

BEFORE THE AUCKLAND UNITARY PLAN INDEPENDENT HEARINGS PANEL

IN THE MATTER of the Resource Management
Act 1991 and the Local
Government (Auckland
Transitional Provisions) Act 2010

AND

IN THE MATTER of Topics 043 and 044 -
Transport Objectives and
Policies and Transport Rules

**STATEMENT OF EVIDENCE OF STUART BURNET DONOVAN
ON BEHALF OF AUCKLAND COUNCIL (TRANSPORT)
2 June 2015**

1. INTRODUCTION

- 1.1** My full name is Stuart Burnet Donovan. I hold the position of Principal Consultant, at MRCagney Pty Limited. I have been in this position since September 2011.
- 1.2** I hold the academic qualifications of a Masters of Engineering from the University of Auckland, and a Masters of Science (Spatial Economics) from VU University, Amsterdam. I am a member of the New Zealand Association of Economists.
- 1.3** Since September 2007 I have provided transport and economics consulting services to public and private sector clients in New Zealand and Australia. I have considerable expertise in most aspects of spatial and transport economics, and have experience in the application of benefit-cost analysis (CBA) to evaluate policy interventions. In this time, I have also developed considerable expertise in parking policy and management. I am the author of the *'The Economic Impacts of Minimum Parking Requirements: An Analysis of Dominion Rd, Takapuna, and Onehunga'*, and *'The Economic Impacts of Parking Requirements in Auckland'* included as Appendix 3.9.11 and 3.9.13 of the Proposed Auckland Unitary Plan (PAUP) Section 32 Report.
- 1.4** Full details of my qualifications and relevant past experience are contained in Attachment A.
- 1.5** I have been engaged by the Auckland Council to provide evidence in relation to Topics 043 and 044, Transport Objectives and Policies and Transport Rules.

2. CODE OF CONDUCT

- 2.1** I confirm that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note and that I agree to comply with it. I confirm that I have considered all the material facts that I am aware of that might alter or detract from the opinions that I express, and that this evidence is within my area of expertise, except where I state that I am relying on the evidence of another person.

3. SCOPE

- 3.1** I have been asked to provide evidence in relation to the objectives and policies in Chapter C Section 1.2, and the rules in Chapter H Section 1.2 of the PAUP as they relate to the provision of accessory car parking ("parking"). More specifically, this statement of evidence covers the following:

- (a) The economic assessment of the impacts of the proposed accessory parking provisions in the PAUP;
- (b) Identification of the benefits and costs of the proposed accessory parking provisions in a general sense, with reference to the Section 32 Report Appendices 3.9.11 & 3.9.13, and the issues outlined in the Hearings Panel's Parties and Issues report; and
- (c) Discussion of the benefits and costs as they relate to specific issues raised in submissions, including:
 - (i) The effects of parking spill-over in areas where minimum parking requirements are not to be applied;
 - (ii) The effects of applying minimum parking requirements to the city centre fringe residential areas;
 - (iii) The effects of removing or increasing parking maximums for office activities; and
 - (iv) The effects on congestion from removing minimum parking requirements.

3.2 The key documents I have used, or referred to, in forming my view while preparing this brief of evidence are listed in Attachