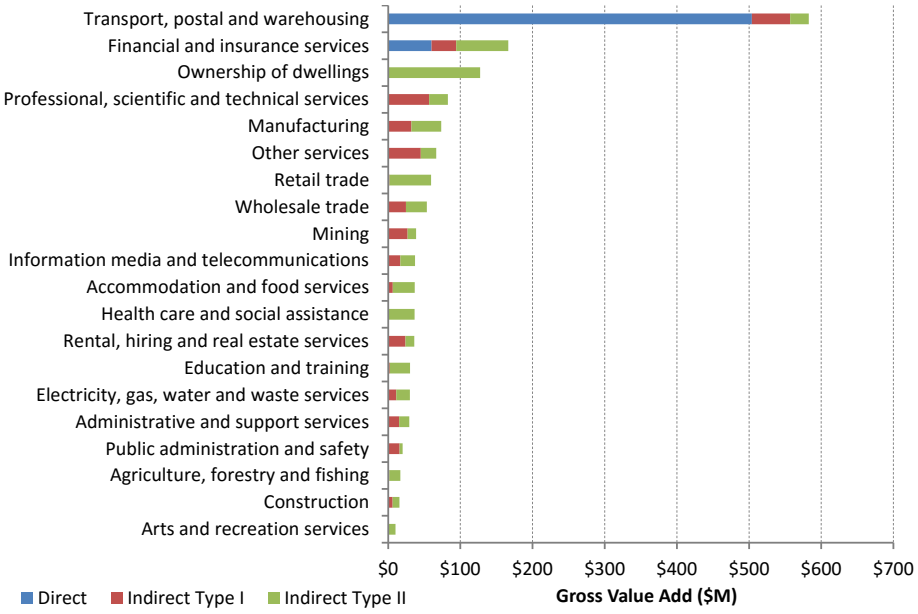


Figure 3 Gross Value Add by Industry, Annual Impact of Expenditure on Taxis

The figure below identifies the total direct and indirect full time equivalent employment generated due to passengers catching taxis within Queensland, with the transport, postal and warehousing industry being the largest beneficiary with 5,792 full time equivalent employees, with 5,102 direct and 690 indirect employees. Other services industry was the second largest beneficiary of passengers catching taxis within Queensland, with 948 full time equivalent employees supported, followed by retail trade with 836 full time equivalent employees and the professional, scientific and technical services industry with 709 full time equivalent.

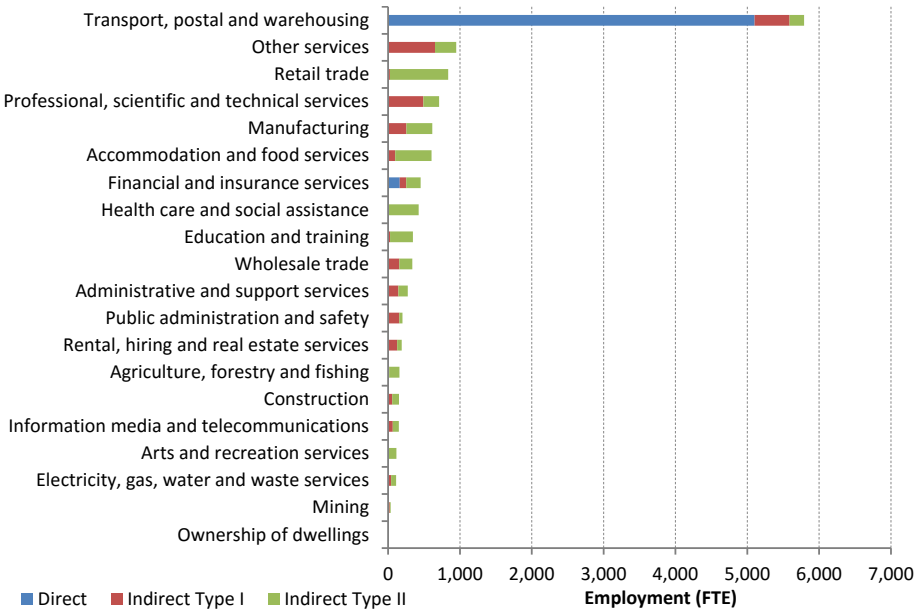


Figure 4 Employment by Industry, Annual Impact of Expenditure on Taxis

A full economic contribution breakdown by industry can be found in **Appendix B**.

2.4 Economic Contribution of Operating Taxis in Queensland

RPS has also examined the economic activity generated by Queensland through the operations of the Queensland Taxi Industry. Unlike the previous analysis in Section 2.3, this analysis quantifies the economic contribution of the running of the taxi industry within Queensland.

2.4.1 Economic Contribution Assumptions and Drivers

RPS utilised data from the Queensland taxi industry to develop the average annual operational cost profile of running a taxi within Queensland during 2015. The table below identifies the average operational cost of running a taxi within Queensland, broken down by operational cost item.

Table 3 Average Taxi Operating Cost

Operating Cost Item	Average Cost ($)
Licence Lease Fees	27,601
Repairs and Maintenance	12,316
Vehicle Insurance and Registration	10,006
Fuel	9,198
Base Fees	8,588
Depreciation	8,369
Operator Wages	5,366
Operator Admin	2,361
Tolls and Charges	410
Licence Fees	207
Total	**84,422**

Based on taxi booking company data, within Queensland during 2015 there was a total of 3,260 taxis in operation, with 2,617 conventional taxis and 643 wheelchair accessible taxis. the average annual operating

cost was applied to The number of taxis within the state, with the table below identifying the total annual operating cost for taxis operating in Queensland during 2015.

Table 4 Total Taxi Operating Costs within Queensland

Operating Cost Item	Conventional ($)	WAT ($)	Total ($)
Licence Lease Fees	72,231,817	17,747,443	89,979,260
Repairs and Maintenance	32,230,972	7,919,188	40,150,160
Vehicle Insurance and Registration	26,185,702	6,433,858	32,619,560
Fuel	24,071,166	5,914,314	29,985,480
Base Fees	22,474,796	5,522,084	27,996,880
Depreciation	21,901,673	5,381,267	27,282,940
Operator Wages	14,042,822	3,450,338	17,493,160
Operator Admin	6,178,737	1,518,123	7,696,860
Tolls and Charges	1,072,970	263,630	1,336,600
Licence Fees	541,719	133,101	674,820
Total	**220,932,374**	**54,283,346**	**275,215,720**

Furthermore, the average capital cost of running a taxi within Queensland was obtained in consultation with the Queensland taxi industry. The table below identifies the average costs associated with getting a new taxi on the road within Queensland, including vehicle and vehicle fitout costs.

Table 5 Average Taxi Fitout Cost

Cost Item	Conventional ($)	WAT ($)
Vehicle	31,643	49,160
WAT Fitout	-	17,733
Fuel Conversion	-	4,511
Dispatch Equipment	3,630	3,630
Security Cameras	3,295	3,295
Pre-Wire	2,836	2,794
Exterior	1,616	2,649
Vehicle Rego	6,505	1,200
Meter	495	495
Total Fitout Cost	**50,020**	**85,468**

Based on the maximum age of six years for a conventional taxi and eight years for a wheelchair accessible taxi under legislation, RPS has assumed that there is the even proportion of taxis which require to be refreshed each year. Based on 2,617 conventional taxis and 643 wheelchair accessible taxis, this corresponds to 436 conventional taxis and 80 wheelchair accessible taxis needing to be replaced and fitted out each year.

Both the capital and operational costs items associated with the fitout and operation of taxis were then linked to the corresponding ANZSIC industries, which are used for the economic contribution assessment.

2.4.2 Economic Contribution Assessment

Taxi operators within Queensland are estimated to have spent approximately $273.1 million in 2015 on capital and operational costs to provide taxi services within Queensland, resulting in approximately $126.2 million worth of gross value add through direct impacts. The expenditure by taxi operators is estimated to

have directly supported $60.1 million in incomes, and generating 988 full time equivalent employment positions within Queensland.

The direct expenditure by Queensland taxi operators is estimated to have contributed $94.0 million worth of gross value add through supply chain effects, and $139.0 million worth of household consumptions effects to the Queensland economy. Based on this, it is estimated that taxi operators within Queensland directly and indirectly contribute $359.1 million worth of gross value add to the Queensland economy.

Table 6 Direct and Indirect Impacts of Taxis Operating Within Queensland

Contribution	Gross Value Add ($M)	Income ($M)	Employment (FTE)
Direct Contribution			
Transport, Postal and Warehousing	29.7	12.0	198
Retail Trade	19.3	10.8	250
Financial and Insurance Services	14.0	8.3	53
Rental, Hiring and Real Estate Services	39.5	17.9	184
Other Services	21.4	10.0	281
Manufacturing	2.3	1.2	22
Total Direct Contribution	**126.2**	**60.1**	**988**
Indirect Contributions			
Supply Chain Effects (Type I)	94.0	43.7	597
Household Consumption Effects (Type II)	139.0	54.0	903
Total Indirect Contributions	*233.0*	*97.8*	*1,500*
Total Contribution	**359.1**	**157.9**	**2,488**

A breakdown of the contribution to industry value add, generated by taxi operators within Queensland indicates that the largest industry contributing to gross value add as a result of taxi operators within Queensland is the rental, hiring and real estate services industry with a total of $52.3 million worth of gross value add. This was followed by the financial and insurance services, with $48.0 million worth of gross value add and the transport, postal and warehousing industry with $42.9 million.

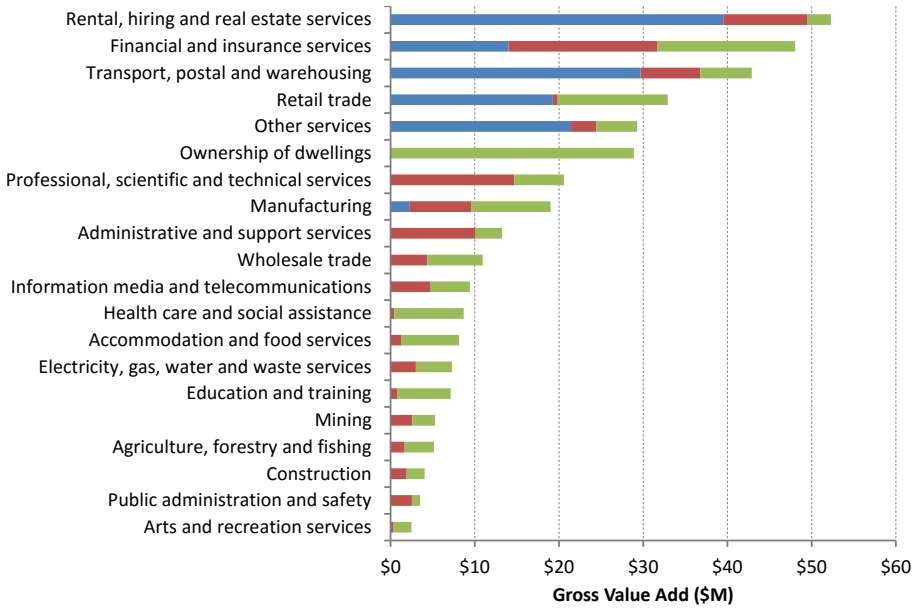


Figure 5 Gross Value Add by Industry, Annual Impacts of Taxi Operations

The figure below identifies the total direct and indirect full time equivalent employment generated by taxi operators within Queensland, with the retail trade industry being the largest beneficiary with 428 full time equivalent employees, with 250 direct and 178 indirect employees. Other services industry was the second largest beneficiary, with 386 full time equivalent employees supported followed by the transport, postal and warehousing industry (298 full time equivalent employees) and the rental, hiring and real estate industry (247 full time equivalent employees).

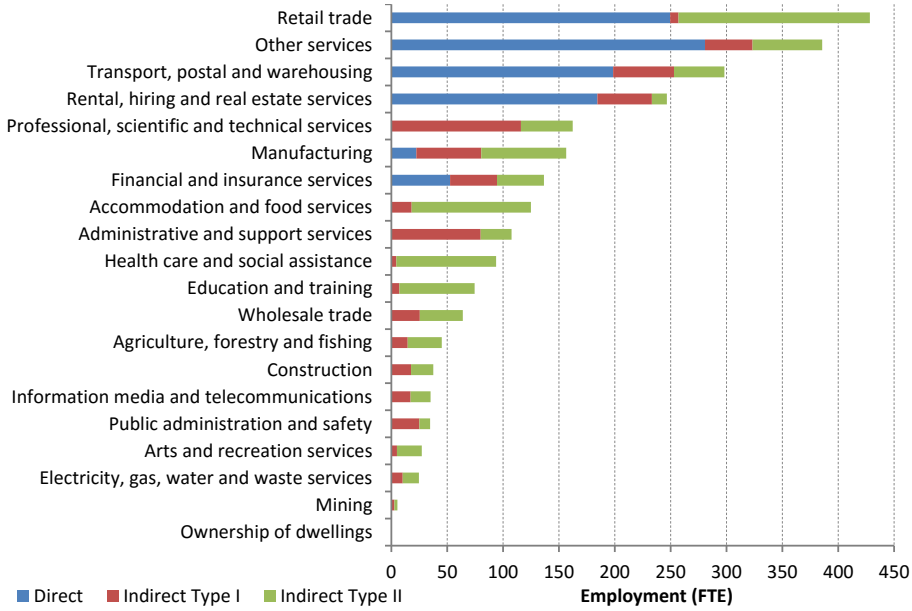


Figure 6 Employment by Industry, Annual Impacts of Taxi Operations

3.0 Cost Benefit Analysis of Taxi De-Regulation

3.1 Proposed De-Regulation

The OPT Review has outlined a series of Options which represent varying forms of de-regulation of the Queensland taxi industry. This type of de-regulation is viewed as positive by many commentators and academics as it encourages greater competition. This de-regulation usually comprises a removal of fare and supply restrictions and commonly includes the abolition of geospatial restrictions (i.e. Service Areas) as well.

However, the historical experience of other national and international jurisdictions that have implemented programs of taxi de-regulation have been broadly negative, with a range of perverse outcomes being realised. Case studies analysed in the RPS report *The Supply of Taxi Services in Queensland* confirmed that the de-regulation of taxis reveals an industry that experiences structural market failure in the absence of Government intervention, owing to (among other things) imperfect information, conflicting objectives of different components of the industry and the shift of the industry to a low cost, low quality service model that fails to meet the needs of the community.

The OPT Review did not provide costings of the de-regulation Options outlined in the Green Paper. RPS has prepared these costings in line with the Queensland Government Treasury department guidelines for project and program evaluation, using a Cost Benefit Analysis methodology.

3.2 Cost Benefit Analysis Methodology

A CBA is the most commonly used, and most comprehensive, of the economic evaluation techniques. Essentially, a CBA compares the monetised benefits and costs of a project to evaluate the desirability of a project.

A CBA provides little value if it is conducted without a base case in which with to compare options. For the purpose of this study, Options Two, Three and Four are therefore analysed based on only the incremental, or additional, benefits and costs with respect to the base case, Option one. This approach is considered to be the most appropriate to assess the net economic benefits that accrue from Options Two, Three and Four.

The CBA steps traditionally include:

(1) Identify the quantifiable benefits that are able to be monetised

(2) Calculate the value (in monetary terms) of the quantified incremental benefits and costs in net present value (NPV) terms using the discount rates

(3) Calculate the benefit cost ratio (BCR) – the total present value of all net benefits compared to the present value of capital costs to determine the ratio to which incremental net benefits exceed (or undershoot) incremental costs related with the option

(4) Undertake a sensitivity assessment

3.2.1 Discount Rates and Timeframe

Discounting is the reverse of adding (or compounding) interest. It reduces the monetary value of future costs and benefits back to a common time dimension – the base date (i.e. June, 2016). Discounting satisfies the view that people prefer immediate benefits over future benefits (social time preference) and it also enables the opportunity cost to be reflected (opportunity cost of capital).

Recognising the potential for multiple audiences for the assessment, RPS used real discount rates of 4, 7 and 10%. This complies with Queensland State Government preference for a 4-4.5% real discount rate plus risk measures (i.e. 7 and 10%).

Modelling of quantifiable benefits and costs are developed over a Four-year timeframe to reflect the Queensland Government's Budget forward estimates.

3.3 De-Regulation Options

Four options for de-regulations were identified by the OPT Review are provided below, with these Options briefly summarised in the sections below.

SCENARIO 1: EXISTING INDUSTRY MAINTAINED	SCENARIO 2: REFORM OF BOOKED MARKET IN SEQ*	SCENARIO 3: REFORM OF BOOKED MARKET ACROSS QUEENSLAND	SCENARIO 4: REFORM OF INDUSTRY ACROSS QUEENSLAND
LICENCES			
Number of issued taxi licences are government controlled. Licences are perpetual.	New licence category for ride-sourcing, renewed annually enabling access to the booked market in SEQ.** No limit on ride-sourcing licence numbers. Taxi licence review and tender process revised in SEQ. Remove prescriptive requirements for limousines (i.e. wheelbase and luxury car tax threshold).	Limousine and ride-sourcing licences grouped in new category for booked services. Renewed periodically. No limit on ride-sourcing licence numbers. Entry restrictions maintained for rank and hail. Remove prescriptive requirements for limousines (i.e. wheelbase and luxury car tax threshold).	Remove all licence categories and introduce a nominal annual administration fee enabling all operators access to booked and rank and hail markets. No limit on the number of operators, but all must be accredited.
FARES			
Maximum fares and additional fees are determined for taxis.	Allow for the application of fees for extra services (i.e. lift fees for WATs).	Deregulate fares for the booked market but retain maximum fare regulation for rank and hail market. Allow for the application of fees for extra services (i.e. lift fees for WATs).	Deregulate fares for the booked and rank and hail markets.
BOOKING COMPANY AFFILIATION REQUIREMENT			
Taxi operator in a contracted service area must be affiliated with a TBC.	Remove affiliation for SEQ.	Remove affiliation state-wide.	Remove affiliation state-wide.
GEOGRAPHIC SERVICE AREAS			
Taxi licences aligned with specific TSAs.	Merge TSAs in SEQ.	Allow all services for the booked market to operate without limitations. Rank and hail markets within existing TSAs maintained.	Allow all services to operate without limitations.
VEHICLE SAFETY			
Current legislation covers a variety of vehicle safety concerns.	All market participants subject to the current certificate of inspection, and vehicle age and safety feature requirements.	More focus on co-regulation between government and industry. Must comply with a recognised safety rating (such as ANCAP) and meet a minimum rating.	Greater degree of industry self-regulation. Must comply with a recognised safety rating (such as ANCAP) and meet a minimum rating.
DRIVER SAFETY			
Current legislation covers a variety of driver safety concerns.	All market participants subject to the current requirements (i.e. fatigue management, blood alcohol content). Revise prescriptive in-vehicle safety requirements for service providers.	All market participants subject to the same driver requirements under the current model (i.e. fatigue management, blood alcohol content). Remove prescriptive in-vehicle safety requirements for all service providers but adopt an outcomes-based framework.	All market participants subject to current requirements (i.e. fatigue management, blood alcohol content). Greater degree of industry self-regulation.
CUSTOMER SAFETY			
Current legislation covers a wide variety of customer safety concerns.	All market participants must have DA and be easily identifiable through vehicle signage/branding.	More focus on co-regulation between government and industry.	Greater degree of industry self-regulation.

Figure 7 Regulatory Reform Options, OPT Review

The key points of each Option are summarised below.

3.3.2 Option One

Option one is a continuation of the existing regulatory framework, with:

- Perpetual taxi licenses issued by the State Government
- Maximum fees and additional fees are determined by the government
- Taxi licences aligned with a taxi service area
- Legislated vehicle, driver and customer safety concerns

3.3.3 Option Two

Option Two is reform to the booked market in South East Queensland, including the implementation of a new annual ride-sourcing license, with no limit on the number of ride-sourcing licences available and removing prescriptive requirements for limousines. This Option also includes:

- The allowance for extra fees such as lift fees
- Remove compulsory affiliation within South East Queensland
- Merge all taxi service areas into one service area for South East Queensland
- Existing vehicle age, inspection and safety features retained
- Current driver safety requirements retained
- Drivers must have a Drivers Authority with the vehicle being easily identifiable

3.3.4 Option Three

Option Three is reform to the booked market across Queensland, with ride-sourcing and limousines licences grouped in the same category, with no limit on ride-sourcing license numbers and prescriptive requirements removed for limousines. Taxis would still maintain access to the rank-and-hail market. This Option also includes:

- Allowance for extra fees such as lift fees, and deregulate the fares in the booked market, but retain maximum fare regulations for the rank-and-hail market
- Remove compulsory affiliation Statewide
- Booked market can operate statewide without limits, but rank and hail for taxis confined to their taxi service area
- Co-regulation of vehicle safety, with the government no longer regulating safety
- Removal of prescriptive in-vehicle safety equipment, with an adoption of an outcomes based approach
- A focus on co-regulation for customer safety

3.3.5 Option Four

Option Four is in effect a full deregulation of the Queensland taxi industry, with the removal of all license categories and the introduction of an annual fee to operate the booked and rank and hail market, with no limit on the number of licences issued. This Option also includes:

- Deregulation of all booked and rank and hail fares
- Remove compulsory affiliation statewide
- Allow all services to operate statewide without any limitations
- Industry to self-regulate vehicle safety

- Drivers subjected to current driver safety regulations, but with a focus on self-regulation
- Industry self-regulation of customer safety

3.4 Cost and Benefit Profiles

RPS has undertaken extensive research and consultation with international industry association and regulators to determine the impacts that each of the de-regulation Options will have on Queenslanders and the Government.

Key costs and benefits are summarised below.

3.4.1 Paratransit Costs

Universal Service Obligations are a unique aspect of the Queensland taxi regulations. Universal Service Obligations result in a taxi company being required to provide the same level of service regardless of who they are, their physical or mental condition or where they live. This has the result of no one in Queensland being discriminated against due to any limitations they have. The main group effected by universal service obligations are the disabled sector, and in many cases, taxis are the only way members of the disabled community can be transported, at no cost to the Government, other than the TSS Subsidy which is paid to the individual. By opening up the booked passenger market to competition the Queensland taxi industry would no longer be able to cross subsidise the universal service obligations they have for disabled passengers through fares at other busier times. As a result of this, it would be no longer feasible for the taxi industry to provide these services, as a result the Queensland Government would be required to operate a Paratransit system.

As no state within Australia has a fully integrated and operational Paratransit system, international systems were analysed. Based on the geographical layout and size, Los Angeles Paratransit Service was used as a benchmark, with the average cost per trip obtained for paratransit trips in Los Angeles.[1] As this estimate was both in US dollars and a cost in 2008/09 dollars, the average paratransit cost was then converted to Australian dollars[2] and inflated to 2015 dollars[3] to obtain an estimate for the cost of a Paratransit system in Queensland in 2015 dollars. This value was then applied to the number of jobs by both WAT servicing people with a disability and other non-wheelchair TSS jobs in either South East Queensland or Queensland depending on the Option. In order to estimate the net additional cost, the current TSS subsidy paid to passengers was removed from the total paratransit system cost.

3.4.2 Regulatory Compliance Costs

Due to the nature of the TBC's Service Contrast with the Government, the regulatory burden on Government is currently shared with the industry. This is due to the current co-regulatory framework and the role of the current regulations in facilitating TBCs in regulating other stakeholders.

Three of the Options proposed by the Opportunities for Personalised Service review proposes no limit to the numbers of ride-sourcing vehicles. As a result of the increased number of ride-sourcing vehicles, increased levels of compliance will be required. Relevant to the current levels, from the government would be required.

[1] New York City Transit (2011) Paratransit Peer Report January 2011, New York City Transit Department of Busses' Paratransit Division, New York City
[2] RBA (2009), Exchange Rates - Daily 2007 to 2009, Reserve Bank of Australia, Sydney
[3] ABS (2016), Consumer Price Index Australia, Cat. No. 6401.0, Australian Bureau of Statistics, Canberra

The cost of compliance would be borne by Government, with the following assumptions used to estimate the likely increased compliance costs:

The OPT Review Green Paper[4] identified compliance and enforcement costs of $1.5 million in 2015 for the current 3,260 taxis in Queensland, or on average $460 per vehicle. San Francisco was used as a benchmark into the projected additional number of ride-sourcing vehicles. In 2015 there were 1,900 taxi medallions, however as identified in the Joint Oversights Hearing into Ride Hailing Disruption, there were 16,000 uber drivers in San Francisco, and 120,000 within California.[5] Given uber commenced operation in San Francisco in 2012, a linear growth of drivers was used and applied to the annual increase in vehicles relative to taxi medallions within San Francisco to obtain annual growth rates in the number of vehicles. These growth rates were then applied to the Queensland taxi licence numbers to estimate the projected additional number of ride-sharing vehicles. These results were validated by Jim Varghese in the Brisbane Green Paper Consultation session where he indicated 4,000 uber drivers are currently operating within South East Queensland[6].

This growth rate corresponds with international experience in Sweden, Ireland and New Zealand in the growth of taxis numbers of between 250% and 600% following de-regulation.

The projected number of additional vehicles was then applied to the average compliance cost per vehicle to estimate the projected increase in compliance costs.

3.4.3 Congestion Costs

Under the current regulatory framework, the number of taxis are limited based on licenses sold by the Queensland Government. Additionally, the movement of taxis across is also limited based on taxi service area. This has the effect of limiting the number of vehicles in any one location, and resulting in the taxi fleet being dispersed throughout the regions, rather than congregating on certain locations. By merging existing taxi service areas vehicles will be able to congregate for fares where they see fit, and allowing for uncapped ride-sourcing drivers will result in an increased number of vehicles on the road vying for taxi work. The increased cost of congestion will be a social cost, borne out by commuters and the general Queensland public through an increased number of vehicles on the road, and in a given location.

In order to estimate the cost of congestion per vehicle, the following approach was used. Based on the University of Sydney willingness to pay survey for a congestion charge for Sydney, with willingness to pay coming out at $8 per day[7], on the presumption that revenue raised goes to public transport. This value was then halved to reflect lower congestion levels in Queensland compared to New South Wales. This value was then annualised to obtain an annual shadow price for vehicle congestion.

San Francisco was used as a benchmark into the projected additional number of ride-sourcing vehicles. In 2015 there were 1,900 taxi medallions[8], however as identified in the Joint Oversights Hearing into Ride

[4] OPT Review Taskforce (2016), The Future of Queensland's Personalised Transport Industry – A Green Paper for Consultation, OPT Review Taskforce, Brisbane
[5] California Legislature Senate (2016) Senate Committee on Energy, Utilities and Communications and Senate Committee on Transportation and Housing, Ride-Hailing Disruption: Establishing a Level Playing Field in the Transportation-for-hire Market, Sacramento, California
[6] OPT Review Taskforce (2016), Jim Varghese comment during the OPT Green Paper Consultation Program, Brisbane Session, 1st June 2016, recordings accessed at 31 May 2016
[7] Hensher, DA, (2012) Assessment of the commuter's willingness to pay a congestion charge under alternative pricing regimes and revenue disbursement plans, ARC Discovery Project, *Institute of Transport and Logistics Studies, University of Sydney, Sydney*
[8]

Hailing Disruption, there were 16,000 uber drivers in San Francisco, and 120,000 within California.[9] Given uber commenced operation in San Francisco in 2012, a linear growth of drivers was used and applied to the annual increase in vehicles relative to taxi medallions within San Francisco to obtain annual growth rates in the number of vehicles. These growth rates were then applied to the Queensland taxi licence numbers to estimate the projected additional number of ride-sharing vehicles. These results were validated by Jim Varghese in the Brisbane Green Paper Consultation session where he indicated 4,000 uber drivers are currently operating within South East Queensland[10]. The number of vehicles used in the assessment was then halved due to an assumption based on not all ride-sourcing vehicles will congregate in high demand areas.

The shadow price of the annual congestion cost per vehicle was then applied to the projected number of additional vehicles to estimate the projected increase in congestion costs.

3.4.4 Emission Costs

In 2015 17% of Queensland's taxi fleet was using liquefied natural gas ("LPG"), with 72% of the fleet operating hybrid vehicles.[11] Utilising these vehicles has resulted in a reduction in per kilometre emissions compared to non-hybrid/LPG vehicles, as well as increased fuel efficiency. By allowing an uncapped number of ride-sourcing vehicles into the market, these vehicles will then be used more intensively than previously. This increase in utilisation, combined with the decrease in hybrid/LPG vehicles, will result in an increased level of vehicle emissions. This cost estimate applies a non-market environmental cost to the increase in emissions from the additional ride-sourcing vehicles operating within Queensland.

Based on research conducted by Booz and Co[12] into the breakdown of cost of congestion estimates, Booz and Co estimated that 37.2% of costs incurred were due to private time costs from congestion, and 11.7% of costs incurred due to extra air pollution damage costs, with business time costs, and vehicle operating costs making up the remaining cost breakdown. As a result of this, breakdown, the social cost of increased air pollution is 31.45% of the private time cost of congestion. Based on the congestion shadow price above, of $4 per vehicle per day, an annual social cost of extra emissions per vehicle was developed.

The projected number of additional vehicles was then applied to the annual emission cost per vehicle to estimate the projected increase in non-market emission costs.

3.4.5 Fare Price Increase

International experience over the past 30 years has consistently demonstrated that taxi fares increase post de-regulation. This goes against convention competition theory which states that increased personalised transport vehicle supply should result in reduced fares. However, this fails to recognise the market-failure nature of personalised transport in a de-regulated environment and the motivations and drivers of industry stakeholders in the absence of Government regulation.

[9] California Legislature Senate (2016) Senate Committee on Energy, Utilities and Communications and Senate Committee on Transportation and Housing, Ride-Hailing Disruption: Establishing a Level Playing Field in the Transportation-for-hire Market, Sacramento, California
[10] OPT Review Taskforce (2016), Jim Varghese comment during the OPT Green Paper Consultation Program, Brisbane Session, 1st June 2016, recordings accessed at 2 June 2016
[11] Taxi Council of Queensland (2016) 2015 State and Territory Taxi Industry Statistics, unpublished data
[12] Booz and Co (2011), Accessing Our CBDs, Tourism and Transport Forum, Sydney

Firstly, de-regulation results in a rapid increase in vehicle numbers without a commensurate increase in demand. This has the effect of reducing the market share of each personalised transport vehicle in the movement of Queenslanders, shifting the industry as a whole from a low margin high volume sector to a high margin low volume sector.

Secondly, in response to declining market share, individual taxi owners shift to a low cost service delivery model. This includes increasing the age of the vehicle and removing any safety or consumer protection equipment that is no longer required by regulation. However, these cost reductions are not sufficient to offset the loss of revenue to the driver and taxi owner from the de-regulation. As such, taxis increase the cost of fares. This has been done in a number of ways:

- Formal fare increases
- Informal fare increases (in the form of inappropriate use of tariffs or price exploitation and gouging)
- Increased fare complexity, including new tariffs, charges and other fare components

Research has consistently found that personalised transport de-regulation has led to increased fares since the late 1980s. In his seminal work on the impacts of taxi de-regulation in the US, Roger Teal confirmed that taxi fares in de-regulated US markets increased by 12% more than in regulated market, with the majority of this increase within the first 1-3 years[13]. This experience was echoed in markets such as Sweden, Ireland and New Zealand which all experience fare increases post de-regulation.

Similarly, this fare increase is mirrored by similar increases by “ride sharing” services in smaller established markets in the US. In 2016, uber raised fares by between 10-20% above their international standard rate (approximately 40% above current Queensland rates accounting for recent discounting)[14]. These rates are now above that of taxis in Queensland, prior to surge pricing.

Based on these trends, RPS has assumed that personalised transport fares will increase by 12% within the first two years post de-regulation (6% in year 1 and a further 6% in year 2) before remaining flat. This is regarded as a conservative assumption as it represents a longer term average in US de-regulated markets and is lower than 30-40% increases seen in other international jurisdictions or the 20% increase in “ride sharing” fares in established US markets in recent years.

This fare increase is applied to current taxi jobs in the State in 2015 across the 4-year assessment period.

3.4.6 Increase in Incidences Involving Vehicles

Due to the nature of taxis, being on the road 24 hours a day 7 days a week, taxi vehicles have a higher incidence of serious crashes compared to private motor vehicles.[15] Ride-sourcing vehicles, which are vehicles operating as taxis at certain times of the week, would be at an increased risk of serious crash due to the increased time the vehicles are spent on the road. This raises the risk profile of these vehicles being involved in serious crashes.

[13] Teal, RF (1987) The Impacts of Taxicab Deregulation in the USA. Journal of Transport Economics and Policy 21(1): 37-56 cited in Moore, AT and Balaker, T (2006) Do Economists Reach a Conclusion on Taxi Deregulation? Econ Journal Watch Volume 3 Number 1, pp109-132
[14] The Verge (31 March 2016) Uber is Starting to Raise Fares in Some Small and Mid-Sized Cities, accessed at http://www.theverge.com/2016/3/31/11339764/uber-raising-prices-pittsburgh-self-driving-cars
[15] CARRSQ (2016), Reducing the Crash Involvement of Taxis in Queensland, A Situational Analysis and Analyses of Crash and Exposure Data, Centre for Accident Research and Road Safety Queensland, Brisbane

CARRSQ has estimated that the serious crash rate for taxis in 2013 is 30.19 serious crashed per 1,000 vehicles compared to 1.54 serious crashes per 1,000 vehicles for private vehicles. RPS assumed that ride-sourcing drivers would have a utilisation rate of 20% compared to a taxi. Dan Manchester from the Ride Share Drivers Association of Australia who identified many ride-sourcing drivers currently drive 20 hours per week[16] which is currently a utilisation rate of 11.9%. However, higher utilisation rates have been recorded in more established "ride sharing" markets.

RPS therefore estimates that "ride sharing" vehicles to have an annual serious crash rate of 6.05 vehicles per 1,000 vehicles, or four times higher than the crash rate of privately used vehicles. This crash rate was then then applied to the projected number of ride-sourcing vehicles to obtain annual number of serious crashes involving ride-sourcing vehicles. The Bureau of Infrastructure, Transport and Regional Economics provide estimates into the proportion of serious crashes which result in serious injuries or deaths, as well as the cost per crash[17]. These proportions and costs were then applied to the projected increase in serious crashes to obtain an annual increase in incidences involving ride-sourcing vehicles.

3.4.7 Differentiated Product Benefit

According to Deloitte Access Economics, ride-sourcing offers Two benefits, decreased prices and consumer surpluses due to differentiated quality. As the decrease in price has already been examined and disproven, this cost benefit analysis will include Queensland's share of Deloitte Access Economics' estimate into the consumer surplus of ride-share usage.

International experience has shown that the only consistent benefit of the de-regulation of personalised transport is reduction in travel waiting times, which were experienced in Ireland, Japan and urban parts of Sweden. The extent to which this benefit would be realised in the Queensland context is difficult to determine. Queensland is the only jurisdiction in the world where TBCs are held to Minimum Service Levels by Service Contracts with Government resulting in some of the shortest waiting times in Australia. Similarly, the regional nature of Queensland's population distribution means that wait times in regional and suburban areas can actually increase as de-regulated supply concentrates around major economic nodes.

Based on Deloitte Access Economics' report[18] 12,680 ride-sourcing drivers Australia-wide resulted in a consumer surplus due to differentiated quality amounting to $49.6 million. Based on comments Jim Varghese made in the Green Paper forum in Brisbane, there were 4,000 ride-sourcing drivers currently operating within Queensland. The ratio of Queensland drivers to drivers in Australia was taken and applied to the total value of consumer surplus to estimate the annual consumer surplus from ride-sourcing in Queensland.

3.5 Value of Costs and Benefits

RPS consolidated the monetised net present value ("NPV") of the benefits and costs of each reform Option at each discount rate. This also formed the basis for the calculation of Benefit Cost Ratios ("BCRs") for each Option – which measure the degree to which benefits exceed (or fall short of) costs associated with each Option.

[16] OPT Review Taskforce (2016), Dan Manchester comment during the OPT Green Paper Consultation Program, Brisbane Session, 1st June 2016, recordings accessed at 03/06/2016
[17] BITRE (2015), Cost of Accidents, Department of Infrastructure and Regional Development, Canberra
[18] Deloitte Access Economics (2016), Economic Effects of Ride sharing in Australia, Deloitte Access Economics, Sydney

Given that Option one is the current Option, or the 'business as usual' Option, no cost-benefit analysis has been conducted. This is due to a cost benefit assessment calculating the net additional costs and benefits associated with the assessment. As Option One is the current Option, there is no net increase in costs or benefits from this Option on the Queensland economy.

Instead, all other Options have been compared to Option One to determine the size of the net additional benefit (or cost) to the community of each Option.

3.5.1 Present Value of Benefits

It has been estimated that the benefits of all Three Options will be similar, due to the nature of the changes identified in the Green Paper. It has been estimated that at the 7% discount rate the Three Options will deliver an additional benefit of $53 million during the four years of the assessment.

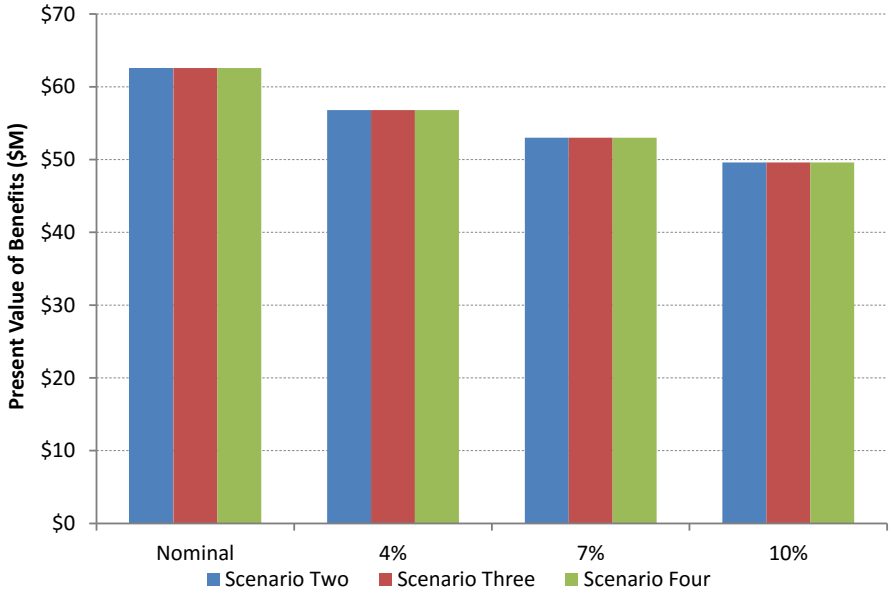


Figure 8 Present Value of Benefits, by Discount Rate, De-Regulation Options

3.5.2 Present Value of Costs

Option Four has the largest cost associated with the reform with a nominal (net of inflation) cost of almost $1.2 billion over the four-year assessment period and a present value of approximately $980 million at a 7% discount rate. In contrast, the implementation of Option Two will have lowest cost of all Three Options, with a nominal cost to the community and Government of approximately $800 million and present value of $667 million over the Four-year assessment period at a 7% discount rate.

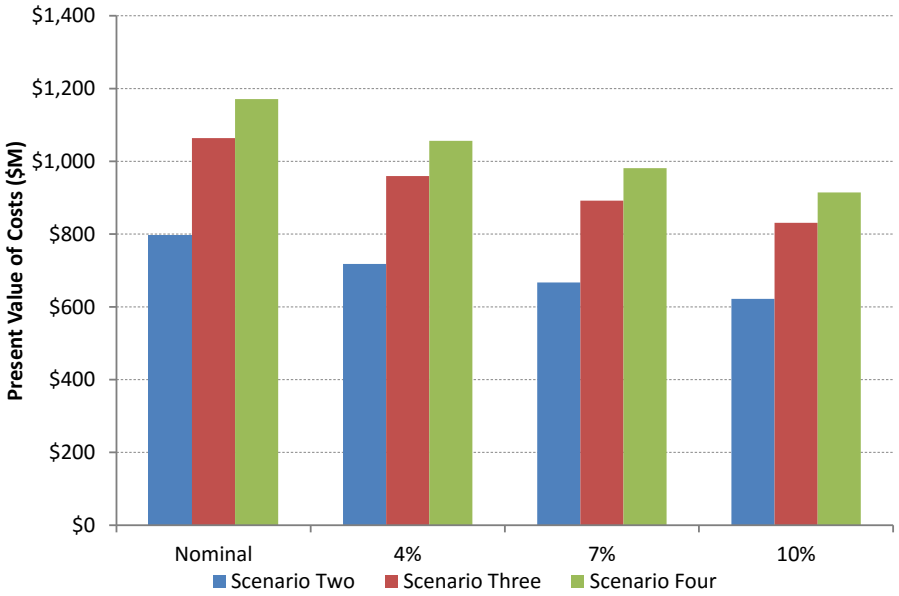


Figure 9 Present Value of Costs, by Discount Rates, De-Regulation Options

3.5.3 Net Present Values and Benefit Cost Ratios

All Three Reform Options return a negative net present value meaning the value of the costs to Queensland economy, community and Government are greater than the benefits, Option Four has the largest net cost to the community at over $1 billion in four years at a 4% discount rate, while Option Two has the smallest cost at approximately $650 million.

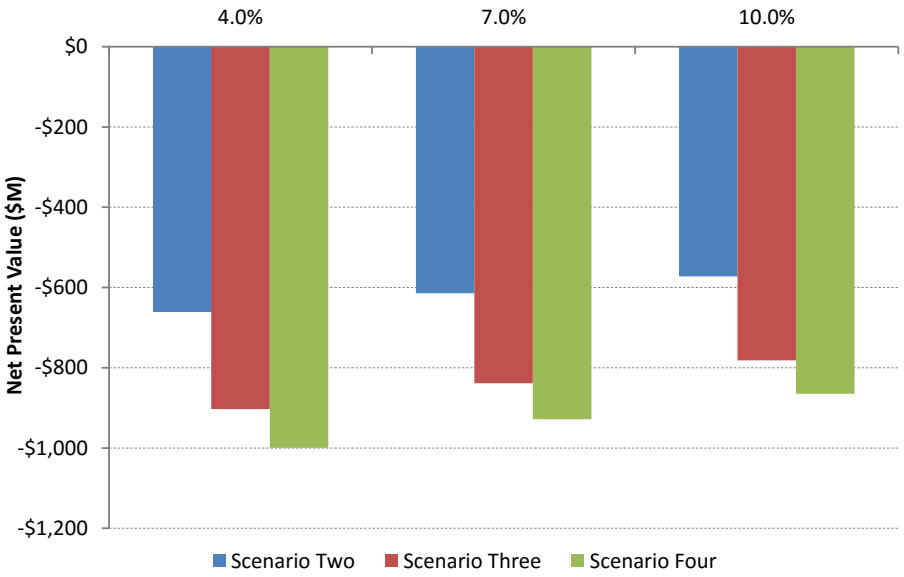


Figure 10 Net Present Value, by Discount Rate, De-Regulation Options

The NPVs of the Three options are negative across all discount rates, meaning they all have BCRs below 1.0 This is below the threshold generally regarded as the minimum acceptable nature to justify progressing with an Option, indicating all Three options could be considered economically, fiscally and socially unviable. Given the BCRs, none of the Options are suitable for implementation as they would lead to significant loss to the community and Government.

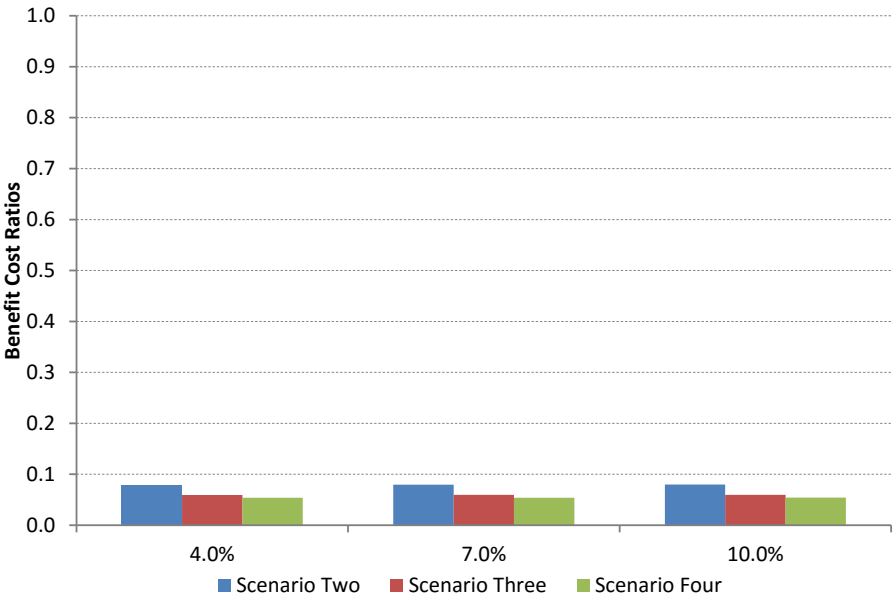


Figure 11 Benefit Cost Ratios by Discount Rate, De-Regulation Options

The table below outlines the present value of costs, benefits and net present values of the Three Options under all Three discount rates. The table below also outlines the benefit cost ratios of all Three Options at each discount rate.

Table 7 Net Present Value and Benefits Cost Ratios, Reform Options

Net Present Value	5%	7.0%	10%
Option Two			
Present Value of Costs	$718,059,528	$667,222,257	$621,828,715
Present Value of Benefits	$56,795,837	$52,998,637	$49,597,895
NPV	($661,263,691)	($614,223,620)	($572,230,821)
BCR	0.08	0.08	0.08
Option Three			
Present Value of Costs	$959,767,963	$891,818,187	$831,144,572
Present Value of Benefits	$56,795,837	$52,998,637	$49,597,895
NPV	($902,972,126)	($838,819,550)	($781,546,678)
BCR	0.06	0.06	0.06
Option Four			
Present Value of Costs	$1,056,294,597	$981,319,274	$914,374,237
Present Value of Benefits	$56,795,837	$52,998,637	$49,597,895
NPV	($999,498,760)	($928,320,637)	($864,776,342)
BCR	0.05	0.05	0.05

3.6 Industry Compensation Not Considered

This analysis has not included consideration of the costs to Government and the community (directly or indirectly) of compensation to the industry and licence owners of the implementation of any of the de-regulation options.

This reflects the objective of ensuring the results of the Cost Benefit Analysis are conservative and defensible in nature. It also reflects the fact that the level of compensation can vary dependent on the compensation package developed by Government and the de-regulation Option implemented.

RPS estimates that compensation of up to $1.15 billion could be required in the forward Budget estimates, if licences are bought back by the Government at pre-2015 market prices. The addition of this cost would have the effect of more doubling the nominal cost to Queensland of the proposed reform options.

4.0 Cost Benefit Analysis of Public Transport Reforms

4.1 Public Transport Reform Options

The Green Paper the OPT Review Taskforce also identified several potential future reform options for integrating the Queensland taxi industry into the broader public transport network. These reform options align with the current role of taxis in the movement of Queenslanders and the views and preferences of the community. This reform would also have the potential to yield significant benefits for the Queensland public transport system.

Public Transport-related benefits have not been assessed as part of the core Cost Benefit Analysis of the proposed regulatory reform Options in section 3.0. This is because the implementation of public transport options is not contingent on or related to de-regulation of taxis. It is instead an independent reform option that can be adopted and implemented separate to the broader de-regulation reform Options proposed in the Green Paper.

This section seeks to quantify the additional benefit the Queensland community will receive from the introduction of these identified potential future options.

The future options assessed in this section are:

- The integration of GoCards into taxis
- A decrease of the credit card surcharge currently applied to electronic payments within taxis
- The integration of taxis into first and last mile trips to feed into the public transport system

Note, that no economic or social costs were identified for these reforms. It is acknowledged that there would be a fiscal cost for the implementation of GoCards in taxis in the State. However, this could be implemented as part of the current broader reform of GoCards in Queensland meaning a separate and distinct implementation cost is not readily ascertainable.

4.2 Benefits of Public Transport Reform Options

4.2.1 Public Transport Efficiency Benefit

Given the use of taxis are part of an integrated public transport system within Queensland, the integration of taxis into the public transport system would result in increased benefits for both the current observed public transport system, and taxis. Integration for first and last mile, being the first and last mile a passenger must travel to access public transport. The first and last mile acts as a feeder by taxis to bus and train stops, and closes the gap between the origin/destination of the passenger and public transport. This section seeks to quantify the projected benefits as a result of the integration of first and last mile taxi usage.

Based on Translink's annual GoCard usage data[19] RPS assumed that 10% of Go Card usage would utilise "the first and last kilomtre offering". The per kilometre fare rate in South East Queensland[20] was then applied to the resulting number of trips with each trip assumed at one kilometre in length. This is regarded as highly conservative and therefore defensible.

[19] Translink Division (2016), Go Card Fixed Fare Adjustments Reports, Queensland Government, Brisbane
[20] Department of Transport and Main Roads (2016), South-east Queensland taxi fares, Queensland Government, Brisbane

4.2.2 GoCard Consumer Benefit

GoCard integration into the taxi fleet would be the "final piece in the puzzle" of taxis being fully integrated into Queensland's public transport system, and would be the first whole of Queensland public transport system. By allowing the integration of GoCard systems in taxis, there would be a twofold benefit, the first would be the benefit to consumers from a decrease in electronic payment surcharges, currently 10% of the total fare, and the additional government revenue associated with higher balances being stored on GoCards. For the purpose of this assessment, only the consumer benefit of GoCard integration has been modelled, however the likely benefit of this integration is likely to be much larger to the State.

To estimate this benefit, the average credit card surcharge amount was applied to the proportion of passengers who use electronic payments, which was provided through consultation from taxi booking companies and the average taxi fares within Queensland.[21] It was assumed by RPS that not all taxi jobs which are currently paid for by electronic transactions would be paid using GoCards, as such, RPS has assumed that 50% of all electronic payments would be paid using GoCards, with the remainder still using other forms of electronic payments. The estimated number of jobs being paid using GoCards was then applied to the savings from no surcharges on electronic transactions for GoCards.

4.2.3 Decreased Electronic Transaction Surcharge Benefit

Within Queensland electronic payments within taxis attract a 10% surcharge, plus GST on the surcharge, as a result for 80% of taxi jobs within Queensland end up being 10% more expensive due to electronic transaction surcharges (80% of jobs are paid via electronic transactions). Other jurisdictions around Australia have reduced or announced their intentions to reduce the maximum surcharge on electronic payments. The Green Paper has put forward Three Reform Options for electronic payments, decreasing payments to 5%, 2.5% or zero.[22] In order to be conservative, RPS has estimated the economic benefits of decreased electronic transaction surcharges using the 5% surcharge, with any of the other surcharges resulting in a greater benefit to the Queensland community.

To estimate this benefit, the average credit card surcharge amount was applied to the proportion of passengers who use electronic payments, which was provided through consultation from taxi booking companies and the average taxi fares within Queensland.[23] Following on from the GoCard benefits identified RPS has assumed that 50% of all electronic payments would be paid using electronic payments which do not include GoCards. The estimated number of jobs being paid using electronic payments was then applied to the savings from a decrease of electronic surcharges of 5% on electronic transactions.

4.3 Present Value of Benefits

Based on the assumptions identified in Section 4.2, the largest benefit to the Queensland community will be from the introduction of GoCards into taxis, with a present value of $138 million at the 7% discount rate. This was followed by public transport efficiency benefits arising from the integration of taxis into the public transport system, which is estimated to result in $113 million in benefits with a 7% discount rate. A reduction in surcharges on electronic payments from 10% to 5% is likely to result in at least a $67.8 million benefit to the Queensland community.

[21] ATIA (2015), Taxi Industry Statistics, 2014, accessed at http://www.atia.org.au/taxi-statistics
[22] OPT Review Taskforce (2016), The Future of Queensland's Personalised Transport Industry – A Green Paper for Consultation, OPT Review Taskforce, Brisbane
[23] ATIA (2015), Taxi Industry Statistics, 2014, accessed at http://www.atia.org.au/taxi-statistics

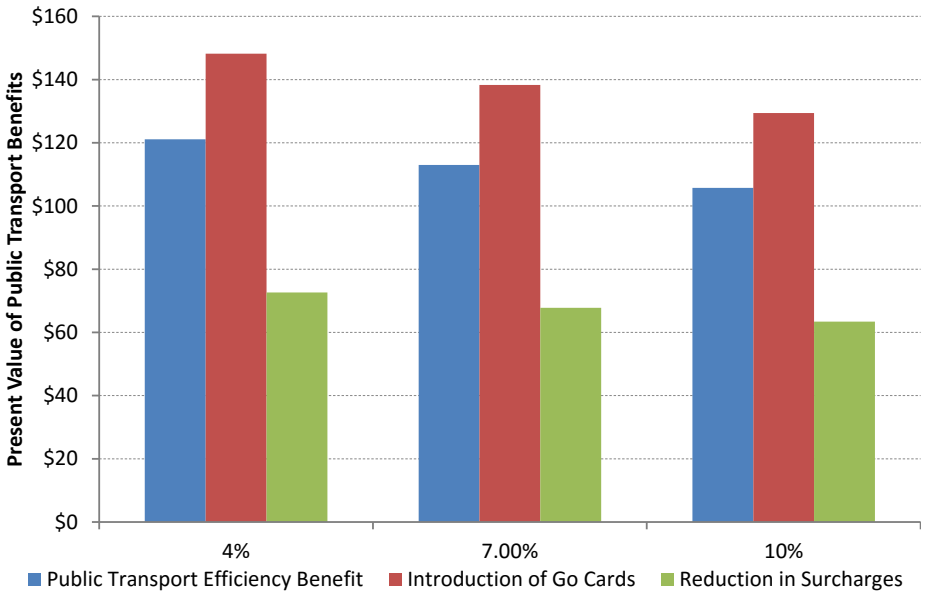


Figure 12 Present Value of Public Transport and Community Affordability Increases, by Discount Rate

In total, these three benefits are estimated provide $319 million worth of benefits to the Queensland community through decreased prices and increased accessibility under a 7% discount rate. These benefits and these potential future options have the ability to be implemented irrespective of which scenario is recommended by the OPT Review Taskforce.

Table 8 Present Value of Public Transport and Community Affordability Increases, by Discount Rate

Public Transport Benefits	4%	7%	10%
Public Transport Efficiency Benefit	$121,095,351	$112,999,277	$105,748,498
Introduction of Go Cards	$148,202,618	$138,294,233	$129,420,363
Reduction in Surcharges	$72,619,283	$67,764,174	$63,415,978
Total Benefit	**$341,917,252**	**$319,057,684**	**$298,584,839**

5.0 Conclusions

Queenslanders utilise taxis more than any other State and get better value for money due to lower fares, longer trips and more frequent travel in groups. In 2015, Queenslanders spent over $1 billion on taxis resulting in a **total per annum contribution to the economy of $1.6 billion**. This contribution is captured by a range of sectors including transport, retail, finance and property sectors.

The operations of the Queensland taxi industry also generate benefits. Businesses in the taxi industry supply chain receive a benefit in the order of $360 million each year associated with the operation and maintenance of the fleet and the purchase and fitout of new and replacement vehicles.

The Options identified by the OPT Review Green Paper do not benefit Queenslanders or the Government. All de-regulation Options (Options 2-4) have a negative impact on the community and on the fiscal position of Government over the next four years.

The full de-regulation of the Queensland taxi industry and personalised transport sector is estimated to cost over $1.2 billion dollars over the next four years, with the majority of this cost being a financial cost to Government in the operation and delivery of a paratransit fleet (NB: these are ongoing costs into the future). However, Queenslanders will also be impacted through increased traffic congestion, worsening vehicle safety and higher fares. These trends are in line with the experiences of international markets over the past 30 years.

The Benefit Cost Ratios of each of the reform Options identified are all well below the 1.0 threshold that indicates a return on investment for the community and Government. Therefore, the evidence and analysis in this Report indicate that the implementation of the reform Options presents cannot be justified from an economic, social, environment or fiscal perspective.

And this does not include the cost to the Government of any compensation package in response to the adoption and implementation of one of the de-regulation reform Options. This compensation could be valued at anything up to $1.15 billion in the forward estimates depending on the compensation model adopted by Government.

The Green Paper also identifies independent reforms focused on further integrating taxis into the public transport sector. These reforms can be implemented and the benefits realised without the implementation of any of the broader reform Options identified in the Green Paper. If achieved, the Queensland community and Government will accrue between $300 million and $350 million per year.

Appendix A – Economic Contribution Assessment Methodology

Overview of IO Modelling

Input-Output (IO) assessments identify inter-industry relationships of industries within an economy, identifying which purchases by one industry go into producing an output for another industry. IO analysis identifies the direct and indirect (flow-on) impacts of one industry on other industries and the economy. IO modelling can therefore be used to assess the economic contribution of an industry on the overall economy and how much the economy relies on the identified industry or to examine a change in final demand of any one industry and the resultant change in activity of its supporting industries. The contribution of the taxi industry to the Queensland economy is measured through:

- **Direct impacts**, the activity which directly results from operational expenditure on goods and services by the taxi industry within Queensland.
- **Flow-on impacts**, the second and subsequent round effects of the increased level of purchases by suppliers in response to increased sales. Flow-on impacts are disaggregated to:
  - **Supply Chain Effects (Type I),** which represent the production induced support activity as a result of additional expenditure by the taxi industry on goods and services, and subsequent round effects of increased purchases by suppliers in response to increased sales.
  - **Household Consumption Effects (Type II),** which represent the consumption induced activity from additional household expenditure on goods and services resulting from additional wages and salaries being paid within the economy.

The contribution of the taxi industry to the Queensland economy is estimated across the following Three key measures:

- **Gross Product**: The value of all outputs of an industry including taxes and subsidies on its final products after deducting the cost of goods and services inputs in the production process.
- **Incomes:** Level of wages and salaries paid to employees in each industry
- **Employmen**t: Level of employment supported by the industry, and is expressed in as full time equivalent (FTE) positions.

Output is also used within this assessment. Output refers to the total value of all goods and services produced within the year (the final value of the good/ service). This measure results in an overestimate of the economic contribution as it results in double counting of goods/services throughout the supply chain.

Limitations and Criticisms of Input-Output Assessments

Assessments based on IO-tables and Economic Multipliers have been criticised by Government and academia. RPS recognises Economic Multipliers are based on limited assumptions that can result in multipliers being a biased estimator of the benefits or costs of a project.

Shortcomings and limitations of Multipliers for economic impact analysis include:

- **Lack of supply–side constraints**: The most significant limitation of economic impact analysis using multipliers is the implicit assumption that the economy has no supply–side constraints. That is, it is assumed that extra output can be produced in one area without taking resources away from other activities, thus overstating economic impacts. The actual impact is likely to be dependent on the extent to which the economy is operating at or near capacity.

- **Fixed prices**: Constraints on the availability of inputs, such as skilled labour, require prices to act as a rationing device. In assessments using multipliers, where factors of production are assumed to be limitless, this rationing response is assumed not to occur. Prices are assumed to be unaffected by policy and any crowding out effects are not captured.
- **Fixed ratios for intermediate inputs and production**: Economic impact analysis using multipliers implicitly assumes that there is a fixed input structure in each industry and fixed ratios for production. As such, impact analysis using multipliers can be seen to describe average effects, not marginal effects. For example, increased demand for a product is assumed to imply an equal increase in production for that product. In reality, however, it may be more efficient to increase imports or divert some exports to local consumption rather than increasing local production by the full amount;
- **No allowance for purchasers' marginal responses to change**: Economic impact analysis using multipliers assumes that households consume goods and services in exact proportions to their initial budget shares. For example, the household budget share of some goods might increase as household income increases. This equally applies to industrial consumption of intermediate inputs and factors of production.
- **Absence of budget constraints**: Assessments of economic impacts using multipliers that consider consumption induced effects (type Two multipliers) implicitly assume that household and government consumption is not subject to budget constraints.
- **Not applicable for small regions**: Multipliers that have been calculated from the national I–O table are not appropriate for use in economic impact analysis of projects in small regions. For small regions multipliers tend to be smaller than national multipliers since their inter–industry linkages are normally relatively shallow. Inter–industry linkages tend to be shallow in small regions since they usually don't have the capacity to produce the wide range of goods used for inputs and consumption, instead importing a large proportion of these goods from other regions[24].

Despite this, IO tables and Economic Multipliers remain popular due to their ease of use and communication of results. RPS has undertaken a number of steps and made appropriate adjustments to the assessment methodology to address and mitigate these concerns.

Model Development

The models used in this assessment are developed from sub-regional transaction tables developed for Queensland by RPS. The process of developing these sub-regional transaction tables involves developing regional estimates of gross production and purchasing patterns based of the 2012-13 Australian transaction tables. Estimates of gross production (by industry) for Queensland were developed based on the Australian gross output identified in the 2012-13 Australian transaction tables. Industry purchasing patterns were developed using cross industry location quotients and demand-supply production[25]. In addition to the general limitations of Input-Output analysis, there are Two other factors that need to be considered when assessing the outputs of sub-regional transaction table developed using this approach, namely:

- It is assumed the sub-region has similar technology, demand and consumption patterns as the Australian tables; and
- Intra-regional cross-industry purchasing patterns for a given industry vary from the national tables depending on the prominence of the industry in the regional economy compared to its input industries.

[24] ABS (2015) Australian National Accounts: Input-Output Tables, 2012-13, Cat No 5209.0, Australian Bureau of Statistics, Canberra
[25] G. R. West (1993), User's Guide, Input Output Analysis for Practitioners, University of Queensland, Brisbane

Typically, industries that are more prominent in the region (compared to the national economy) will be assessed as purchasing a higher proportion of imports from input industries than at the national level, and vice versa.

Input-Output tables utilise an aggregated system of industry classifications based on the ANZSIC system. In total, the 2012-13 Input-Output tables produced by the ABS 114 distinct industries.

Significance Assessment Approach

The contribution assessment is initially undertaken for the 2012-13 financial year in line with the Input-Output transaction tables. These estimates are then rebased to 2014-15 using the following:

- Data from the National Accounts to identify growth between 2012-13 and 2014-15[26] in gross product and gross value add for each industry of the economy;
- Labour productivity increases to identify changes in productivity per employee for each industry between 2012-13 and 2014-15[27] were used. These estimates were then applied to the 2012-13 production to identify preliminary 2014-15 employment estimates for each industry;
- Estimates of total persons employed in 2014-15 were developed using the total number of persons employed by each industry in Australia in 2012-13 outlined in the ABS labour force survey compared to total full time equivalents in each industry outlined in the national transaction tables. The 2012-13 ratio for each industry was assumed to hold constant across states and years;
- Employed person estimates in 2014-15 for each industry are calculated using the ratios above were then rebased to equal the average employment estimates for each industry across the quarterly ABS labour force survey. This ensures the sum of the 114 sub-industries totalled the ABS labour force survey, preventing an over/under estimate of total employment; and
- Estimates of incomes in 2014-15 were obtained assuming that the relationship between income and output in 2012-13 remains constant.

Estimates of the flow-on impacts of the identified industries are developed from the 2012-13 proportions of the flow-on impacts and the direct impacts. As a result of this, one of the main assumptions in this assessment is that between 2012-13 and 2014-15 the ratios between the flow-on and direct impacts have not changed.

[26] ABS (2015), Australian National Accounts: State Accounts 2014-15, Cat. No. 5220.0, Australian Bureau of Statistics, Canberra
[27] ABS (2015), Estimates of Industry Multifactor Productivity 2014-15, Cat. No. 5260.0, Australian Bureau of Statistics, Canberra

Appendix B – Economic Contribution Assessment Detailed Results

Detailed breakdown of the Economic Contribution of People Catching Taxis within Queensland

Industry	Direct Impact			Flow-on Type One Impact			Flow-on Type Two Impact		
	GVA ($M)	Income ($M)	Employment (FTE)	GVA ($M)	Income ($M)	Employment (FTE)	GVA ($M)	Income ($M)	Employment (FTE)
Agriculture, forestry and fishing	$0.0	$0.0	0	$1.5	$0.3	14	$15.4	$3.1	144
Mining	$0.0	$0.0	0	$27.0	$3.3	22	$11.8	$1.6	13
Manufacturing	$0.0	$0.0	0	$32.2	$13.8	255	$41.3	$19.8	360
Electricity, gas, water and waste services	$0.0	$0.0	0	$11.2	$3.2	42	$18.9	$5.5	68
Construction	$0.0	$0.0	0	$6.1	$2.8	57	$9.5	$4.3	94
Wholesale trade	$0.0	$0.0	0	$24.6	$13.3	155	$29.0	$15.6	182
Retail trade	$0.0	$0.0	0	$1.7	$1.0	24	$57.7	$33.0	813
Accommodation and food services	$0.0	$0.0	0	$6.5	$3.5	99	$30.4	$17.5	505
Transport, postal and warehousing	$503.8	$250.7	5,102	$53.1	$25.2	487	$25.9	$11.8	203
Information media and telecommunications	$0.0	$0.0	0	$16.8	$4.5	65	$20.5	$5.7	85
Financial and insurance services	$60.0	$39.3	161	$34.3	$15.6	92	$72.2	$29.4	199
Rental, hiring and real estate services	$0.0	$0.0	0	$24.0	$9.3	125	$12.2	$4.8	64
Professional, scientific and technical services	$0.0	$0.0	0	$56.7	$30.8	490	$25.9	$14.1	219
Administrative and support services	$0.0	$0.0	0	$15.3	$10.7	142	$13.9	$9.6	131
Public administration and safety	$0.0	$0.0	0	$15.8	$11.4	154	$4.3	$3.0	45
Education and training	$0.0	$0.0	0	$2.3	$1.6	26	$28.0	$20.4	319
Health care and social assistance	$0.0	$0.0	0	$0.1	$0.1	1	$36.4	$26.0	423
Arts and recreation services	$0.0	$0.0	0	$0.7	$0.4	10	$9.4	$4.8	105
Other services	$0.0	$0.0	0	$45.2	$22.4	654	$21.4	$12.8	295
Ownership of dwellings	$0.0	$0.0	0	$0.0	$0.0	0	$127.4	$0.0	0
Total	**$563.8**	**$290.0**	**5,262**	**$375.1**	**$173.0**	**2,915**	**$611.4**	**$243.1**	**4,267**

Detailed breakdown of the Economic Contribution of Operating Taxis within Queensland

Industry	Direct Impact			Flow-on Type One Impact			Flow-on Type Two Impact		
	GVA ($M)	Income ($M)	Employment (FTE)	GVA ($M)	Income ($M)	Employment (FTE)	GVA ($M)	Income ($M)	Employment (FTE)
Agriculture, forestry and fishing	$0.0	$0.0	0	$1.7	$0.3	15	$3.5	$0.7	30
Mining	$0.0	$0.0	0	$2.6	$0.4	3	$2.7	$0.4	3
Manufacturing	$2.3	$1.2	22	$7.3	$3.5	58	$9.4	$4.4	76
Electricity, gas, water and waste services	$0.0	$0.0	0	$3.0	$0.8	10	$4.3	$1.2	14
Construction	$0.0	$0.0	0	$1.9	$0.8	18	$2.1	$1.0	20
Wholesale trade	$0.0	$0.0	0	$4.4	$2.3	26	$6.6	$3.5	38
Retail trade	$19.3	$10.8	250	$0.6	$0.3	7	$13.1	$7.3	171
Accommodation and food services	$0.0	$0.0	0	$1.2	$0.7	18	$6.9	$3.9	107
Transport, postal and warehousing	$29.7	$12.0	198	$7.1	$3.1	54	$6.1	$2.7	45
Information media and telecommunications	$0.0	$0.0	0	$4.8	$1.3	17	$4.7	$1.3	18
Financial and insurance services	$14.0	$8.3	53	$17.7	$7.3	42	$16.4	$6.5	42
Rental, hiring and real estate services	$39.5	$17.9	184	$10.0	$3.8	49	$2.8	$1.1	13
Professional, scientific and technical services	$0.0	$0.0	0	$14.7	$7.8	116	$5.9	$3.1	46
Administrative and support services	$0.0	$0.0	0	$10.1	$7.0	80	$3.1	$2.1	28
Public administration and safety	$0.0	$0.0	0	$2.5	$1.8	25	$1.0	$0.7	9
Education and training	$0.0	$0.0	0	$0.8	$0.5	7	$6.4	$4.5	67
Health care and social assistance	$0.0	$0.0	0	$0.4	$0.3	5	$8.3	$5.8	89
Arts and recreation services	$0.0	$0.0	0	$0.4	$0.2	5	$2.1	$1.1	22
Other services	$21.4	$10.0	281	$3.0	$1.5	43	$4.9	$2.9	62
Ownership of dwellings	$0.0	$0.0	0	$0.0	$0.0	0	$28.9	$0.0	0
Total	**$126.2**	**$60.1**	**988**	**$94.0**	**$43.7**	**597**	**$139.0**	**$54.0**	**903**

Appendix C – Cost Benefit Analysis of De-Regulation Results

Option Two

	2016	2017	2018	2019	2020
Costs					
Paratransit Cost		$127,388,964	$127,388,964	$127,388,964	$127,388,964
Compliance Cost		$1,240,039	$3,602,018	$5,963,997	$8,325,976
Congestion Cost		$1,967,888	$5,716,246	$9,464,604	$13,212,962
Emission Cost		$1,237,801	$3,595,519	$5,953,236	$8,310,953
Fare Price Increase		$21,294,461	$42,588,921	$42,588,921	$42,588,921
Increase in Incidences Involving Vehicles		$4,449,840	$12,925,725	$21,401,611	$29,877,496
Total Costs		***$157,578,993***	***$195,817,393***	***$212,761,332***	***$229,705,272***
Benefits					
Differentiated Ride-Sourcing Benefit		$15,646,688	$15,646,688	$15,646,688	$15,646,688
Total Benefits		***$15,646,688***	***$15,646,688***	***$15,646,688***	***$15,646,688***
Net Benefit		-$141,932,305	-$180,170,705	-$197,114,645	-$214,058,584

Option Three

	2016	2017	2018	2019	2020
Costs					
Paratransit Cost		$170,269,792	$170,269,792	$170,269,792	$170,269,792
Compliance Cost		$1,657,453	$4,814,505	$7,971,558	$11,128,611
Congestion Cost		$2,630,305	$7,640,411	$12,650,516	$17,660,621
Emission Cost		$1,654,462	$4,805,818	$7,957,174	$11,108,531
Fare Price Increase		$28,462,461	$56,924,921	$56,924,921	$56,924,921
Increase in Incidences Involving Vehicles		$5,947,715	$17,276,697	$28,605,679	$39,934,661
Total Costs		***$210,622,188***	***$261,732,145***	***$284,379,640***	***$307,027,136***
Benefits					
Differentiated Ride-Sourcing Benefit		$15,646,688	$15,646,688	$15,646,688	$15,646,688
Total Benefits		***$15,646,688***	***$15,646,688***	***$15,646,688***	***$15,646,688***
Net Benefit		-$194,975,500	-$246,085,457	-$268,732,953	-$291,380,449

Option Four

	2016	2017	2018	2019	2020
Costs					
Paratransit Cost		$170,269,792	$170,269,792	$170,269,792	$170,269,792
Compliance Cost		$1,657,453	$4,814,505	$7,971,558	$11,128,611
Congestion Cost		$2,630,305	$7,640,411	$12,650,516	$17,660,621
Emission Cost		$1,654,462	$4,805,818	$7,957,174	$11,108,531
Fare Price Increase		$43,788,401	$87,576,802	$87,576,802	$87,576,802
Increase in Incidences Involving Vehicles		$5,947,715	$17,276,697	$28,605,679	$39,934,661
Total Costs		***$225,948,128***	***$292,384,025***	***$315,031,521***	***$337,679,017***
Benefits					
Differentiated Ride-Sourcing Benefit		$15,646,688	$15,646,688	$15,646,688	$15,646,688
Total Benefits		***$15,646,688***	***$15,646,688***	***$15,646,688***	***$15,646,688***
Net Benefit		**-$210,301,441**	**-$276,737,338**	**-$299,384,833**	**-$322,032,329**

Appendix D – Price Increases of Access-A-Ride

IBO

New York City Independent Budget Office

Fiscal Brief

October 2006

Access-A-Ride: With More Riders, Costs Are Rising Sharply

Also available...

City Revenue and Spending Since 1980

... at www.ibo.nyc.ny.us

New Report

"Using Taxi Vouchers to Lower the Cost of Paratransit Service"

now available.

SUMMARY

THE COST OF RUNNING ACCESS-A-RIDE, the transit authority's door-to-door transportation program for the city's disabled, has more than doubled between calendar years 2000 and 2005. Over this six-year span, operating expenses increased from $85.2 million to $189.8 million. This year, MTA New York City Transit expects costs to grow $50 million and reach $239.8 million. Though still a comparatively small portion of the transit authority's budget, Access-A-Ride has become one of the agency's fastest-growing costs.

Driving the increase in spending has been a surge in the number of passengers taking Access-A-Ride, not the cost per passenger. Since 2000, the number of people approved to use the service due to physical or mental disability has increased by more than 50 percent. At the same time, these registered users are taking more Access-A-Ride trips. Registered users took an average of 37 trips each in 2005, compared with 28 in 2000.

Among IBO's other findings in its review of the Access-A-Ride budget:

- Fares, which are the same as for subways and buses, cover a small fraction of the program's operating expenses—less than 4 percent in 2005.
- MTA New York City Transit covers about two-thirds of the program's costs, a subsidy that has grown from roughly $60 million in 2000 to a projected $160 million this year.
- If not for an annual cap on how much New York City's subsidy of the program can grow, the city's $29.6 million share in 2005 would have been $16.7 million higher.

Access-A-Ride receives 6.0 percent of two taxes levied on large commercial real estate transactions in New York City. Because of the city's booming real estate market, revenue from these taxes has been extremely strong in recent years. Revenue from these taxes dedicated to paratransit increased from $10.9 million in 2000 to $37.2 million in 2005, an average annual increase of 27.8 percent. MTA New York City Transit projects that revenues from these taxes will decline slightly in 2006, to $36.2 million.

New York City Independent Budget Office
Ronnie Lowenstein, Director
110 William St., 14th floor
New York, NY 10038
Tel. (212) 442-0632
Fax (212) 442-0350
e-mail: ibo@ibo.nyc.ny.us
http://www.ibo.nyc.ny.us

INTRODUCTION

The cost of running Access-A-Ride, the transit authority's door-to-door transportation program for the city's disabled, has increased sharply in recent years. Operating expenses more than doubled between calendar years 2000 and 2005, increasing from $85.2 million to $189.8 million. MTA New York City Transit (NYC Transit) projects costs to rise by $50 million in 2006 and reach $239.8 million.[1] Passenger fare revenues have increased at a somewhat faster rate than expenses, but by 2005 still only covered 3.7 percent of costs. New York City contributed approximately 15 percent of the cost, dedicated tax revenues provided another 20 percent, and the transit authority covered the balance—nearly two-thirds of total operating expenses.

The growth in the paratransit budget since 2000 is due primarily to an increase in the number of passengers carried, not the cost per passenger. The number of times Access-A-Ride vehicles were boarded by passengers registered to use the service, plus aides and guests, more than doubled between 2000 and 2005 (compared to a more modest 5.4 percent increase in subway and bus riders during the same period). In contrast, operating expenses per boarding increased 9.7 percent.

Two reasons explain the rise in paratransit riders. First, the number of registered users—persons who have been approved to use the service because physical or mental disability makes them occasionally or permanently unable to use public buses or subways—has increased by over 50 percent since 2000. Second, registered users are using Access-A-Ride more frequently. Registered users took an average of 37 trips each in 2005, compared with 28 in 2000. These numbers suggest that despite the dissatisfaction of some riders with the quality of service, paratransit has in recent years become a more feasible transportation option for individuals with disabilities.

The Legal Mandate for Paratransit. Paratransit is generally defined as a demand-responsive transportation service provided in sedans or lift-equipped vans or minibuses. The Americans with Disabilities Act (ADA) of 1990 mandates that transit agencies provide "comparable" paratransit service to individuals who are unable to use regular public transportation. In general, "comparable" service means that paratransit must be provided within three-fourths of a mile of existing bus routes and rail stations, during the same hours and days as conventional transit.

Access-A-Ride is the paratransit program in New York City. Access-A-Ride was originally managed by the city's Department of Transportation. In 1993 the program was taken over by NYC Transit, under an agreement between the transit agency and the city. NYC Transit contracts with private transportation companies to deliver the service.

REGISTRATION AND RIDERSHIP TRENDS

Total paratransit ridership in New York City more than doubled between 2000 and 2005, from 2.3 million to 4.7 million trips. In each of these years, registered users made up just under three-fourths of the passenger total. Aides (who do not pay) and guests (who do) made up the remainder. The sharp increase in ridership has been propelled by such factors as increases in service capacity, a reduction in the advance notice required for trip requests, and greater outreach by social service organizations, advocacy groups, and others.

Increased paratransit ridership results from growth in both the number of registered users, and in the number of trips taken per user. The number of registered paratransit users increased by over 50 percent between 2000 and 2005, to 91,953 from 59,721. Even with this recent growth, the number of registered paratransit users in New York City is quite small compared with the number of disabled city residents. Based on the American Community Survey conducted by the federal Bureau of the Census, IBO estimates that there were roughly 850,000 disabled adults residing in the city in 2005.[2] Some of these individuals are able to use public transit without limitations. At the other extreme, some disabled will never be able to use conventional transit, no matter how accessible it becomes. In the middle is a group that can use regular transit in some circumstances or with a certain amount of difficulty. They will make their modal choice based on factors such as travel time, relative convenience and accessibility, and their health condition on a particular travel day.

In addition to the increase in the number of users, the average number of trips taken by each user rose as well. The average

Trends in Access-A-Ride Registration and Ridership

	2000	2001	2002	2003	2004	2005
Ridership *(in millions)*						
Registered users	1.70	2.02	2.23	2.58	2.88	3.41
Aides and guests	0.60	0.69	0.8	0.99	1.11	1.26
Total Ridership	**2.30**	**2.71**	**3.03**	**3.56**	**3.98**	**4.66**
No. of registered users	59,721	64,902	73,411	80,647	83,844	91,953
Trips per registered user	28	31	30	32	34	37

SOURCES: IBO; MTA New York City Transit.

registered user took 37 trips in 2005, about one-third more than the 28 trips taken in 2000. Trips made by aides and guests increased by a similar proportion.

Access-A-Ride Costs

	2000	2001	2002	2003	2004	2005	2006[a]
Annual Operating Costs *(in thousands)*							
Carrier Contracts	$69,139	$86,910	$103,830	$109,228	$121,787	$143,957	$170,926
Vehicle Purchases[b]	4,179	5,620	376	260	171	0	4,740
Other Operating	8,043	12,129	19,858	28,780	31,316	39,251	55,651
Administrative	3,811	4,599	5,794	5,988	6,287	6,560	8,434
Total Operating Costs	**$85,172**	**$109,258**	**$129,858**	**$144,256**	**$159,561**	**$189,768**	**$239,750**
Capital Vehicle Purchases[b]	$0	$0	$0	$12,991	$14,385	$4,851	$0
Operating Costs							
per boarding	$50.21	$54.16	$58.29	$55.99	$55.45	$55.72	n.a.
per passenger	$37.11	$40.31	$42.86	$40.48	$40.06	$40.70	n.a.

SOURCES: IBO; MTA New York City Transit.
NOTES: [a]Calendar year actual spending through 2005; 2006 is budgeted spending. [b]Vehicles with a value greater than $50,000 are purchased through the transit authority's capital budget.

Changes in paratransit policy have made Access-A-Ride a more viable travel option for individuals with disabilities. Initially NYC Transit operated Access-A-Ride with a "planned denial rate" of 6 percent. This meant that the amount of service available was insufficient to meet peak periods of demand. In 1998 the Federal Transit Administration determined that ADA regulations require paratransit capacity be sufficient to meet all anticipated demand. NYC Transit achieved a 0 percent denial rate in March 2003, and has continued to increase the amount of service available. The agency has also reduced the amount of advance notice required for trip requests, from two to four days to one day.

FINANCIAL PROFILE

Total paratransit operating expenses increased from $85.2 million in 2000 to $189.8 million in 2005, an average annual increase of 17.4 percent. The operating expense per trip (boarding) was around $56 in 2005, and has been relatively stable over the six-year period. (A boarding consists of a registered paratransit user, plus any aides or guests who travel with him or her.) Operating expense per passenger carried (including aides and guests) was almost $41.

Although dedicated tax sources have grown rapidly to help fund the increase in costs, the growth rate in the city's contribution is capped, meaning that NYC Transit must provide the balance of funding for Access-A-Ride operations. In 2005 paratransit operating expenses represented about 4 percent of NYC Transit's total operating expenses, up from 2 percent in 2000.

Costs. The principal component of paratransit costs consists of service contracts with the private companies that actually provide the service. NYC Transit has long-standing contracts with eight companies: Atlantic Paratrans, American Paratransit, Maggies Paratransit, MV Transportation, PTM Management, TFM Paratransit, Star Cruiser Transportation, and RJR Paratransit.[3] Four additional carriers, TransCare New York, Progress Transit, ALL Transit, and Advance Transit Co. are expected to begin providing service by the end of this year. NYC Transit has negotiated a price per vehicle service hour for each one of these companies, based on the expected characteristics of that firm's trips. Actual payment for service takes place monthly, based on documentation that the companies submit to NYC Transit. The total value of the contracts was $144.0 million in 2005, more than twice the 2000 level. Due to cost of living adjustments and a projected increase in demand, NYC Transit expects contract costs to reach $170.9 million in 2006.

NYC Transit purchases the vehicles that are used by paratransit providers, generally minibuses or vans. Since 2003 almost all vehicle purchases have been classified as capital spending. Expenditures on paratransit vehicles vary greatly from year to year, but the overall trend has been upward. After two years of relatively large spending for new vehicles, expenditures fell in 2005. In 2003 the transit authority spent $13.0 million in capital funds on new vehicles and $14.4 million in 2004 (along with a small amount of operating funds in both years). Spending on new vehicles dropped to $4.9 million in 2005, and this year NYC Transit plans to spend $4.7 million in operating funds to purchase Crown Victoria sedans. These sedans, similar to the city's yellow taxis, will be used for passengers who do not require a wheelchair-accessible vehicle.

Other operating expenses include the cost of the centralized reservation, scheduling, and dispatching system (known as the "Command Center"), the cost of the Eligibility Determination Unit, and fuel. The Command Center is operated by First Transit, an Ohio-based company, with some additional support staff from NYC Transit. The Eligibility Determination Unit certifies individuals as qualifying for paratransit. The unit is operated by NYC Transit, although some applications are reviewed by a third party.

Access-A-Ride Funding	2000	2001	2002	2003	2004	2005	2006 [a]
Annual Revenues *(in thousands)*							
Fares	$2,549	$3,026	$3,709	$5,056	$6,024	$7,109	$8,393
Urban Tax	10,914	12,343	11,168	10,819	22,509	37,163	36,207
NYC reimbursement	11,915	14,298	17,158	20,589	24,706	29,648	35,580
Total Dedicated Revenue	*25,378*	*29,667*	*32,035*	*36,464*	*53,239*	*73,920*	*80,180*
NYC Transit contribution	59,794	79,591	97,823	107,792	106,322	115,848	159,570
Total Funding	**$85,172**	**$109,258**	**$129,858**	**$144,256**	**$159,561**	**$189,768**	**$239,750**
Funding as a Percent of Cost							
Farebox	3.0%	2.8%	2.9%	3.5%	3.8%	3.7%	3.5%
Urban Tax	12.8%	11.3%	8.6%	7.5%	14.1%	19.6%	15.1%
NYC reimbursement	14.0%	13.1%	13.2%	14.3%	15.5%	15.6%	14.8%
NYC Transit contribution	70.2%	72.8%	75.3%	74.7%	66.6%	61.0%	66.6%

SOURCES: IBO; MTA New York City Transit.
NOTES: [a]Calendar year actual spending through 2005; 2006 is budgeted.

Administrative expenses are the costs incurred directly by NYC Transit as the overseer of the Access-A-Ride program. These costs increased from $3.8 million in 2000 to $6.6 million in 2005.

Funding. The paratransit operating budget is funded from fares, dedicated tax revenues, and direct payments from the city pursuant to its agreement with NYC Transit. Because these sources are insufficient to cover all of the program's expenses, NYC Transit pays for the remaining balance—typically about two-thirds of total operating costs—out of its own budget.

Fares. Fares cover a small fraction of paratransit operating expenses—3.7 percent in 2005. NYC Transit collected $7.1 million in fares from paratransit users in 2005, up from $2.5 million in 2000. Under an agreement between the city and NYC Transit, registered paratransit customers and guests (family or friends who accompany them) pay the equivalent of the cash fare on NYC Transit subways and buses—currently $2 per ride. Personal care attendants who aid disabled passengers travel for free. (Individuals with a qualifying disability may ride conventional transit for half the normal fare, whether paying cash—on buses only—or using a pay-per-ride or unlimited-ride MetroCard.)

Urban Taxes. Access-A-Ride receives 6 percent of two taxes levied on large commercial real estate transactions in New York City. These taxes are referred to as the "urban taxes." They consist of a 0.625 percent tax on commercial mortgages of $500,000 or more, and a 1.0 percent tax on commercial property sales over $500,000. NYC Transit receives 96 percent of urban tax revenue: 90 percent for its subways and buses, and 6 percent for paratransit. (The remaining 4 percent of revenue is used to fund MTA Bus, the MTA subsidiary that completed a takeover of the private bus lines in the city in 2006.)

Because of the city's booming real estate market, urban tax revenues have been extremely strong in recent years. The urban tax revenues dedicated to paratransit increased from $10.9 million in 2000 to $37.2 million in 2005, an average annual increase of 27.8 percent. Revenues are projected to decline slightly in 2006, to $36.2 million. Based on its forecast of slower real estate activity, the transit authority projects that paratransit will receive $23.2 million from the urban taxes in 2007, down by more than one-third from this year.

City Subsidy Cap. Under its agreement with the transit authority, the city subsidizes paratransit with a payment equal to one-third of operating expenses, after deducting fare revenue, urban tax revenues, and the program's administrative expenses. There is an additional proviso that the year-to-year increase in the city's contribution cannot exceed 20 percent. This cap has been effective every year since New York City Transit took over the program in 1993, and as a result the increase in the city's contribution has been exactly 20 percent each year since 2000. The city provided $29.6 million in funding for Access-A-Ride in 2005, but without the cap, it would have been obligated to provide $46.3 million.

NYC Transit Contribution. Of the $189.8 million in total operating expenses for paratransit in 2005, $73.9 million (39 percent) was funded through fares, urban taxes, and the city contribution; there is no direct state or federal funding for the paratransit program. The remaining $115.8 million was paid through NYC Transit's operating budget, which is in turn funded by subway and bus fares, surplus bridge and tunnel tolls, state and local operating subsidies, and state and local dedicated taxes. Combining subsidies and dedicated taxes, around one-third of NYC Transit's contribution to paratransit can ultimately be attributed to state and local sources.

The NYC Transit capital program for 2005-2009 commits

$73.2 million for the purchase of 948 vehicles. Money for these vehicles comes from the transportation authority's own funding sources—principally bonds—rather than a dedicated federal or state grant.

ENABLING MORE TO RIDE CONVENTIONAL TRANSIT

Driven by the increase in demand, Access-A-Ride has become one of the fastest-growing parts of NYC Transit's operating budget. The subsidy paid by NYC Transit to support the program is expected to reach almost $160 million in 2006, compared with $60 million in 2000.

One way to reduce the cost of paratransit would be to enable as many users as possible to use conventional transit. The Americans with Disabilities Act mandates wheelchair accessibility on transit buses and at "key" rail stations. As part of an out-of-court settlement of a suit brought by the United Spinal Association (formerly Eastern Paralyzed Veterans), NYC Transit has agreed to make 100 key subway stations accessible by 2020. According to a recent statement by the MTA, 53 key stations and 15 non-key stations are now accessible.[4] Currently, all NYC Transit buses are wheelchair-accessible, and MTA Bus (the successor to the former private franchise bus routes) is moving toward complete accessibility.

Given that the number of disabled passengers is such a small fraction of total city subway and bus ridership, NYC Transit would not have to add service even if significant numbers of disabled riders switched to conventional transit service. If all of the 4.7 million passengers who used paratransit in 2005 had instead used city subways and buses, ridership on these modes would have increased an imperceptible 0.2 percent. An increase so small would not warrant more transit service.

Clearly, not all current paratransit users could make the switch to conventional transit, even if the system were made far more accessible than at present. When riders do shift from Access-A-Ride to conventional transit, there are net operating savings to NYC Transit as a whole. One obstacle to this happening is the lack of accessibility of the subway system. Barely more than one-tenth of all subway stations are wheelchair accessible, and disabled individuals who do not use wheelchairs often find that the amount of walking and climbing required to enter and leave stations is excessive.

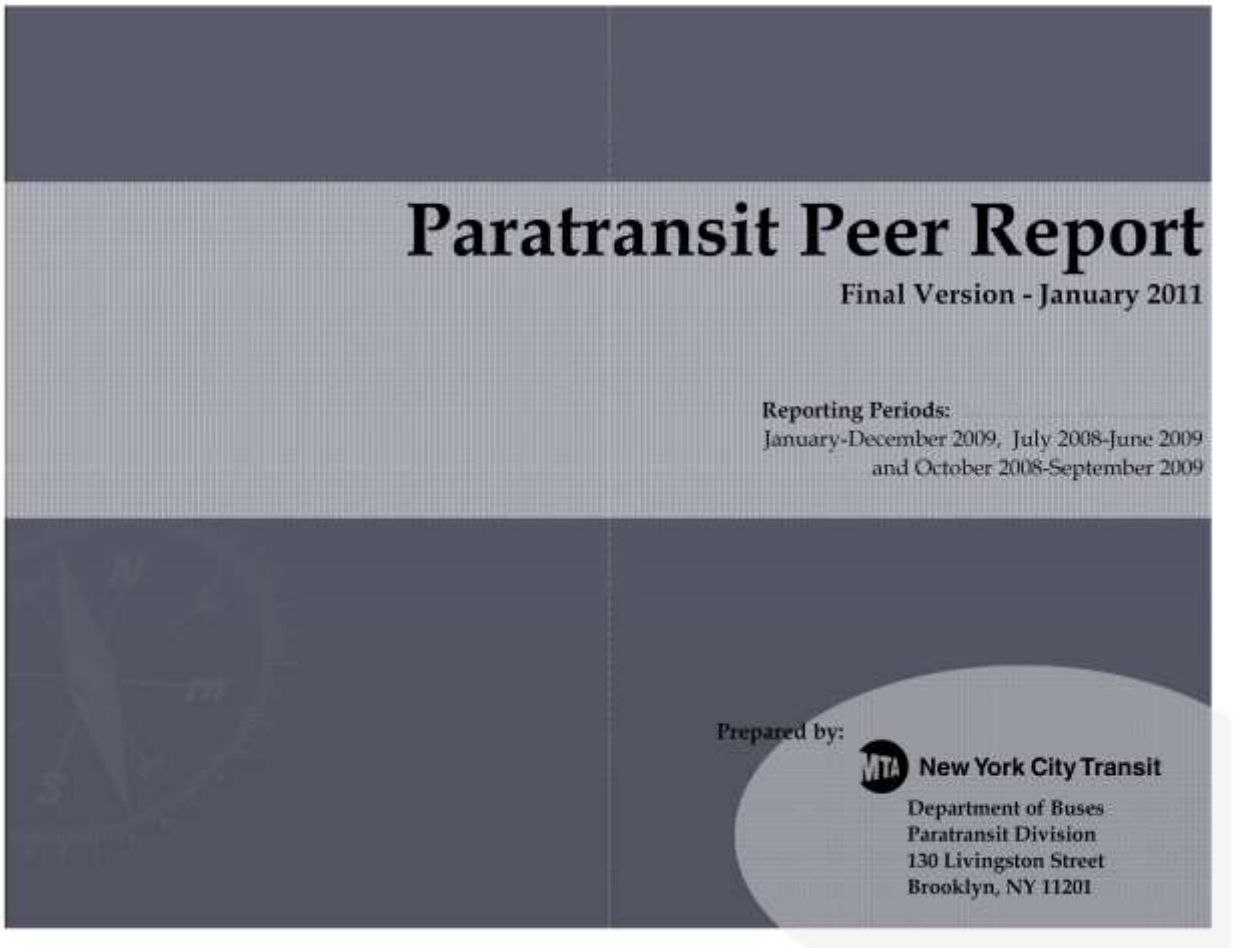
The capital investment required to make subway stations accessible is very high. NYC Transit is committing $192.9 million in its 2005-2009 capital program to provide ADA accessibility at 15 key stations—an average of almost $13 million per station. Extrapolating from these numbers, making every subway station ADA accessible might cost $4 billion or more. Moreover, even with a totally accessible subway system, the need for paratransit would remain. Some registered Access-A-Ride users can never use conventional transit, while others can use it only under limited circumstances.

Written by Alan Treffeisen

ENDNOTES

[1] In 2002 the Independent Budget Office released an analysis of the expenses and revenues of Acces-A-Ride based on data from the year 2000. "New York's Access-A-Ride Program: Costs and Funding Sources." This fiscal brief updates that report.
[2] Assuming that the age distribution of disabled New Yorkers mirrors the distribution of the population as a whole, then about five-sixths of the disabled population are adults age 18 or over. Because the survey does not include individuals who are institutionalized or otherwise living in group quarters, this estimate of the disabled population tends to be on the low side. The 2000 census reported a much higher number of disabled New Yorkers—1.8 million.
[3] The companies are listed by the size of their current contract, from largest to smallest.
[4] Alberts, Hana. "MTA responds to suggestions for change." *New York Newsday*, August 20, 2006.

Appendix E – Exerts of Paratransit Peer Report



MTA New York City Transit's Paratransit Peer Report is the result of a survey conducted annually by the Department of Buses' Paratransit Division. This year's survey was distributed in spring 2010 to fourteen transit properties operating in various cities of the United States. Its purpose is to capture and share information on the many various facets of paratransit operations for the 2009 calendar year and 2008-09 fiscal year, as applicable. The information collected includes ridership, finances, eligibility and vehicles. Additional questions pertain to newly implemented technologies, alternate transportation and travel training.

Responses were received from all fourteen transit properties surveyed. Counting New York City Transit, the total number of participants in this report is fifteen. The following transportation properties are identified under the noted cities.

- Boston, MA	The Ride
- Broward County, FL	Transportation Options-TOPS
- Chicago, IL	ADA Service
- Dallas, TX	DART Paratransit Services
- Denver, CO	access-a-Ride
- Garden City, NY	Able-Ride
- Houston, TX	METROLift
- Los Angeles, CA	Access Services Paratransit
- Miami, FL	Special Transportation Services-STS
- New Jersey	Access Link
- New York City-5 Boroughs	Access-A-Ride
- Philadelphia, PA	Customized Community Transportation-CCT
- Seattle, WA	King County Metro Access
- Washington, DC	MetroAccess
- Westchester, NY	Westchester County Paratransit Service

The criterion for paratransit service varies among the participating transit properties - from the ADA paratransit eligibility procedures to the supplemental transportation services offered. Additionally and also varying are the service area sizes and populations, numbers of trips provided and the numbers of customers for which the participants provide their ADA paratransit service.

While the responses are noted in the narratives, graphs, tables and/or charts on the following pages, the list below offers an overall summary. Please note that there were a few questions for which responses were either not provided, clarified or applicable.

- Total one-way trips completed with PCAs/Guests (12-month) range from 212,909 to 8,490,247
- Average weekday ridership ranges from 1,373 to 20,589
- Customer no-show rates range from 0.012% to 6.8%
- Late cancellation rates range from 0.014% to 19.2%
- On-time performance ranges from 72% to 98.7%
- Productivity ranges from 0.10 to 2.82
- ADA paratransit customers range from a total of 5,318 to 136,820
- Applications received on a monthly basis range from a total of 175 to 3,715
- Operating expenses (total) range from $9,186,928 to $440,496,136
- Costs per trip range from:
  - direct costs/transportation only: $24.26 to $60.97
  - all costs:$0.75 to $24.00
- Paratransit fares range from $0.975 to $12.00
- Local fixed-route fares range from $1.25 to $12.00
- Vehicle fleets range from a total of 274 to 2,212

Table of Contents

Participating Transit Properties 1-4

Paratransit Services At-A-Glance 5-19

Service Areas 20-23

Service Description 24-27

- *service hours & provisions* 24
- *reservation information* 25
- *travel training programs* 26
- *feeder service programs* 27

Trip Statistics 28-36

- *total one-way trips completed* 28
- *trips by category* 29
- *average monthly ridership* 30
- *average weekday ridership* 31
- *average weekend or Saturday/Sunday ridership* 32
- *customer no-shows* 33
- *late cancellations* 34
- *on-time performance* 35
- *productivity* 36

Finances 37-40

- *operating expenses* 37
- *cost per trip (transportation only and all costs)* 38
- *paratransit fares* 39
- *fixed-route system fare and discounts* 40

Eligibility 41-47

- *Total ADA paratransit registrants* 41
- *ADA paratransit registrants (categorized by full/conditional eligibility %)* 42
- *ADA paratransit registrants (categorized by temporary/visitor eligibility %)* 43
- *eligibility process* 44
- *average number of applications received* 45
- *eligibility recertification and permanent/continual eligibility* 46
- *conditional eligibility (weather/distance)* 47

Vehicles 48-49

- *vehicle fleet breakdown* 48
- *vehicle boarding/exiting procedures* 49

Technology 50-52

- *self-service options through technology (internet/telephone)* 50
- *Interactive Voice Response (IVR)* 51
- *Contacts for Interactive Voice Response (IVR)* 52

Participants

1 **Boston, MA**
Ms. Carol Joyce-Harrington
Assistant Manager, Administration
Office for Transportation Access
Massachusetts Bay Transportation Authority
THE RIDE
10 Park Plaza, Room 5750
Boston, MA 02116
Tele: 617-222-5526
E-mail: CJoyce-Harrington@mbta.com
Website: www.mbta.com
Reporting Period: July 1, 2008 - June 30, 2009

2 **Broward County, FL**
Ms. Reneca Maharaj
Paratransit Supervisor
Broward County Transit Division
TOPS (Transportation Options)
3201 West Copans Road, Building 4
Pompano Beach, FL 33069
Tele: 954-357-6799
E-mail: rmaharaj@broward.org
Website: www.broward.org/bct/paratransit.htm
Reporting Period: October 1, 2008 - September 30, 2009

3 **Chicago, IL**
Mr. Tom Groeninger
Regional Manager Paratransit/Vanpool
Pace Suburban Bus Service
ADA Service
550 W. Alonquin
Arlington Heights, IL 60005
Tele: 847-228-2477
E-mail: Tom.Groeninger@pacebus.com
Website: pacebus.com
Reporting Period: January 1 - December 31, 2009

4 **Dallas, TX**
Ms. Kerri Babbitt
Business Manager - Paratransit Projects
DART Paratransit Services
Dallas Area Rapid Transit
P.O. Box 660163 101 N. Peak Street
Dallas, TX 75266-7271
Tele: 214-828-6627
E-mail: kbabbitt@dart.org
Website: dart.org
Reporting Period: October 1, 2008 - September 30, 2009

5 **Denver, CO**
Mr. Larry Buter
Manager, Paratransit Services
Regional Transportation District (RTD)
Customer/Contracted Services
access-a-Ride
1600 Blake Street - ADA
Denver, CO 80202
Tele: 303-299-2152
E-mail: larry.buter@rtd-denver.com
Reporting Period: January 1 - December 31, 2009

6 **Garden City, NY**
Mr. Eugene Griffith
Sr. Director, Paratransit Operations
Long Island Bus
LIB-Paratransit
Able Ride
947 Stewart Avenue
Garden City, NY 11530
Tele: 516-228-4028
E-mail: EGRIFFIT@LIBUS.ORG
Website: www.mta.info.libus.com
Reporting Period: January 1 - December 31, 2009

7 **Houston, TX**
Mr. Arturo Jackson
Director, Transportation Programs
Metropolitan Transit Authority (METRO)
METROLift
1900 Main P.O. Box 61429
Houston, TX 77208-1429
Tele: 713-750-4208
E-mail: aj02@ridemetro.org
Website: www.ridemetro.org
Reporting Period: October 1, 2008 - September 30, 2009

8 **Los Angeles, CA**
Mr. Gilbert Garza
Grants Analyst, Governmental Services
Access Services
Access Services Paratransit
3449 Santa Anita Avenue
El Monte, CA 91731
Tele: 213-270-6000
E-mail: Garza@asila.org
Website: www.asila.org
Reporting Period: July 1, 2008 - June 30, 2009

9 **Miami, FL**
Mr. Ruben Legra
Acting Chief, Special Transportation Services
Miami-Dade Transit
Special Transportation Services/Demand
701 NW 1st Court, Suite 1100
Miami, Fl 33136
Tele: 786-469-5013
E-mail: rlegra@miami.gov
Website:
Reporting Period: October 1, 2008 - September 30, 2009

10 **New Jersey**
Mr. Dan O'Reilly
Assistant Director, ADA Planning/Systems
New Jersey Transit Corporation
Access Link
One Penn Plaza
Newark, NJ 07105
Tele: 973-491-4280
E-mail: doreilly@njtransit.com
Website: www.njtransit.com
Reporting Period: July 1, 2008 - June 30, 2009

11 **New York, NY**
Ms. Beverly Morris
Eligibility and Planning Officer
New York City Transit
Paratransit Division
Access-A-Ride
130 Livingston Street
Brooklyn, NY 11201
Tele: 718-393-4072
E-mail: Beverly.morris@nyct.com
Website: www.mta.info/nyct/paratran
Reporting Period: January 1 - December 31, 2009

12 **Philadelphia, PA**
Ms. Cynthia Lister
Regulatory Coordinator
Southeastern Pennsylvania Transportation Authority
Customized Community Transportation (CCT)
1234 Market Street, 4th floor
Philadelphia, PA 19107-3780
Tele: 215-580-3424
E-mail: clister@septa.org
Website: www.septa.org
Reporting Period: July 1, 2008 - June 30, 2009

13 **Seattle, WA**
Mr. Chris Arnbrister
Transportation Planner II
King County Metro Access
Access Transportation
821 2nd Avenue MS-EXC 240
Seattle, WA 98104-1598
Tele: 206-205-6570
E-mail address: Christian.Arnbrister@kingcounty.gov
Website: www.metrokingcounty.gov
Reporting Period: July 1, 2008 - June 30, 2009

14 **Washington, DC**
Ms. Selene Faer Dalton-Kumins
Director, Office of MetroAccess Service
Washington Metropolitan Area Transit Authority
Department of Access Services
6505 Belcrest Rd., Suite 501
Hyattsville, MD 20782
Tele: 301-562-4556
E-mail address: skumins@wmata.com
Website: www.wmata.com/accessibility
Reporting Period: July 1, 2008 - June 30, 2009

15 **Westchester, NY**
Mr. Chris D. Andritsopoulos
Program Administrator of Specialized Transportation
Westchester County
Westchester County Paratransit Services
148 Martine Avenue
White Plains, N.Y. 10601
Tele: 914-995-5117
E-mail address: cda2@westchestergov.com
Website: www.westchester.gov
Reporting Period: January 1 - December 31, 2009

The following "**Paratransit Services At-A-Glance**" section provides highlights of each participant's paratransit service.

Boston, MA
Massachusetts Bay Transportation Authority
Paratransit Program: The RIDE
Website: www.mbta.com

Reporting Period: July 1, 2008-June 30, 2009

Service Description

Began Operating Paratransit Service:	April 1977
Size of Service Area (square miles):	729 square miles
Service Area Population:	2.5M
Level of Service Provided:	Door-to-door, same-day service provided not guaranteed, cross-jurisd.
Supplemental/Alternate Transp. Options:	None
Service Hours:	6AM-1AM

Reservations

Reservation Hours:	8AM-4PM and 24-hour Web IVR
Reservation Method(s):	Telephone agent, internet and Interactive Voice Response
Days in Advance Reservations Are Made:	1-14 days in advance; next-day service after 4PM can be requested but not guaranteed

Eligibility

No of ADA Paratransit Customers:	67,329
Avg. No. of Applications Rec'd (Monthly):	1,100 (new) / 300 (recertifications)
Eligibility Process:	
Application Form	✓
Medical Certification/Verification	✓
In-Person Functional Assessment	
Telephone Interview	
Photo for ID	
Other	

Service Statistics (for 12-Month Reporting Period)

Total Trips Completed (incl. PCAs/Guests):	1.98M
Customer No-Show Rate (if applicable):	6.7%
Customer No-Show Definition:	Trip requested, confirmed then customer fails to cancel with at least 1 hour's notice or fails to show up within 5 minutes after the scheduled pick-up time
Late Cancellation Rate (if applicable):	Not applicable
Late Cancellation Definition:	No late cancellation policy

Finances

Total Operating Expenses:	$62M
Cost Per Trip:	$24.26 (direct) /$31.35 (total)
One-Way Fare:	$2.00
Fare Payment Method:	Individual RIDE account (using Master Card, Visa, Discover, American Express or a debit card supported by MC or Visa). Deposits via cash, check, money order and/or credit/debit card may also be made over the counter at MBTA's OTA Back Bay Station on the Orange Line. Customers may also send check/money order via U.S. mail to MBTA's Rev. Dept. Fares are debited from the account as the customer boards the vehicle.
System (Local Fixed-Route) Fare:	$1.25 bus / $1.70 subway

Broward County, FL

Reporting Period: October 1, 2008-September 30, 2009

Broward County Transit Division
Paratransit Program: TOPS (Transportation Options)
Website: www.broward.org/bct/paratransit.htm

Service Description

Began Operating Paratransit Service:	July 1983
Size of Service Area (square miles):	410 square miles
Service Area Population:	1.8M
Level of Service Provided:	Door-to-door, cross jurisd.
Supplemental/Alternate Transp. Options:	Purchase Order in place with a taxi co. to be used only as a last resort when a client is stranded and none of the vehicles in the fleet are available to pick up the client within 30 minutes of the County being notified of the situation (rarely used)
Service Hours:	4:40AM-12:40AM (Mon.-Sat.), 6:45AM-10:15PM (Sun./Hol.)

Reservations

Reservation Hours:	8AM-5PM
Reservation Method(s):	Telephone agent
Days in Advance Reservations Are Made:	1 day in advance

Eligibility

No of ADA Paratransit Customers:	14,315
Avg. No. of Applications Rec'd (Monthly):	600 (new) / 169 (recertifications)
Eligibility Process:	
Application Form	✓
Medical Certification/Verification	✓
In-Person Functional Assessment	✓
Telephone Interview	
Photo for ID	
Other	✓ ("real-world" assessment bus ride)

Service Statistics (for 12-Month Reporting Period)

Total Trips Completed (incl. PCAs/Guests):	914,110
Customer No-Show Rate (if applicable):	2.73%
Customer No-Show Definition:	Rider places a request for service but does not meet the ride upon its arrival, or is not ready to board within 5 minutes after the arrival of the vehicle (during the pick-up window) and the vehicle departs without them.
Late Cancellation Rate (if applicable):	2.46%
Late Cancellation Definition:	Customer cancels a trip less than 2 hours before the scheduled trip

Finances

Total Operating Expenses:	$28,425,077.00
Cost Per Trip:	$30.98 (direct) / $31.03 (total)
One-Way Fare:	$2.50
Fare Payment Method:	Cash
System (Local Fixed-Route) Fare:	$1.50 bus

Chicago, IL
Pace Suburban Bus
Paratransit Program: ADA Service
Website: pacebus.com

Reporting Period: January 1 2009-December 31, 2009

Service Description

Began Operating Paratransit Service:	January 1994 (suburbs) / June 2006 (Chicago)
Size of Service Area (square miles):	3,750 square miles
Service Area Population:	8M
Level of Service Provided:	Origin-to-destination, cross jurisd., same-day service (as available)
Supplemental/Alternate Transp. Options:	Taxi, local dial-a-ride operations
Service Hours:	24 hours a day

Reservations

Reservation Hours:	6AM-7PM
Reservation Method(s):	Telephone agent
Days in Advance Reservations Are Made:	1 day in advance; same day service also provided

Eligibility

No of ADA Paratransit Customers:	42,516
Avg. No. of Applications Rec'd (Monthly):	900
Eligibility Process:	
Application Form	✓
Medical Certification/Verification	
In-Person Functional Assessment	✓
Telephone Interview	
Photo for ID	✓
Other	

Service Statistics (for 12-Month Reporting Period)

Total Trips Completed (incl. PCAs/Guests):	3,932,805
Customer No-Show Rate (if applicable):	4.90%
Customer No-Show Definition:	Customer does not present him/herself within 5 minutes of the scheduled pick up time
Late Cancellation Rate (if applicable):	4.50%
Late Cancellation Definition:	Customer cancels a trip less than 2 hours before the scheduled pick-up time

Finances

Total Operating Expenses:	$114,865,867
Cost Per Trip:	$30.43 (direct) / $33.35 (total)
One-Way Fare:	$3.00
Fare Payment Method:	Cash, PACE ADA one-ride ticket
System (Local Fixed-Route) Fare:	$1.75 bus

Dallas, TX

Reporting Period: October 1, 2008-September 30, 2009

Dallas Area Rapid Transit
Paratransit Program: DART Paratransit Services
Website: dart.org

Service Description

Began Operating Paratransit Service:	August 1983
Size of Service Area (square miles):	700 square miles
Service Area Population:	1.8M
Level of Service Provided:	Curb-to-curb, door-to-door service (available no more than twice/week and must be requested at time of reservation)
Supplemental/Alternate Transp. Options:	None
Service Hours:	5AM-1AM

Reservations

Reservation Hours:	24 hours/day
Reservation Method(s):	Live Scheduler (M-F, 8AM-5PM), voice mail (weekends & holidays), automated booking/Xpress Booking (24 hrs/day)
Days in Advance Reservations Are Made:	1-2 days in advance

Eligibility

No of ADA Paratransit Customers:	10,755
Avg. No. of Applications Rec'd (Monthly):	479 (new) / 79 (recertifications)
Eligibility Process:	
Application Form	✓
Medical Certification/Verification	✓
In-Person Functional Assessment	✓
Telephone Interview	✓
Photo for ID	✓
Other	✓ (Attendant form, if requesting an attendant)

Service Statistics (for 12-Month Reporting Period)

Total Trips Completed (incl. PCAs/Guests):	348,356
Customer No-Show Rate (if applicable):	3.50%
Customer No-Show Definition:	Customer fails to board within 5 minutes of ready-time window
Late Cancellation Rate (if applicable):	19.2%
Late Cancellation Definition:	Customer cancels scheduled trip between 5PM the day before and up to 2 hours before the scheduled pick-up time

Finances

Total Operating Expenses:	$30,275,904
Cost Per Trip:	$36.43 (direct) / $43.46 (total)
One-Way Fare:	$3.00
Fare Payment Method:	Cash, paratransit fare coupons can be purchased on-line or at the DART store
System (Local Fixed-Route) Fare:	$1.75 bus/rail

Denver, Co
Reporting Period: January - December 2009

Regional Transportation District (RTD)
Paratransit Program: Access-a-Ride
Website: larry.buter@RTD-Denver.com

Service Description

Began Operating Paratransit Service:	August 1993
Size of Service Area (square miles):	2,600 square miles
Service Area Population:	2.6M
Level of Service Provided:	Curb-to-curb (door-to-door upon request) within 3/4 miles.
Supplemental/Alternate Transp. Options:	access-a-Cab
Service Hours:	24 hours a day

Reservations

Reservation Hours:	8AM-5PM
Reservation Method(s):	Telephone Agent
Days in Advance Reservations Are Made:	1-3 days in advance

Eligibility

No of ADA Paratransit Customers:	64,000 total (13,000 active)
Avg. No. of Applications Rec'd (Monthly):	220 (new) / 80 (recertifications)
Eligibility Process:	
Application Form	✓
Medical Certification/Verification	✓
In-Person Functional Assessment	✓
Telephone Interview	✓
Photo for ID	✓
Other	

Service Statistics (for 12-Month Reporting Period)

Total Trips Completed (incl. PCAs/Guests):	672,636
Customer No-Show Rate (if applicable):	3.0%
Customer No-Show Definition:	A "no-show" occurs when: vehicle arrives on time but the passenger no longer wants the ride; the vehicle arrives on time but the driver cannot locate the passenger; and/or the vehicle arrives on time and waits six minutes, but the passenger is not ready to go.
Late Cancellation Rate (if applicable):	5.0%
Late Cancellation Definition:	A late cancellation is any trip canceled less than two (2) hours before the scheduled pick-up window

Finances

Total Operating Expenses:	$30M
Cost Per Trip:	$42.50 (direct) / $44.00 (total)
One-Way Fare:	$4.00 - $24.00
Fare Payment Method:	Cash
System (Local Fixed-Route) Fare:	$2.00-$12.00 (bus)

Garden City, NY
Long Island Bus
Paratransit Program: Able Ride
Website: www.mta.info.libus.com

Reporting Period: January 1, 2009-December 31, 2009

Service Description

Began Operating Paratransit Service:	
Size of Service Area (square miles):	624 square miles
Service Area Population:	1.3M
Level of Service Provided:	Curb-to-curb, cross jurisdic., same day service, origin-to-destination as requested
Supplemental/Alternate Transp. Options:	None
Service Hours:	24 hours a day

Reservations

Reservation Hours:	8:30AM-5PM
Reservation Method(s):	Telephone agent
Days in Advance Reservations Are Made:	1-7 days in advance

Eligibility

No of ADA Paratransit Customers:	41,859
Avg. No. of Applications Rec'd (Monthly):	260 (new) / 12 (recertifications)
Eligibility Process:	
Application Form	✓
Medical Certification/Verification	✓
In-Person Functional Assessment	
Telephone Interview	
Photo for ID	✓
Other	

Service Statistics (for 12-Month Reporting Period)

Total Trips Completed (incl. PCAs/Guests):	360,829
Customer No-Show Rate (if applicable):	2.6%
Customer No-Show Definition:	Customer does not appear for the trip
Late Cancellation Rate (if applicable):	1.9%
Late Cancellation Definition:	Customer cancels the trip after 5PM the day before the scheduled trip

Finances

Total Operating Expenses:	$15,599,089
Cost Per Trip:	$35.75 (direct) / $43.23 (total)
One-Way Fare:	$3.75
Fare Payment Method:	Cash, tickets can be purchased in advance by calling Able-Ride to request a ticket book order form
System (Local Fixed-Route) Fare:	$2.25 bus

Houston, TX
Metropolitan Transit Authority (METRO)
Paratransit Program: METROLift
Website: www.ridemetro.org

Reporting Period: October 1, 2008-September 30, 2009

Service Description

Began Operating Paratransit Service:	1979
Size of Service Area (square miles):	751 square miles
Service Area Population:	3.2M
Level of Service Provided:	Curb-to-curb, hand-to-hand (when necessitated by disability), same-day service (provided via subsidy program)
Supplemental/Alternate Transp. Options:	Taxi-Cab Service
Service Hours:	3:45AM-1:30AM last originating trip

Reservations

Reservation Hours:	8AM-5PM (telephone agent); 5AM-5PM (IVR/internet)
Reservation Method(s):	Telephone Agent, interactive voice response and internet
Days in Advance Reservations Are Made:	1 day in advance

Eligibility

No of ADA Paratransit Customers:	17,695
Avg. No. of Applications Rec'd (Monthly):	875 (new/recertifications)
Eligibility Process:	
Application Form	✓
Medical Certification/Verification	✓
In-Person Functional Assessment	✓
Telephone Interview	
Photo for ID	✓
Other	

Service Statistics (for 12-Month Reporting Period)

Total Trips Completed (incl. PCAs/Guests):	1,482,718
Customer No-Show Rate (if applicable):	5.9%
Customer No-Show Definition:	Customer and driver do not connect and driver leaves without the customer
Late Cancellation Rate (if applicable):	Not Applicable
Late Cancellation Definition:	Customer cancels <60 minutes before the scheduled trip

Finances

Total Operating Expenses:	$34,965,512
Cost Per Trip:	$25.12 (direct)/$28.30 (total)
One-Way Fare:	$0.975 - majority of patrons purchase books of 10-tickets for $9.75
Fare Payment Method:	METROLift tickets or monthly passes can be purchased at grocery stores, at the downtown RIDEStore and by mail
System (Local Fixed-Route) Fare:	$1.25 bus/subway/rail

Los Angeles, CA

Reporting Period: July 1, 2008-June 30, 2009

Access Services
Paratransit Program: Access Services Paratransit
Website: www.asila.org

Service Description

Began Operating Paratransit Service:	January 1994
Size of Service Area (square miles):	1,966 square miles
Service Area Population:	9.8M
Level of Service Provided:	Curb-to-curb, cross jurisdic.
Supplemental/Alternate Transp. Options:	None
Service Hours:	4AM-12AM ("Night Owl Service" runs later in some areas); Santa Clarita 5AM-10:30PM M-F, 7AM-10:30PM Sat., 8AM-8PM Sun.; Antelope Valley 6AM-11PM M-F, 7AM-7PM Sat./Sun.

Reservations

Reservation Hours:	6AM-10PM, Santa Clarita (8AM-5PM), Antelope Valley (8AM-5PM)
Reservation Method(s):	Telephone agent
Days in Advance Reservations Are Made:	1 day in advance

Eligibility

No of ADA Paratransit Customers:	87,961
Avg. No. of Applications Rec'd (Monthly):	2,151 (new) / 595 (recertifications
Eligibility Process:	
Application Form	✓
Medical Certification/Verification	✓
In-Person Functional Assessment	✓
Telephone Interview	✓
Photo for ID	✓
Other	

Service Statistics (for 12-Month Reporting Period)

Total Trips Completed (incl. PCAs/Guests):	2,812,307
Customer No-Show Rate (if applicable):	3.9%
Customer No-Show Definition:	Customer cancels less than 2 hours before scheduled trip, or does not show for a scheduled trip within 5 minutes of the driver's arrival if the driver arrived within the 20-minute pick-up window
Late Cancellation Rate (if applicable):	4.2%
Late Cancellation Definition:	Customer cancels trip with less than 2 hours notice (considered a no-show)

Finances

Total Operating Expenses:	$88,789,100
Cost Per Trip:	$36.28 (direct) / $40.39 (total)
One-Way Fare:	$1.80
Fare Payment Method:	Cash, MTA tokens that can be purchased at numerous retail outlets located throughout LA County; 90¢ coupons sold in $18 booklets that can be purchased by sending a check/money order to AS' Customer Service or from local transit agencies
System (Local Fixed-Route) Fare:	Not Applicable

** An In-Person Interview is included as part of the Functional Assessment*

Miami, FL

Reporting Period: October 1, 2008-September 30, 2009

Miami-Dade Transit
Paratransit Program: Special Transportation Services
Website: www.miamidade.gov/transit/paratransit.asp

Service Description

Began Operating Paratransit Service:	October 1979
Size of Service Area (square miles):	306 square miles
Service Area Population:	2.4M
Level of Service Provided:	Door-to-door
Supplemental/Alternate Transp. Options:	Not Applicable
Service Hours:	24 hours a day

Reservations

Reservation Hours:	Monday-Sunday, 8AM-5PM
Reservation Method(s):	Telephone Agent
Days in Advance Reservations Are Made:	1-7 days in advance; next day service must be made by 5PM the day before customer wishes to travel

Eligibility

No of ADA Paratransit Customers:	26,631
Avg. No. of Applications Rec'd (Monthly):	846 (new/recertifications)
Eligibility Process:	
Application Form	✓
Medical Certification/Verification	✓
In-Person Functional Assessment	✓
Telephone Interview	✓
Photo for ID	✓
Other	

Service Statistics (for 12-Month Reporting Period)

Total Trips Completed (incl. PCAs/Guests):	1,688,254
Customer No-Show Rate (if applicable):	2%
Customer No-Show Definition:	Customer places a request for service but does not meet his/her ride upon arrival
Late Cancellation Rate (if applicable):	3%
Late Cancellation Definition:	The cancellation of a trip by a customer or their representative less than one hour before the negotiated pick-up time

Finances

Total Operating Expenses:	$46M
Cost Per Trip:	$24.85 (direct) / $29.41 (total)
One-Way Fare:	$3.00
Fare Payment Method:	Cash
System (Local Fixed-Route) Fare:	$2.00

New Jersey

Reporting Period: July 1, 2008-June 30, 2009

New Jersey Transit
Paratransit Program: Access Link
Website: www.njtransit.com

Service Description

Began Operating Paratransit Service:	January 1993
Size of Service Area (square miles):	2,898 square miles
Service Area Population:	5.4M
Level of Service Provided:	Curb-to-curb
Supplemental/Alternate Transp. Options:	Feeder Service (some)
Service Hours:	24 hours a day

Reservations

Reservation Hours:	7:30AM-4PM
Reservation Method(s):	Telephone agent
Days in Advance Reservations Are Made:	1-7 days in advance

Eligibility

No of ADA Paratransit Customers:	21,000
Avg. No. of Applications Rec'd (Monthly):	235 (new) / 0 (recertifications)
Eligibility Process:	
Application Form	
Medical Certification/Verification	
In-Person Functional Assessment	
Telephone Interview	
Photo for ID	
Other	In-Person Interview

Service Statistics (for 12-Month Reporting Period)

Total Trips Completed (incl. PCAs/Guests):	909,558
Customer No-Show Rate (if applicable):	1-2%
Customer No-Show Definition:	Customer does not call at least 50 minutes before requested time or does not board at the time the vehicle arrives
Late Cancellation Rate (if applicable):	Not applicable
Late Cancellation Definition:	Customer cancels more than 50 minutes but less than 90 minutes before the requested time

Finances

Total Operating Expenses:	$39.6M
Cost Per Trip:	$41.76 (direct) / $48.06 (total)
One-Way Fare:	Based on local bus fare and number of zones traveled; minimum fare is $1.35
Fare Payment Method:	Cash
System (Local Fixed-Route) Fare:	

New York City

Reporting Period: January 1, 2009-December 30, 2009

New York City Transit - Paratransit Division
Paratransit Program: Access-A-Ride
Website: www.mta.info/nyct/paratran

Service Description

Began Operating Paratransit Service:	July 1993
Size of Service Area (square miles):	321.8 square miles
Service Area Population:	8.2M
Level of Service Provided:	Door-to-door, Cross Jurisdic.
Supplemental/Alternate Transp. Options:	Taxicab/car service reimbursement, supplemental van service, floaters
Service Hours:	24 hours a day

Reservations

Reservation Hours:	7AM-5PM
Reservation Method(s):	Telephone agent
Days in Advance Reservations Are Made:	1-2 days in advance

Eligibility

No of ADA Paratransit Customers:	136,820
Avg. No. of Applications Rec'd (Monthly):	44,590 (new) / 13,105 (recertifications)
Eligibility Process:	
Application Form	✓
Medical Certification/Verification	
In-Person Functional Assessment	✓
Telephone Interview	
Photo for ID	✓
Other	

Service Statistics (for 12-Month Reporting Period)

Total Trips Completed (incl. PCAs/Guests):	8,490,247
Customer No-Show Rate (if applicable):	3.8%
Customer No-Show Definition:	Vehicle arrives at the pick-up location within the 30-minute pick-up window, waits the required 5 minutes and the customer does not board the vehicle
Late Cancellation Rate (if applicable):	3.8%
Late Cancellation Definition:	Customer cancels a trip less than 3 hours before the scheduled trip

Finances

Total Operating Expenses:	$440,496,000
Cost Per Trip:	$60.97 (Direct Costs) / $69.54 (All Costs)
One-Way Fare:	$2.25
Fare Payment Method:	Cash, AAR TransitCheck coupons
System (Local Fixed-Route) Fare:	$2.25 bus/subway

** The paratransit/system fare are the same. From January 1-June 27, 2009 the fare was $2.00. Effective June 28, 2009 the paratransit/system fare increased to $2.25.*

Philadelphia, PA

Reporting Period: July 1, 2008-June30, 2009

Southeastern Pennsylvania Transportation Authority
Paratransit Program: Customized Community Transportation (CCT)
Website: www.septa.org

Service Description

Began Operating Paratransit Service:	November 1981
Size of Service Area (square miles):	2,200 square miles
Service Area Population:	3.9M
Level of Service Provided:	Door-to-door, Cross Jurisdic.
Supplemental/Alternate Transp. Options:	Feeder Service (some)
Service Hours:	24 hours a day in Philadelphia County, 12-18 hours/day in Bucks, Chester, Delaware and Montgomery Counties (depending on bus route service)

Reservations

Reservation Hours:	7AM-4PM M-F, 7:30AM-4PM Saturday/Sunday
Reservation Method(s):	Telephone agent
Days in Advance Reservations Are Made:	1-3 days in advance

Eligibility

No of ADA Paratransit Customers:	14,124
Avg. No. of Applications Rec'd (Monthly):	190 (new) / 130 (recertifications)
Eligibility Process:	
Application Form	✓
Medical Certification/Verification	✓
In-Person Functional Assessment	✓ (usually required) as well as a possible telephone follow-up)
Telephone Interview	✓ (possible telephone follow-up)
Photo for ID	✓ (In FY09 began implementing photo IDs for all-SEPTA takes the photo)
Other	

Service Statistics (for 12-Month Reporting Period)

Total Trips Completed (incl. PCAs/Guests):	965,000
Customer No-Show Rate (if applicable):	1.30%
Customer No-Show Definition:	Vehicle arrives at the pick-up location and the customer decides not take the ride and/or the vehicle arrives at the pick-up location, waits the required 5 minutes and the customer does not show for the trip
Late Cancellation Rate (if applicable):	4.00%
Late Cancellation Definition:	Customer cancels trip less than 2 hours ahead

Finances

Total Operating Expenses:	$25,666,379
Cost Per Trip:	$24.70 (direct); $26.70 (all)
One-Way Fare:	$4.00 (plus zone and inter-county charges for suburban travel)
Fare Payment Method:	Cash, tokens, Zone 2 TrailPass that can be purchased at various sales locations
System (Local Fixed-Route) Fare:	$2.00 bus/subway-rail

Seattle, WA
King County Metro Transit
Paratransit Program: Access
Website: www.metro.kingcounty.gov

Reporting Period: January 1, 2009-December 31, 2009

Service Description

Began Operating Paratransit Service:	October 2001
Size of Service Area (square miles):	840 square miles
Service Area Population:	1.8M
Level of Service Provided:	Curb-to-curb; door-to-door/hand-to-hand service (customer must be qualified during eligibility process; hand-to-hand also requires verification that hand-to-hand service is required), cross jurisdic.
Supplemental/Alternate Transp. Options:	Taxi/Car Service
Service Hours*:	(refer to footnote)

Reservations

Reservation Hours:	8AM-5PM
Reservation Method(s):	Telephone agent
Days in Advance Reservations Are Made:	1-3 days in advance

Eligibility

No of ADA Paratransit Customers:	29,553
Avg. No. of Applications Rec'd (Monthly):	175 (new) / 271 (recertifications)
Eligibility Process:	
Application Form	✓ (as well as a pre-application)
Medical Certification/Verification	✓
In-Person Functional Assessment	✓
Telephone Interview	
Photo for ID	✓ (for hand-to-hand riders only)
Other	

Service Statistics (for 12-Month Reporting Period)

Total Trips Completed (incl. PCAs/Guests):	1,119,815
Customer No-Show Rate (if applicable):	6.8%
Customer No-Show Definition:	Customer does not board the vehicle within 5 minutes of its arrival
Late Cancellation Rate (if applicable):	4.3%
Late Cancellation Definition:	Customer cancels a trip after 5PM the day before travel date (no-show)

Finances

Total Operating Expenses:	$43,124,457
Cost Per Trip:	$28.27 (direct) / $35.13 (all)
One-Way Fare:	$1.00
Fare Payment Method:	Cash, Regional Reduced Fare Permit, Access monthly pass, Puget pass, full fare Metro pass, fare tickets, any other valid Metro fare media worth $1.00 or more that can be purchased at various sales locations
System (Local Fixed-Route) Fare:	$2.00-$2.75 bus

**The service operates same hours/areas as the bus in downtown; where the bus is 24/7 so is paratransit. The urban growth boundary is only an issue on weekdays, due to an ordinance that extends service to all areas within the urban growth boundary that is surrounded by regular bus (regardless of how far it is to a bus line), and extends the east boundary an additional .75 miles (for a total of 1.5 mi. along the eastern edge) between 6AM and 10PM. Weekday 6AM-10PM are the hours of the ordinance effect.*

Washington, DC

Reporting Period: July 1, 2008-June 30, 2009

Washington Metropolitan Area Transit Authority
Paratransit Program: MetroAccess
Website: www.wmata.com/metroaccess

Service Description

Began Operating Paratransit Service:	May 1994
Size of Service Area (square miles):	1,500 square miles (covering 8 jurisdictions)
Service Area Population:	3.4M
Level of Service Provided:	Door-to-door, Cross Jurisdic.
Supplemental/Alternate Transportation Optio	Taxi/Car Service
Service Hours:	5AM-12AM

Reservations

Reservation Hours:	8AM-4:30PM
Reservation Method(s):	Telephone agent, internet
Days in Advance Reservations Are Made:	1-7 days in advance

Eligibility

No of ADA Paratransit Customers:	25,575
Avg. No. of Applications Rec'd (Monthly):	873 (new) / 244 (recertifications)
Eligibility Process:	
Application Form	✓
Medical Certification/Verification	✓
In-Person Functional Assessment	✓
Telephone Interview	✓
Photo for ID	✓
Other	

Service Statistics (for 12-Month Reporting Period)

Total Trips Completed (incl. PCAs/Guests):	2,107,769
Customer No-Show Rate (if applicable):	3.1%
Customer No-Show Definition:	Customer is not ready for boarding upon the driver's arrival and is still not present at the end of the 5-minute waiting period
Late Cancellation Rate (if applicable):	6.4%
Late Cancellation Definition:	Customer cancels less than 2 hours before the beginning of the pick-up window

Finances

Total Operating Expenses:	$78.5M (direct costs only)
Cost Per Trip:	$37.30 (direct costs) / no answer provided for all costs
One-Way Fare:	$2.50
Fare Payment Method:	Cash, Metrorail fare card worth $2.50 or 2 metro bus tokens worth $1.25 each
System (Local Fixed-Route) Fare:	$1.25 bus / subway/rail-varies by distance traveled

Westchester, NY
Reporting Period: January 1, 2009-December 31, 2009

Bee-Line
Paratransit Program: Westchester County Paratransit Services
Website: www.westchester.gov

Service Description

Began Operating Paratransit Service:	October 1983
Size of Service Area (square miles):	450 square miles
Service Area Population:	950,000 (approximately)
Level of Service Provided:	Curb-to-curb, Same Day Service
Supplemental/Alternate Transportation Optio	Feeder Service
Service Hours:	6AM-Until

Reservations

Reservation Hours:	9AM-5PM M-F, except holidays; next day service requests must be made before 3:30PM
Reservation Method(s):	Telephone agent
Days in Advance Reservations Are Made:	1-7 days in advance

Eligibility

No of ADA Paratransit Customers:	5,382
Avg. No. of Applications Rec'd (Monthly):	223 (new) / 48 (recertifications)
Eligibility Process:	
Application Form	✓
Medical Certification/Verification	✓
In-Person Functional Assessment	
Telephone Interview	
Photo for ID	✓
Other (In-Person Interview)	✓

Service Statistics (for 12-Month Reporting Period)

Total Trips Completed (incl. PCAs/Guests):	212,909
Customer No-Show Rate (if applicable):	0.012%
Customer No-Show Definition:	Customer fails to appear for their scheduled trip
Late Cancellation Rate (if applicable):	0.014%
Late Cancellation Definition:	Cancellation after 8PM on the day prior to the scheduled trip

Finances

Total Operating Expenses:	$9,186,928
Cost Per Trip:	$55.00 (approx. direct) / $58.00 (all)
One-Way Fare:	$4.00
Fare Payment Method:	Cash, 10-ride ticket (may be purchased with cash only at West. Cnty. Ctr.
System (Local Fixed-Route) Fare:	$2.00

Appendix F – Using Taxi Vouchers to Lower the Cost of Paratransit Services

THE CITY OF NEW YORK
INDEPENDENT BUDGET OFFICE
110 WILLIAM STREET, 14TH FLOOR
NEW YORK, NEW YORK 10038
(212) 442-0632 • FAX (212) 442-0350 • EMAIL: ibo@ibo.nyc.ny.us
http://www.ibo.nyc.ny.us

June 14, 2007

Jean Ryan
c/o Disabled In Action of Metropolitan New York
P.O. Box 30954 Port Authority Station
New York, NY 10011

Dear Ms. Ryan:

Attached please find the analysis you requested on behalf of Disabled In Action on the potential for cost savings in paratransit service through the use of a taxi voucher system.

Contracts for paratransit service are one of the fastest growing components of spending by New York City Transit, projected to grow 55 percent between this year and 2010, from $230 million to $357 million.

We find that, under certain assumptions and based on the data made available to us by the Access-A-Ride program (New York City Transit's paratransit service), the use of a voucher system in 2006 could have reduced overall paratransit usage by about 14 percent in total, with net savings of approximately $13 million—equivalent to about 7 percent of total Access-A-Ride spending of $190 million that year.

In the course of preparing this analysis, NYC Transit's Paratransit Division staff were generous with their time and data. In our discussions with them, they expressed their interest in pursuing a voucher system as a complement to the existing paratransit service, but took note of several operational obstacles they have encountered, as discussed in more detail in the attachment, which they told us they are attempting to address.

I hope you will find this information helpful. If you have further questions on this or other topics, please do not hesitate to contact us. The IBO staff contact is Alan Treffeisen, who may be reached at (212) 442-8614, or alant@ibo.nyc.ny.us.

Sincerely,

C. Preston Niblack
Deputy Director

Attachment

THE CITY OF NEW YORK
INDEPENDENT BUDGET OFFICE
110 WILLIAM STREET, 14TH FLOOR
NEW YORK, NEW YORK 10038
(212) 442-0632 • FAX (212) 442-0350 • EMAIL: ibo@ibo.nyc.ny.us
http://www.ibo.nyc.ny.us

Using Taxi Vouchers to Lower the Cost of Paratransit Service

June 2007

INTRODUCTION

The federal Americans with Disabilities Act (ADA) of 1990 mandates that transit agencies provide "comparable" paratransit service to individuals who are unable to use regular public transportation. Access-A-Ride is New York City's paratransit program. It provides round-the-clock service to the entire city, using a combination of sedans, vans, and minibuses. The program was originally administered by the city's Department of Transportation, but in 1993 was taken over by MTA New York City Transit (NYC Transit). NYC Transit contracts with private transportation companies to deliver the service.

The main component of Access-A-Ride expenses is the cost of service contracts with private providers. These costs more than doubled between 2000 and 2006, from $69.1 million to $165.5 million, and are projected to reach $356.7 million by 2010 (see IBO's *Access-A-Ride: With More Riders, Costs Are Rising Sharply*, October 2007). Based on current institutional arrangements, by 2010 almost two-thirds of the contract cost will be borne by NYC Transit, with the remainder coming from a city contribution, a portion of dedicated tax revenue, and passenger fares. Whereas passenger fares cover around half of the operating cost of NYC Transit subway and bus service, for paratransit the figure is less than 4 percent. In 2005 the average operating cost per boarding (scheduled trip) on Access-A-Ride was $55.72, while the average cost per passenger (a registered user, plus any aides or guests who accompany him or her) was $40.70.

The MTA's forecast of contract costs assumes that these will increase at a rate equal to ridership growth, plus overall inflation. In other words, after adjusting for the increase in the overall cost of living, the projected growth in the paratransit budget is due primarily to the increased number of passengers, not the cost per passenger. NYC Transit could potentially realize savings by diverting paratransit ridership to less expensive modes. This study analyzes the possible savings from shifting some paratransit ridership to subsidized taxis, using a voucher system. In addition to the financial savings, paratransit customers who switch may also benefit from faster, more comfortable service. The voucher system would operate as a complement to, not a substitute for, conventional paratransit service.[1]

BACKGROUND: TAXIS AND PARATRANSIT SERVICE

Taxis have traditionally played an important role in transporting individuals who cannot use regular public transit. A number of large cities in the United States use conventional taxi service as a complement to their regular paratransit service. For example, in Chicago and Houston a registered paratransit user may use discounted vouchers to pay for taxi trips, up to a maximum

amount. Other cities, including Boston, Los Angeles, and Philadelphia, offer subsidized taxi service that is not directly linked to paratransit. All three of these cities offer the service to residents 65 and over, while Boston and Los Angeles also make it available to disabled residents under 65.

In New York, the relatively high availability of taxi service makes them a particularly attractive mode of transportation. While at present there are very few wheelchair-accessible taxis, the Taxi and Limousine Commission and the City Council are publicly committed to making accessible vehicles more available. In any case, around 80 percent of Access-A-Ride users do not require a wheelchair.[2]

The Current Role of Taxis in New York City's Paratransit Program. The total number of paratransit trips made by taxi—black cars, yellow cabs, and livery vehicles—has grown rapidly since new programs were introduced at the end of 2002. In 2006 taxis represented around 7 percent of all trips on paratransit, up from 2.7 percent in 2003.

The Access-A-Ride program currently uses taxis on a limited basis for several different types of trips. Two forms of payment are used: a *voucher system*, or a *reimbursement option*:

Voucher System. NYC Transit contracts with certain black car and livery cab companies to deliver voucher trips with fares that have been pre-negotiated under their contracts. Under this option, the customer pays the regular paratransit fare of $2, and signs a voucher for the balance of the fare. The transportation provider then redeems the voucher with NYC Transit. There are two types of paratransit taxi trip for which *only* vouchers are used: trips to Access-A-Ride Assessment Centers, and for certain eligible trips to Veterans hospitals.

- *Trips to Assessment Centers*. Persons who wish to establish or renew their eligibility for paratransit are required to undergo an interview and possible functional assessment by trained personnel at Assessment Centers. There are two centers in Brooklyn, and one in each of the other boroughs. Customers who have appointments at Assessment Centers are offered vouchers. NYC Transit contracts with "black car" companies (car services that use luxury vehicles) to transport ambulatory customers to and from the centers. Non-ambulatory customers are transported in conventional paratransit vehicles.

- *Veterans Affairs (VA) Hospitals*. Access-A-Ride provides vouchers to Brooklyn and Bronx residents who make at least three regularly scheduled trips per week to VA Hospitals in their borough, for dialysis or physical therapy. This program also uses black car companies.

Reimbursement Option. Certain other types of paratransit taxi trip may involve either vouchers or reimbursement, depending on service availability and the preferences of the customer. The reimbursement option allows the paratransit customer to use a yellow cab or the livery company of his or her choice. The customer pays the full taxi fare, plus any tip, up front. NYC Transit then reimburses the user (with tip capped at 15 percent) for the total cost minus $2. The following are situations under which an ambulatory paratransit customer may be given the option of making his or her trip by taxi:

- *Vehicle No-Shows.* Access-A-Ride authorizes taxi trips to individuals whose paratransit vehicle has not arrived within 45 minutes of the scheduled time.

- *Same-Day Scheduling Problems.* When there are last-minute problems with a scheduled trip, the customer is sometimes given the option of using a taxi.

- *Call Backs.* The automated scheduling system used by Access-A-Ride occasionally has difficulty scheduling a trip. Rather than override the system parameters, scheduling personnel may offer the customer the option of making the trip by taxi.

- *Advance Reservations.* NYC Transit offers taxi trips (voucher or reimbursement) to a small number of advance reservation trips.

THE POTENTIAL FOR INCREASED TAXI USE

Characteristics of Current Non-Taxi Ridership. The Paratransit Division of NYC Transit provided IBO with a data set containing information on all non-taxi Access-A-Ride trips taken between May 1 and November 13, 2006. For each trip, the data set contains information including an anonymous paratransit customer ID number, the wheelchair status of the customer, the date and time of the pickup, and geographic coordinates of the pickup and drop-off points.

The data cover slightly over half of the year 2006. They do not include the months of winter, when the weather might be expected to have a significant influence on ridership.[3] However, an examination of data for the years 2003-2005 shows that average monthly ridership from January through December is only about three percent below average monthly ridership from May through October. Because the difference is so small, we will consider the May 1-November 13 data as representative of 2006 as a whole.

Trip Basics At the end of 2006 there were 97,679 registered Access-A-Ride customers, up from 91,953 in 2005. The number of registered customers who actually used the service between May 1 and November 13, 2006 was 61,327. In other words, over one-third of the client base took no trips during this time period. (This group may include some individuals whose registration is still current, but who no longer live in the city.) Of the clients who took trips, 12,128 (19.8 percent) were wheelchair users, and 49,199 (80.2 percent) were ambulatory.

The total number of non-taxi trips taken on Access-A-Ride during the period under consideration was 1,987,027. Of this total, 21.1 percent were made by wheelchair users, and 78.9 percent by ambulatory clients. On average, utilization was slightly higher among wheelchair users (35 trips each) than among ambulatory customers (32 trips each).

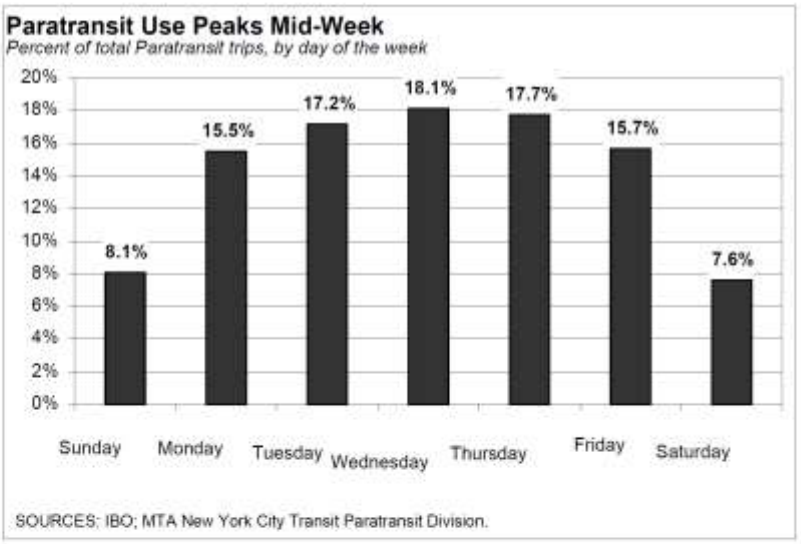
There is considerable variation in paratransit usage among registered clients. In addition to the one-third who made no trips, another third took 12 or fewer one-way trips. This is the equivalent of less than one round-trip per month over the period for which we have data. At the other extreme, 245 registered customers made more than 276 one-way trips, the equivalent of one roundtrip each non-holiday weekday. Of the registered users who took trips, the top ten percent

were responsible for 998,203 trips, just over half of the total. The bottom 10 percent, in contrast, took only 8,723 trips, less than 0.5 percent of the total. The share of wheelchair users among frequent riders was slightly higher than the share among occasional riders. While 21.4 percent of riders who made 89 trips or more (the top 10 percent in terms of usage) were wheelchair users, among riders who took only one or two trips the share of wheelchair users was 18.1 percent.

Length of Trips. IBO has calculated the length of each Access-A-Ride trip based on the coordinates of the pickup and drop-off points. Our calculation assumes travel along a conventional street grid.

The average length for all paratransit trips was approximately 2.1 miles, with ninety percent between 0.25 and 5.3 miles. On average, wheelchair users made trips that were slightly shorter than those made by non-wheelchair users (1.96 miles vs. 2.15 miles).

Variation by Day of Week and Time of Day. Access-A-Ride travel varies significantly by day of week and time of day. Except when a holiday falls on a weekday, ridership rises through the beginning of the week, reaches a peak on Wednesday, and then declines through the end of the week. Each day's share of ridership for the period May 1-November 13, 2006 is shown below.



Conventional public transit has well-defined morning and afternoon peaks, corresponding roughly to a morning rush between 7 a.m. and 9 a.m. and evening rush between 4 p.m. and 7 p.m. The volume of Access-A-Ride travel over the course of a day follows a somewhat different pattern. The volume of paratransit ridership in New York City, as measured by the time at which the customer is picked up, begins to increase most sharply between 5 a.m. and 7 a.m. and peaks at around 1,000 trips between 9 a.m. and 10 a.m. on weekdays. Unlike conventional transit, however, the number of pickups remains at roughly this level until 4 p.m. After 4 p.m. there is a

sharp dropoff in ridership, and travel remains low until the 6 a.m. to 7 a.m. slot on the following day. There is no major difference in the time distribution between wheelchair users and non-wheelchair users.

Trip Geography. The ridership data provided to IBO do not identify the borough of origin or destination. However, using the coordinates of the pickup and dropoff locations, we have divided the city into five zones. These zones correspond roughly to the five boroughs, except that the northern part of Manhattan is included with the Bronx.

Around 57 percent of trips in the data set had their origin and destination in the same zone. An additional 29 percent involved travel between Manhattan (excluding the northern tip) and another zone. Together, these two categories represented six out of every seven trips. On average, trips within Manhattan (again, excluding the northern tip) were less than one mile in length. At the other extreme, trips between Queens and Staten Island averaged more than seven miles in length.[4]

Estimated Savings From Shifting Trips To Taxis. Some paratransit trips can be more easily shifted to taxis than others, and some shifted trips provide greater savings than others. IBO does not have sufficient data on the cost structure of Access-A-Ride to make precise estimates of the savings available from using taxi vouchers. However, using a series of conservative assumptions, we demonstrate that the potential for savings clearly exists.

The Access-A-Ride program, like many transportation services, faces a peak-load problem. NYC Transit is not permitted to use pricing or rationing to spread out the demand, but rather must build in extra capacity to meet peak requirements. In contrast with conventional transit, however, there are not well-defined morning and afternoon peaks. Rather, there is one peak which lasts

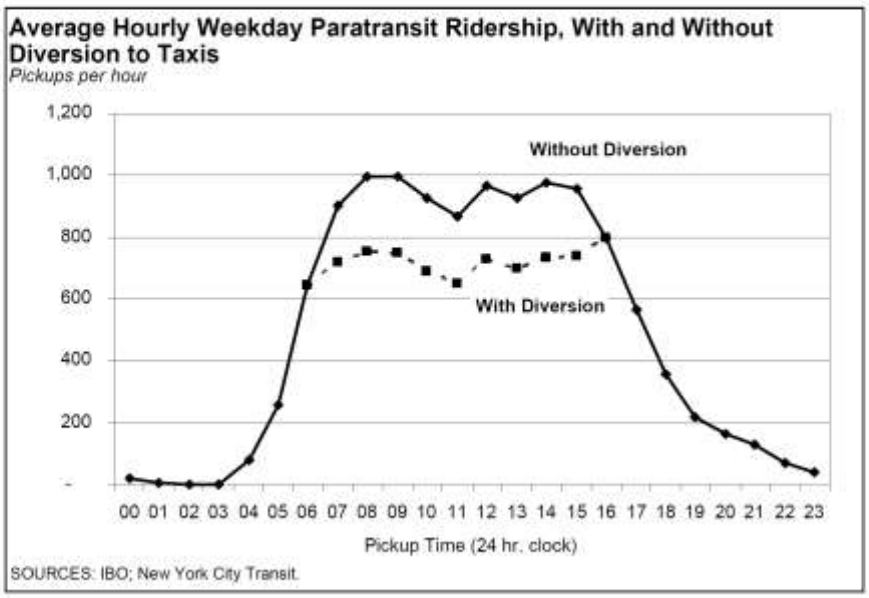
approximately nine hours, from 7 a.m. to 4 p.m. These are the hours during which a reduction in paratransit use would likely have the greatest impact on costs, since fewer riders in the peak would allow a reduction in the overall capacity of the system.[5] This paratransit peak overlaps with a period of high taxi demand (7 a.m. to 9 a.m.). However, the actual number of paratransit passengers assumed to switch to taxis is quite small compared to the total size of the yellow and livery cab fleets.

Until wheelchair-accessible taxis become more available, any significant shift from Access-A-Ride to taxis will be restricted to non-wheelchair users. IBO has estimated the potential for shifting Access-A-Ride customers to taxis by focusing exclusively on the following two groups:

- Passengers traveling within Manhattan, excluding the northern tip, between 7 am and 4 pm on weekdays. Those customers who switch should be able to hail a yellow cab with relative ease.

- Passengers outside the Manhattan core, traveling between 7 am and 4 pm, and making trips of 2.5 miles or less. These customers would generally not have easy access to yellow cabs, but could pre-arrange trips with car services ("livery" cabs).

Average weekday paratransit ridership between May and November 2006 was 11,872. Of this total, 4,131 (411 in Manhattan, and 3,720 in the other boroughs) were in the two categories that IBO has assumed could easily shift to taxis. Our assumption is that half of these customers would in fact have switched to taxis had a voucher system been available. The result would have been a 17 percent decline in weekday Access-A-Ride usage, from 11,872 to 9,807. Total paratransit ridership (weekdays plus weekends) would have declined by 14 percent.



Extrapolating the numbers from May-November 2006 to the entire year, the taxi voucher program would have replaced 509,216 paratransit trips.

Savings. NYC Transit divides contract costs into fixed costs, variable costs, and maintenance. Variable and maintenance costs make up around three-fourths of contract costs. In order to obtain an order of magnitude estimate for the cost savings from taxi vouchers, IBO has assumed that the 14 percent decline in ridership would translate into a 14 percent decline in variable and maintenance costs. This is equivalent to reduction of 10 percent in overall contract costs—around $17 million— based on actual 2006 costs of $165.5 million.

Under the taxi voucher system, registered paratransit users would pay a $2 fare, plus any cost over and above $10. The $10 figure is chosen because it is the closest round dollar amount to the $9.61 average Yellow Cab fare for "short" trips in New York City. (Schaller, 2007).

Under the somewhat extreme assumption that each taxi voucher would require a subsidy of $8 (the maximum level allowed under our assumptions), the annual cost of subsidies would be around $4 million ($8 × 0.5 million trips). The net savings from a taxi voucher program, not taking into account administrative expenses, would thus have been $13 million in 2006 ($17 million in contract cost savings, offset by $4 million for voucher costs).

Obstacles to Using Taxis for Paratransit. There are a number of obstacles to increasing the use of taxis in paratransit. First, as noted earlier, the low number of wheelchair-accessible taxis severely limits options for the 20 percent of paratransit users who are not ambulatory. While the

city is committed to increasing the number of wheelchair-accessible taxis, significant progress in this area is at least several years away.

Second, the experience of Access-A-Ride with contracted taxi service has shown that black car and livery cab companies lose interest in providing paratransit trips when more lucrative markets, such as tourist and business travel, are available. The current strong economy may limit the willingness of companies to enter into contractual agreements to provide paratransit trips. When contracts do exist, enforcement mechanisms are needed to ensure that the companies do not renege on their service commitment.

Finally, there are concerns over the fraudulent use of taxi vouchers and reimbursement claims. Access-A-Ride has found a significant number of fraudulent claims in its existing reimbursement program.

CONCLUSION

This paper has not discussed the specifics of a taxi voucher system for New York City. However, the appendix contains a brief description of how taxis are used to complement paratransit service in several US cities, and presumably New York would borrow at least some elements from what other cities have done.

There is no reliable way to know *a priori* how paratransit customers and taxi companies would respond to a taxi voucher system. A small-scale, trial program would probably be the best way to gauge the potential for vouchers.

Compared with other metropolitan areas in the United States, New York City has a lower rate of automobile ownership and a greater availability of taxis. It is likely that many ambulatory paratransit customers are already using taxis on a regular basis. It would be rational for these customers to substitute subsidized taxi trips, with an out-of-pocket cost equal or similar to conventional paratransit, for the unsubsidized trips that they are already making. In an extreme case, the net result could be an *increase* in the overall cost of paratransit. This problem can be avoided by either price or quantity rationing. Price rationing involves raising the price of a subsidized taxi ride (reducing the value of the voucher), while quantity rationing involves limiting the number of subsidized taxi trips that a registered paratransit customer is allowed to take in a given period of time. As explained at the beginning of this paper, the taxi voucher system would be a complement to Access-A-Ride, not a substitute, and as such would not be subject to the fare and service requirements that the Federal Transit Administration (FTA) imposes on paratransit.

APPENDIX:
THE USE OF TAXIS IN CONJUNCTION WITH PARATRANSIT IN OTHER US CITIES.

Chicago. Paratransit service in Chicago was formerly provided by the Chicago Transit Authority (CTA). However, in July 2006, paratransit service in the city was taken over by Pace, the provider of bus service in suburban counties. Chicago provides three types of paratransit service: conventional paratransit ("Special Services"), a taxi-based subscription service called Mobility Direct, and the Taxi Access Program (TAP), which is a system of taxi vouchers. Special Services has a cash fare of $1.75 (confirm), which is equivalent to the fare on CTA buses and subways. There is also a monthly pass available for $75. Trips with Mobility Direct cost $2.25, and a TAP voucher costs $5.

The average cost per passenger of the Mobility Direct program was around $13 in 2005, about half the cost of Special Services trips. The TAP vouchers can be used to pay taxi fares of up to $13.50, which implies a per trip subsidy of up to $13.50-$5.00=$8.50. While most cabs in Chicago are not wheelchair-accessible, TAP users who require an accessible vehicle may call a central 800 number. The dispatcher then contacts individual companies in order to find an accessible taxi.

Chicago in 2005 had half as many paratransit riders as New York (2.31 million vs. 4.66 million), with a population slightly less than half as large (3.7 million vs. 8.0 million). Around 634,000 paratransit riders (27 percent of the total) used taxi vouchers.

Houston. Houston has a conventional paratransit service known as Metrolift, which uses vans, sedans, and minivans. The cash fare is $1.15, slightly above the cash fare of $1 for regular transit. The Metrolift Subsidy program allows registered paratransit users to travel by taxi, including late night and early morning hours when Metrolift is not in service. The customer pays the first dollar of the fare, plus any cost over $9. Houston does not sell its vouchers, but instead distributes them to taxi drivers. The driver fills out the form, the rider certifies that the information is correct, and the city reimburses the taxi company.

Boston. Boston's paratransit program, known as The Ride, is administered by the Massachusetts Bay Transit Authority (MBTA). The paratransit cash fare is $2.00, compared with a cash fare of $2.00 on subway lines and $1.50 on local buses.

The Taxi Discount Coupon program is available to individuals 65 and over, and persons with disabilities. Participants in the program may purchase $10 worth of taxi coupons for $5. This program is not directly part of paratransit.

Los Angeles. The ADA paratransit service in Los Angeles is known as Access Paratransit. The daytime distance-based fare on paratransit minibuses and minivans is $1.80 for trips under 20 miles, and $2.70 for trips 20 miles in length or greater. There is a $1.50 discount fare for nighttime trips. The cash fare on local buses in Los Angeles is $1.25.

Los Angeles has an additional program called Cityride, for persons who are 65 and over or disabled. Enrollment in this program allows the individual to buy $78 worth of scrip every three months, at a price of $15 for regular enrollees, or $6 for low-income enrollees. The scrip can

then be used to purchase reduced-fare transit passes, to pay for Cityride Dial-a-Ride service (similar to ADA paratransit), or to pay up to $12 of a taxi fare.

NOTES

[1] For this reason, the voucher system would not be subject to the fare and service requirements that the FTA places on regular paratransit. In general, the FTA requires that paratransit service be provided within three-fourths of a mile of existing bus routes and rail stations, during the same hours and days as conventional transit. In addition, the fare may not exceed twice the cash fare on regular transit.

[2] NYCT, personal communication. An analysis of all Access-A-Ride trips made between May and November 2006 reveals that 79 percent were made by users who were ambulatory, and 21 percent by wheelchair users. Of all registered users who made at least one trip, 80 percent were ambulatory and 20 percent wheelchair users. A wheelchair-accessible taxi is one that allows passengers to board and ride without getting out of the chair. Some wheelchair users are in fact able to enter a vehicle without their chair, and are thus able to use non-accessible taxis. A bill recently introduced to the New York City Council (Intro 378 of 2006) would require that by 2012, all new taxis placed in service be accessible. The TLC has committed to seeking legislative approval for the sale of medallions specifically for accessible yellow cabs. In addition, the TLC requires for-hire vehicle ("car service") base stations to provide accessible vehicles on request, either directly or through another car service. This initiative, codified in For-Hire Vehicle Rule 6-07(f), has not worked as well as the TLC had hoped.

[3] While harsh winter weather may lead customers to forego travel altogether, the difficulty of getting to and from bus stops and subway stations in conditions of ice, snow, and cold may cause some passengers to shift from conventional transit to Access-A-Ride.

[4] IBO's calculations indicate that the small number of trips made between the Bronx/Northern Manhattan and Staten Island averaged almost 9 miles in length. The actual distance was probably greater, as this trip involves crossing the Verrazano Bridge.

[5] Shifting all late night/early morning riders to taxis would reduce costs, as well as add taxi riders at a time of day when there are not capacity issues. The problem, of course, is the scarcity of wheelchair-accessible vehicles.

Appendix G – Growth in Private Hire Cars in London

Statistical Release 25 August 2015

Department for Transport

Taxi and Private Hire Vehicle Statistics: England 2015

About this release

This statistical release presents information on taxis and private hire vehicles (PHV) in England as at 31 March 2015.

Figures are updated every two years through surveying each licensing authority (a unitary or lower tier authority) in England and Wales.

This release refers to England only but data for Wales can be found online here.

In this publication

Summary table p2
Licensed vehicles p2
Wheelchair accessible taxis.....p3
Licensed vehicles per head.....p4
Driver licences.....p5
Local trends..... p6
Public satisfaction.....p8
Licensed operators.....p9
Driving licence policies.....p9
Background notes.....p10

The total number of licensed taxi and private hire vehicles and driver licences in England reached record levels in 2015.

Total licensed vehicle numbers increased by 9.3% to 242,200 since 2013, the highest number since comparable records were first collected in 2005.

In 2015, 69% of all licensed vehicles in England were private hire vehicles.

Licensed vehicles in London accounted for 35% of all licensed vehicles.

There were 297,600 driver licences in 2015, 12,400 more than in 2013.

242,200
licensed vehicles

↑9.3% since 2013

35% London | 65% England outside London

297,600
driver licences

↑4.3% since 2013

RESPONSIBLE STATISTICIAN: Kelly Edwards 020 7944 3536
FURTHER INFORMATION: Media: 020 7944 3066 Public: 020 7944 3536 Kelly.Edwards@dft.gsi.gov.uk

Summary table

Table 1 summarises the 2015 taxi and private hire vehicles (PHV) licensing statistics. Figures for licensed vehicles, PHV operators and drivers are shown for London, England outside London and England. These statistics are collected every two years with the last survey being carried out in 2013.

Table 1: Summary of 2015 taxi and private hire vehicle licensing figures compared with 2013

	London		England outside London		England	
	March 2015 figure in thousands and change compared to March 2013					
Total licensed vehicles	**85.3**	**18.4%**	**156.9**	**4.9%**	**242.2**	**9.3%**
Taxis	22.5	1.5%	53.6	5.3%	76.1	4.2%
wheelchair accessible taxis	22.5	1.5%	21.9	0.5%	44.4	1.0%
Private Hire Vehicles (PHVs)	62.8	25.9%	103.4	4.7%	166.1	11.8%
Licensed PHV operators	**3.0**	**-4.8%**	**11.8**	**-3.3%**	**14.8**	**-3.6%**
Total licensed drivers	**103.9**	**12.3%**	**193.7**	**0.5%**	**297.6**	**4.3%**
Taxi-only licences	25.2	-1.3%	36.5	-0.6%	61.7	-0.9%
PHV-only licences	78.7	17.5%	85.4	-2.0%	164.1	6.5%
Dual licences	0.0	0.0%	71.8	4.3%	71.8	4.3%

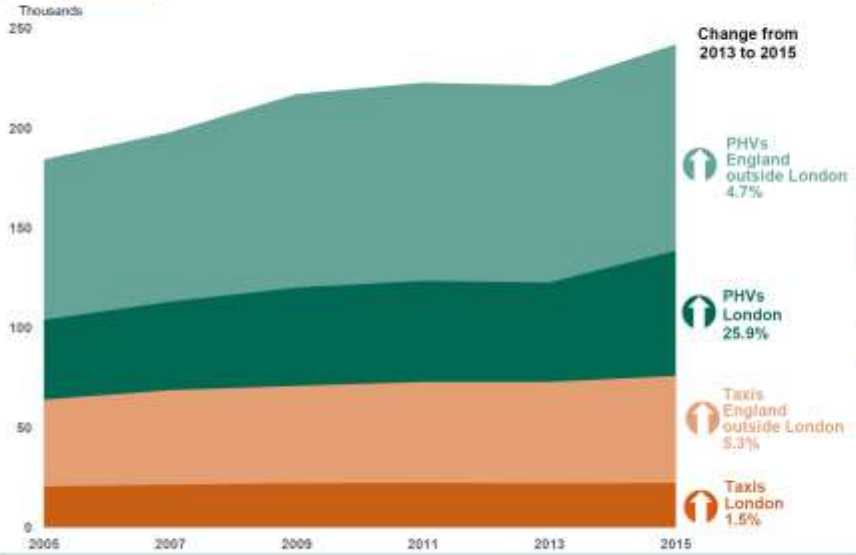
Taxis (or 'hackney carriages') are available for immediate hire, can be hailed in the street ('ply for hire') and accept pre-bookings. Taxis have two types of licences: a vehicle licence (issued to the owner of the taxi) and a driving licence.

Private Hire Vehicles (PHV; 'minicabs') must be pre-booked and cannot use taxi ranks. It is illegal for PHV to ply for hire. For PHV there are three types of licences: a vehicle licence, a driving licence and an operator licence.

Licensed vehicles

There were 242,200 licensed taxis and PHVs in England in 2015. Just under a third (76,100) of these vehicles were taxis (see chart 1). The number of licensed vehicles increased by 9.3% from 2013, a similar rate of increase seen between 2007 and 2009 (before the economic downturn). Overall there has been a 31.2% increase in licensed vehicles since 2005.

Chart 1: Licensed vehicles by type and area: England, biennial since 2005 (table TAXI0101)



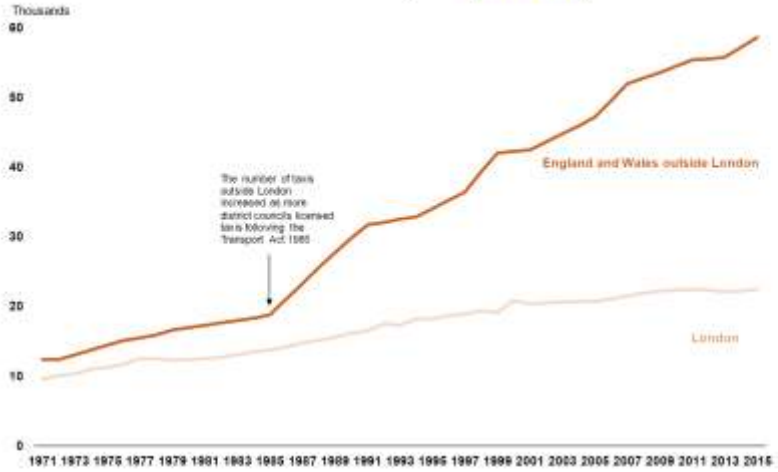
Further Statistics on the number of licensed taxis and PHVs in Scotland (which operates under a different licensing regime) are collected by the Scottish Government and published in Scottish Transport Statistics here.

Detailed statistics on licensed vehicles can be found in table TAXI0101.

Economic conditions and local licensing polices influence the number of licensed vehicles with considerable variation between areas. Since 2013, around two thirds of licensing authorities recorded an increase in vehicle numbers.

There were 76,100 licensed taxis in 2015, a 4.2% increase from 2013 and a continuation of the long term increase in the number of taxis in England (chart 2). A 1.5% increase occured in London and a 5.3% increase in England outside London.

Chart 2: Licensed taxis vehicle numbers in London and England and Wales outside London from 1971 (table TAXI0101)



There was a 11.8% increase in licensed PHVs in England between 2013 and 2015 to 166,100 vehicles, with a 25.9% increase in London and a 4.7% increase in England outside London.

Wheelchair accessible taxis

In England 58% of all taxis were wheelchair accessible in 2015, a small decline (2 percentage points) from 2013. However, the proportion of wheelchair accessible vehicles has remained similar across the last decade.

All 22,500 London taxis were wheelchair accessible as required by Transport for London's 'Conditions for Fitness' taxi licensing policy. In England outside London, metropolitan areas had 84% wheelchair accessible taxis with a substantial decline in the proportion of accessible taxis in other urban (36%) and rural areas (13%) as shown in chart 3. Some 175 authorities (61%) required wheelchair accessible vehicles in all or part of their taxi fleet.

Licensing authorities

are the lower tier or unitary local authorities in England outside London (and Wales for online tables) and Transport for London (TfL).

Chart 2

refers to England and Wales data to show the long-term trend in the number of licensed taxis. The rest of this release refers to England only data.

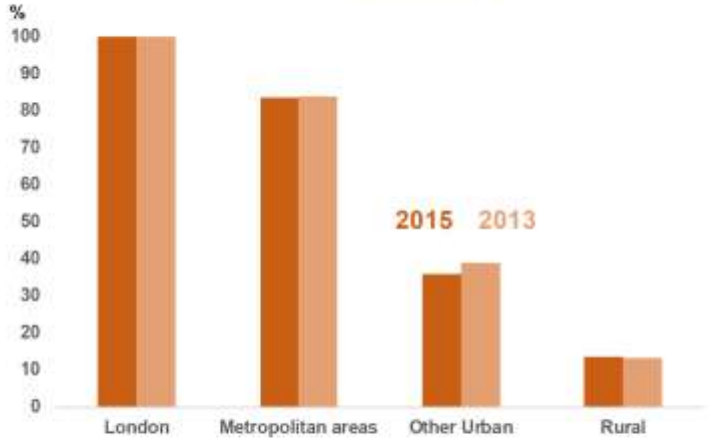
Detailed statistics

on licensed vehicles can be found in table TAXI0101.

Detailed statistics

on wheelchair accessible licensed taxis since 2005 for each region can be found in table TAXI0103 and for each local authority can be found in table TAXI0104

Chart 3: Proportion of taxis that were wheelchair accessible in 2015 by urban/rural classification (table TAXI0104)



Urban/rural classification

Other urban and rural categories were defined using the Department for the Environment, Food and Rural Affairs urban/rural classification, which can be here.

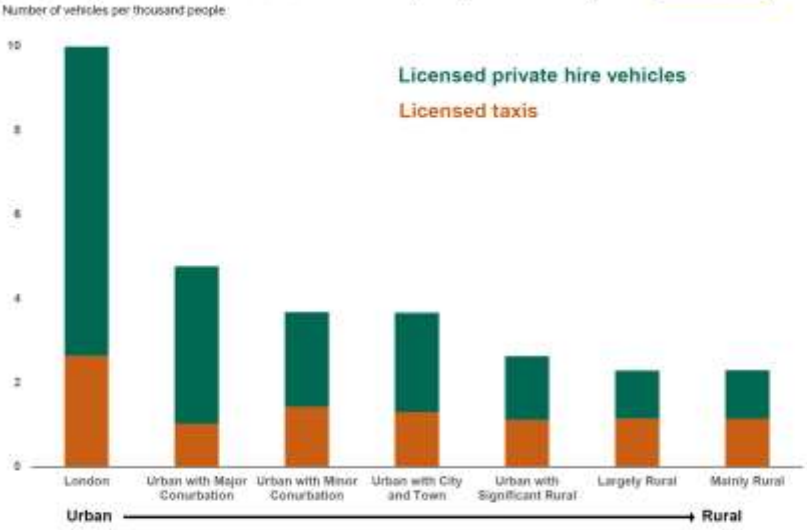
Metropolitan areas

represent the Passenger Transport Executives.

Licensed taxi and PHV vehicles per 1,000 people

In 2015, on average, there were 4.5 licensed taxi and private hire vehicles per 1,000 people in England. The number of licensed vehicles per 1,000 people decreases as areas became more rural (see chart 4).

Chart 4: Number of licensed taxis and private hire vehicles per 1,000 people by urban/rural classification, England 2015 (table TAXI0105)



Detailed statistics

on the number of licensed taxi and private hire vehicles per 1,000 people for each local authority can be found in table TAXI0105.

In London there were 10.0 licensed vehicles per 1,000 people, more than double the national average, with 7.3 licensed PHVs and 2.6 licensed taxis per 1,000 people.

Driver licences

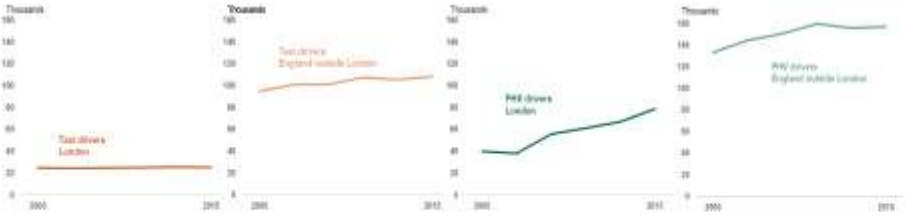
Overall there were 297,600 taxi-only, PHV-only and dual driver licences in England, over 12,400 (4.3%) more than in 2013.

Of the total, 55% had PHV-only licences, 21% taxi-only licences and 24% had dual taxi/PHV licences, all similar proportions to 2013.

Detailed statistics

on licensed drivers can be found in table TAXI0101 and for each region in table TAXI0103.

Chart 5: Number of driver licences by vehicle type, London and England outside London, 2005 to 2015 (table TAXI0104)



London accounted for the majority of the increase in the number of driver licences, with a 12.3% increase of 11,400 driver licences to 103,900 since 2013. PHV-only driver licences increased by 17.5%. The number of taxi-only driver licences decreased by 1.3% from 2013.

In England outside London, the total number of driver licences increased by 0.5%. Table 2 and map 2 (on page 7) show that this relatively small national increase masked quite large regional and local authority changes. There was a marked decline in total driver licences in Yorkshire and the Humber and a marked increase in the West Midlands, for example.

Detailed statistics

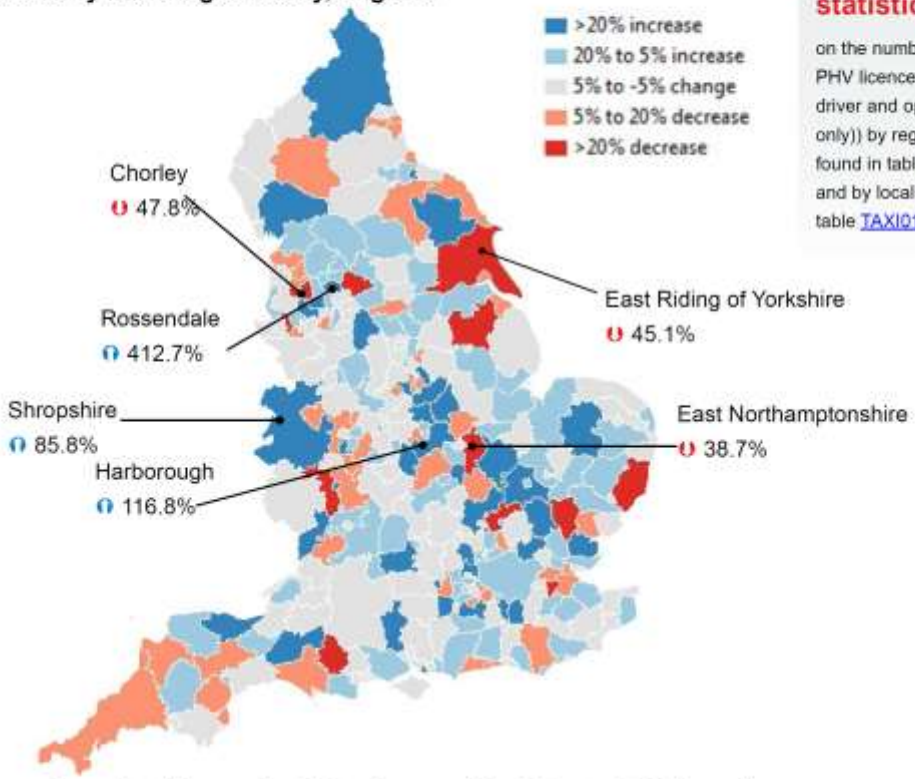
on the number of drivers licences (total, taxi, PHV and dual licences) since 2005 for each region can be found in table TAXI0103 and for each local authority can be found in table TAXI0104.

Table 2: Change in total driver licences (taxi-only, PHV-only and dual) by region between 2013 and 2015, England

Licensing region	Total driver licences		Taxi licence		PHV licence		Dual licence	
	Thousands		% change compared with 2013					
North East	13.4	2.3%	2.6%		8.9%		-6.8%	
North West	40.9	0.6%	6.5%		-5.2%		14.6%	
Yorkshire and the Humber	24.8	-4.3%	-18.2%		-8.5%		6.1%	
East Midlands	16.7	0.2%	27.5%		-1.8%		-2.3%	
West Midlands	25.2	4.7%	-1.0%		-0.8%		16.0%	
East of England	22.5	2.1%	-7.9%		0.4%		5.8%	
London	103.9	12.3%	-1.3%		17.5%		0.0%	
South East	34.0	0.3%	-10.9%		1.4%		5.7%	
South West	16.2	-1.1%	5.5%		2.3%		-6.8%	
England	**297.6**	**4.3%**	**-0.9%**		**6.5%**		**4.3%**	

Regional and local trends

Map 1: Change in total licensed vehicles (taxis and PHV) between 2013 and 2015 by licensing authority, England



Detailed statistics

on the number of taxi and PHV licences (vehicle, driver and operator (PHV-only)) by region can be found in table TAXI0103, and by local authority in table TAXI0104.

The number of total licensed vehicles increased in 193 out of 293 licensing authorities in England (see map 1 and table 3 for regional changes). These areas accounted for 81% of all licensed vehicles. Taxi vehicles increased in 144 areas accounting for 66% of all vehicles. Private hire vehicles increased in 177 authorities, which accounted for 81% of all PHV.

Table 3: Change in total licensed vehicles (taxi and PHV) by region between 2013 and 2015, England

Licensing region	Total licensed vehicles		Taxis		PHVs	
	Thousands		% change compared with 2013			
North East	10.6	6.8%		4.5%		8.7%
North West	32.7	6.2%		17.0%		2.2%
Yorkshire and the Humber	20.0	1.5%		-3.6%		2.8%
East Midlands	14.0	8.9%		17.1%		4.1%
West Midlands	19.4	4.7%		1.4%		6.3%
East of England	18.5	5.3%		1.8%		7.7%
London	85.3	18.4%		1.5%		25.9%
South East	28.2	5.2%		2.8%		6.6%
South West	13.5	1.1%		-0.6%		2.7%
England	242.2	**9.3%**		**4.2%**		**11.8%**

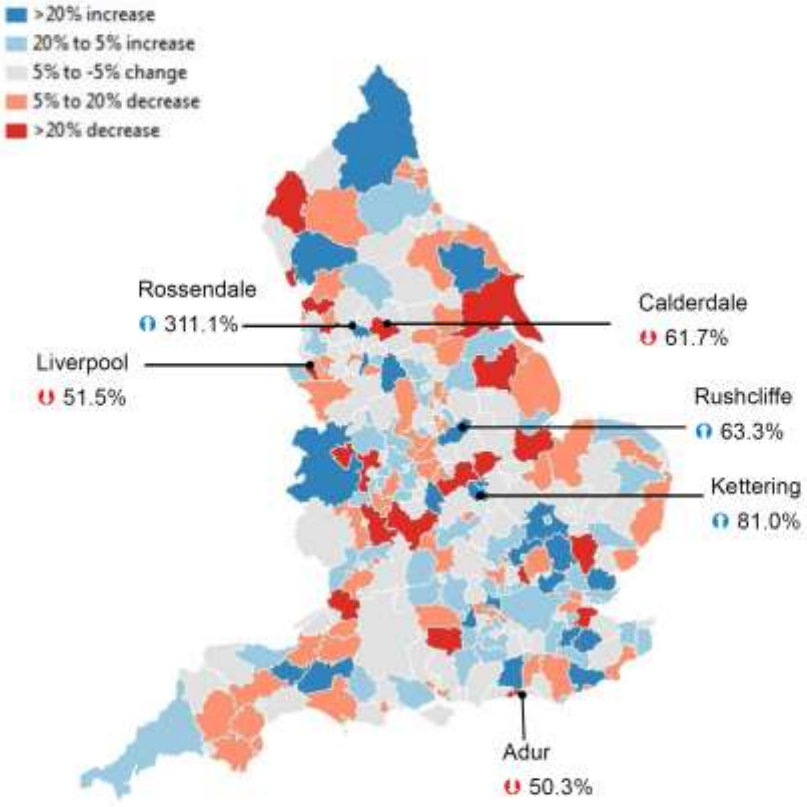
The total number of licensed drivers increased in 153 out of 293 licensing authorities in England, covering 72% of all licensed drivers (see map 2). The number of taxi-only driver licences increased in 46 out of 154 areas accounting for 75% of all taxi driver licences. The number of PHV licensed drivers increased in 95 out of 196 areas which accounted for 77% of all PHV drivers. The number of dual driver licences increased in 110 out of 221 areas accounting for 57% all dual licence drivers.

Rossendale Borough Council had the greatest increase in both total licensed vehicles and driver licences in England. This is likely due to the fact that although taxis can only be driven by drivers licensed by Rossendale Council, once a vehicle becomes a licensed taxi, the law allows it to accept pre-bookings in any district in England and Wales.

Detailed statistics

on the number of taxi and PHV licenses (vehicle, driver and operator (PHV-only)) on a regional scale can be found in table TAXI0103 and on a local authority can be found in table TAXI0104

Map 2: Change in total licensed drivers (taxi, PHV and dual) between 2013 and 2015 by licensing authority, England

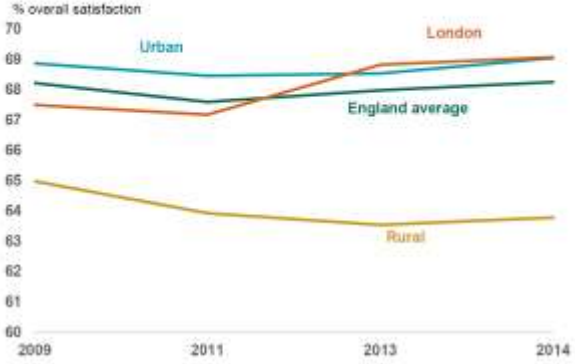


Passenger satisfaction with taxis and PHV

The Department for Transport collects data on the number of licensed vehicles, drivers and private hire operators. The National Highways and Transport Public Satisfaction Survey collects public perspectives on, and satisfaction with, highway and transportation services on behalf of several local authorities to inform performance management and local transport plans.

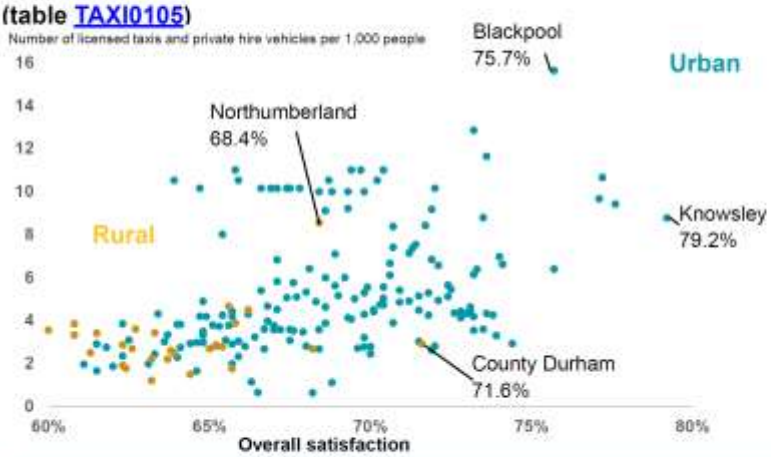
On average, in the areas surveyed in England in 2015, the overall public satisfaction with taxi and PHV was 68%, remaining similar to previous years (see chart 6).

Chart 6: Overall taxi passenger satisfaction in rural and urban areas and London, England 2009 to 2014



Rural areas tended to have the lowest overall satisfaction and in 2014 the average satisfaction was 5 percentage points below the England average. In London, overall satisfaction with taxis and PHVs increased from 67% to 69% between 2009 and 2014.

Chart 7: Overall taxi passenger satisfaction compared with total number of licensed vehicles per 1,000 people, England 2009 to 2014 (table TAXI0105)



The National Highways and Transport Public Satisfaction Survey

is in its 8th year and has surveyed 115 local authorities. For more information see: http://nhtsurvey.econtrack.co.uk/

Detailed statistics

The National Highways and Transport Survey results can be found here.

The National Highways and Transport Public Satisfaction Survey is carried out in July-August of each year. Due to the timing of this release, the 2015 data was unavailable so 2014 data has been used instead.

Further Statistics

Total number of licensed vehicles per 1,000 people was used as a proportion representative based on population size in each authority and the data can be found in table TAXI0105.

Reliability satisfaction (72%) and availability satisfaction (75%) were at similiar levels in 2014 and much higher than the England average for satisfaction with cost (48%).

Overall taxi passenger satisfaction tended to increase as the number of total licensed vehicles per 1,000 people increased (see chart 7). Therefore, the more taxis and PHV vehicles per person the more satisfied people are with availability, reliability and overall quality of the service. There was no relationship between public satisfaction with cost and the number of total licensed vehicles available.

Further Statistics

on taxi use in England are collected by the National Travel Survey and are available in tables NTS0601, NTS0702 and NTS0303

Licensed PHV operators

The number of licensed PHV operators decreased by 3.6% to 14,800 in 2015, and a 10.3% decline from the peak in PHV operators at 16,500 in 2009. PHV operators declined by 4.8% to 3,000 operators in London and by 3.3% to 11,800 operators in England outside London.

Private hire vehicle operators

accept bookings and are the company with whom the customer makes a contract for carriage.

Driver licensing policies

Driver licence renewal:

- 132 of 291 authorities (45%) required taxi drivers to be licensed every year and 79 authorities (27%) licensed every three years
- 45% of authorities required PHV drivers to be licensed every year (131 out of 292) and 79 authorities (27%) every three years

Disability training requirement:

- 34% of authorities (99) required disability awareness training for taxi drivers
- 29% of authorities (86) had a requirement for PHV drivers

Further Statistics

on driver, vehicle and operator licensing policy in each local authority can be found in table TAXI0106

Background information

Users and uses of these statistics

These statistics are used within DfT to inform the development and monitoring of policy relating to taxis (for example regarding wheelchair accessible vehicles and quantity controls on taxis) and for occassional ministerial briefing or to answer public enquires. Outside DfT, the statistics are of interest to various industry bodies and provide information for licensing authorities to compare themselves with other areas.

Strengths and weaknesses of the data

These statistics are collected through a survey of the 315 licensing authorities in England and Wales (lower tier and unitary local authorities, and TfL for London). A copy of the survey questionnaire can be found here: https://www.gov.uk/government/publications/taxi-survey-questionnaire

In 2015, full or partial responses were recieved from 314 areas (99%), covering nearly 100 per cent of licensed vehicles. Where a figure was not provided, this was imputed by carrying forward a figure from the authority's latest response to previous surveys. This means that the national estimates involve very little imputation. Data returns are validated by comparing with previous figures and querying cases that are outside set validation thresholds. This can result in revisions to previous years' figures, though these are typically minor.

These statistics cover licensed private hire vehicle operators in England and Wales. This includes PHV operators, such as Uber, and enlisted drivers who use such app-based technology. However, we are not able to disaggregate which drivers are using these apps in the figures presented.

In a few cases, authorities report that figures are estimated, or relate to time points other than 31 March. Although these factors are unlikely to impact on the national and regional level figures to any great degree, changes in the data systems used by licensing authorities to store and extract the information can result in fluctuations in the quality of data over time. This is unlikely to be systematic and it is difficult to assess the impact with any precision, however sensitivity analysis suggests changes of +/- 1% in the national figures should be interpreted with caution.

National Statistics

National Statistics are produced to high professional standards set out in the National Statistics Code of Practice. They undergo regular quality assurance reviews to ensure they meet customer needs: www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html

For details of ministers and officials who receive pre-release access to these statistics up to 24 hours before release: https://www.gov.uk/government/publications/taxis-statistics-pre-release-access-list

Next Release

The next taxi and private hire vehicle statistics release is due to be published 2017.

Appendix H – Transport for London Enforcement and Compliance

CHAPTER 5:
IMPROVING ENFORCEMENT AND COMPLIANCE

Through our enforcement and compliance activity – whether that be through our own direct activities or through our partnership with the police – TfL aims to:

- Improve passenger safety
- Tackle the illegal cab trade
- Drive up the standards of compliance across the licensed trade
- Support the licensed and law-abiding taxi and private hire trades so they can operate effectively and deliver a high quality service to customers

Our approach to achieving compliance and undermining illegal cab activity through enforcement and compliance action is intelligence-led and focuses on issues that pose the greatest safety risk to the travelling public. Activities span prevention, essential routine compliance, deterrence, disruption, detection, investigation and prosecution. As the taxi and private hire industry grows alongside the Capital, TfL will continue to seek to meet the challenges this brings. In 2008, the Cab Enforcement Unit (CEU), composed of Met Police and City of London officers, was doubled to 68 officers and TfL will double the number of dedicated Taxi and Private Hire Compliance Officers from a baseline of 41 in January 2015 to 82 in early 2016.

We have also put measures in place to ensure that illegal cab issues are given greater attention from officers across the recently established 2,300 strong Roads Transport Police Command (RTPC). The creation of the RTPC brings with it the opportunity to significantly increase cab enforcement activity by mobilising hundreds of officers to focus on priority issues such as touting and cab-related sexual offences. Cab enforcement is now a shared priority for all officers in the RTPC as well as the dedicated CEU.

The RTPC also runs major operations throughout the year which focus on cab enforcement, for example, during September and December, when there has historically been a peak in cab-related sexual offences, over 400 officers are mobilized on Operation Safer Travel at Night (STaN). Activities include delivering prevention messages through engagement with the travelling public and tackling touting and cab-related sexual offences.

Current priorities include:

- Cab-related sexual offences: There were over 140 reports of cab related sexual offences made in 2014/15. Victims were predominantly young females aged between 18 and 27, alone in the vehicle with the driver, and often on a night out. In most cases, the journey started in the central London and the journey was unbooked.

- Touting / plying for hire: Touting is the offence of soliciting a person in a public place to hire a vehicle for use as a passenger. It is an offence under the Criminal Justice and Public Order Act 1994. Plying for hire is not as straight forward as there is no comprehensive or authoritative definition. The elements of the offence are that the vehicle must be on view and available for immediate hire which can be evidenced where the vehicle owner or driver explicitly or implicitly invite the public to use that vehicle. Both pose a serious risk to the travelling public. These vehicles are unregulated and uninsured for the purposes of carrying passengers, and present an economic threat to the licensed trade by intercepting their customers and representing unfair and unsustainable competition.

- Unlicensed drivers and illegal trading: The growth in forgery of taxi identifiers and badges, as well as the fraudulent impersonation of licensed drivers, presents a serious risk to public safety. It also takes business away from the licensed, law-abiding trade and has the potential to damage the world class reputation of taxis and of PHVs.

- On-street driver and vehicle compliance: On-street compliance checks are vital to deter unlawful activity and provide visible reassurance to the licensed, law-abiding trade. Operators also have significant responsibilities to customers in the maintenance of accurate records on the drivers and vehicles that are used to discharge bookings. Regular on-street and operator inspections which are risk based and unannounced help to drive up the standards of the licensed trade.

- Safeguarding: Working with both trades to reduce the risk of child sexual exploitation and protecting vulnerable adults

In partnership with the police, TfL uses a range of different strategies to deliver these priorities, including:

- Plain clothes operations: Plain clothes operations assist in detecting and apprehending touts and prevent cab-related sexual offences in the West End and across the capital. Locations are identified using intelligence analysis and information from the trade. Plain clothes work can become impractical once officers begin to be known and recognized by touts and potential offenders. To counter this, the RTPC draws on a pool of female police officers from across the Metropolitan Police to assist in plain-clothes operations. At the last count, around 290 female officers from across the MPS were 'volunteering' to support this important work to prevent cab-related sexual offences. Being

arrested for touting allows the police to take DNA samples, fingerprints and photographs of touts, all of which has proved invaluable in detecting and prosecuting sex offenders.

- Safer Travel at Night campaign (STaN) and public awareness: The STaN campaign aims to eradicate the use of illegal minicabs with a particular focus on protecting young women. It makes use of covert and high visibility patrols, as well as working to raise the profile of the dangers of using unlicensed taxis and minicabs. STaN has two main periods of campaign activity: 1) around the start of the university academic year in September; and 2) over the festive period in December. TfL's work to raise awareness of the campaign in 2014 included:

  - Visiting 494 bars, pubs and clubs in hotspot locations
  - Handing out approximately 132,000 leaflets
  - Engaging with over 50,000 members of the public to provide advice on how to get home safely
  - Visiting 29 university 'Freshers' Fairs' and engaging with around 50,000 students

  During the two main STaN phases in 2014, the Met Police and City of London Police made a total of 94 arrests for touting, with over 3,600 minicabs and taxis stopped and checked. More than 700 arrests were made in 2013/14 for illegal plying for hire, and more than 8,000 arrests have been made since 2003. This work has seen the proportion of women who use unbooked minicabs falling from 19 per cent in 2003 to 0.5 per cent in 2015.

  In addition to the above, TfL is now engaging with London & Partners (the official promotional company for London) and with the tourism sector, including Visit Britain and Heathrow and Gatwick airports, on the 'rules' for booking a private hire vehicle and the importance of checking a driver's identifier before starting a journey.

  We will continue to refine and build on the STaN campaign in our future public awareness campaigns and intelligence-led operations.

- High visibility operations: To support our strategy of disrupting and deterring illegal activity and supporting the licensed trade, we launched Operation Neon in May 2015. Operation Neon is a high visibility, multi agency operation involving TfL, police officers from the RTPC, and local authority parking attendants to tackle issues identified by the legitimate trade. A review of Operation Neon is planned for early 2016.

  What the first 31 days of Operation Neon delivered in numbers:

  - 2,677 - Private hire drivers advised and moved on to keep roads clear for taxis and booked private hire vehicles
  - 198 - Private hire drivers reported for not having a badge and stopped from working for the remainder of the evening
  - 1,520 - Private hire drivers reported for not wearing their badge
  - 39 - Private hire drivers reported for plying for hire offences

- 189 - Private hire drivers reported for parking on taxi ranks
- 604 - Parking tickets issued

- Compliance through Test-purchasing and in-depth investigation: To enhance the work already done to ensure taxi and private hire compliance, we are increasing our use of test-purchasing and in-depth investigation into customer and trade complaints so that we can take effective enforcement action.

Strengthening ways of working

In 2013, TfL commenced a comprehensive review of the way that it undertakes taxi and private hire enforcement and compliance activity in order to increase the impact of its activity and ultimately, improve passenger safety. This review is on-going and contains a number of key elements:

- Better technology: Improvements in technology to equip Compliance and Cab Enforcement Officers with mobile devices that provide direct access to licensing data and partners' data such as insurance cover. These will help support workflow and generate case files to increase the efficiency and productivity of compliance resources and enforcement activity.

- Strengthening partnership: Investing time and effort to work with partners across London such as Heathrow Airport and local authorities such as the London Boroughs of Westminster and Camden. These partnerships are geared towards pooling resources and devising shared problem-solving plans to come up with lasting solutions to shared issues, for example, the problems of parking and congestion around locations such as Paddington and King's Cross/St Pancras Stations.

- Efficient tasking and deployment: Expanding the reach and scope of data used to inform decisions about the tasking and deployment of compliance and enforcement officers. This includes providing a variety of channels to the licensed trade to report suspicious behaviour. Better use of data allows us to take a clear, risk-based approach, focusing resources on those drivers, operators and vehicles that pose the greatest risk to the public, while supporting those that comply and having sufficient capacity to respond to new and emerging threats in real time.

- Effective enforcement: We want to increase the deterrent effect of our enforcement activity by catching and convicting all those that break the law and penalising non-compliance. Our enforcement approach will be proportionate, fair and transparent and will result in the successful prosecution of drivers and operators who do not comply with the law. We are also lobbying for the Secretary of State to give us greater powers to issue on the spot fines (Fixed Penalty Notices) for minor offences and we will continue to use the sanctions of licensee suspension and revocation against those who put customer safety at risk. To date, TfL has a 97% success rate in convicting drivers for unlawful plying for hire.

Future challenges

TfL, the Police and its enforcement partners in airports and local authorities are facing a number of challenges in delivering effective enforcement and driving up compliance, and supporting the licensed trades. These challenges are informing our current review and future strategy and include:

- Strengthening penalties for those convicted of touting, plying for hire and unlicensed drivers: The offence of plying for hire is not defined and not well understood. Magistrates' courts often do not treat touting and unlawful plying for hire with the severity of a serious crime that puts public safety at risk. Most offenders are fined and courts often do not use the power to disqualify from driving or to seize the vehicle from the driver. Neither TfL nor the police have the power to seize vehicles used in touting, unlawful plying for hire or being used without having hire and reward insurance in place. Stronger sanctions would strengthen the deterrent effect. We, working with the police, have a range of activity planned with London Magistrates to raise their awareness of the impact and risk of illegal cab activity. We will continue to lobby for greater enforcement powers and stronger sanctions for touting and unlawful plying for hire.

- Under-reporting of cab-related sexual offences: The prevention of cab-related sexual offences remains our top priority. The police receive around ten reports a month of cab-related sexual offences, and this number has remained fairly constant over the last few years. The greatest risk remains taking a minicab where the driver was either touting or plying for hire, and we have been running communication campaigns as part of Safer Travel at Night to increase understanding of the 'rules' for a safer journey home, by taxi or private hire. We continue to work with the police to better understand the true level and nature of cab-related sexual offences as we have done through Project Guardian for unwanted sexual behavior on public transport.

- Growth in internet based operators: The growth in internet based operators is creating challenges for investigation and the risk of cyber-crime. We have invested in investigative capability to help address this, but it remains difficult. Websites are often hosted outside of our jurisdiction and is often very difficult to identify who is committing an offence.

- Fraud and the use of forged documents: This includes fake taxi identifiers and badges, unlicensed drivers working in licensed vehicles and use of fake insurance documents. We have been running joint operations with the police, such as Operation Excalibur, to detect offences but these are resource intensive.

- The overall growth in private hire drivers: The overall growth in licensed private hire vehicles is creating a challenge for routine compliance activity. It is for this reason that we are doubling the number of TfL Taxi and Private Hire Compliance officers to 82 by early 2016. This follows the doubling of dedicated police cab enforcement officers to 68 since the Mayor came into office.

- Pedicabs: Unsafe pedicabs are a public safety issue and can cause serious disruption to traffic in central London. The riders are not subject to the same strict background checks we undertake for taxi and private hire drivers and vehicles, and there is no regulation of fares. We, along with the Mayor, have long been seeking legislation to bring pedicabs within our regulatory framework and subject to our licensing regime. In the meantime, we continue to work with Westminster City Council and the MPS to run operations to tackle dangerous and antisocial behavior by pedicab drivers.

- Competition for road space: This is a challenge outside popular venues as London's night time economy grows, as well as around transport hubs such as King's Cross and Heathrow. This requires joint working between TfL, the Police, airport authorities and local authorities to co-ordinate parking enforcement and keep traffic moving. TfL has worked successfully with the London Borough of Camden around King's Cross St Pancras and with Westminster City Council in the West End and Paddington. We are working with our partners to develop sustainable solutions to these problems by looking at options such as road redesign. In addition, we are developing and expanding the number of taxi ranks to support the trade and to better meet the needs of drivers and passengers. We have set out ambitious plans to expand the network of 500 taxi ranks with £600,000 of funding to increase the number of ranks by 20 per cent by 2020 (see above).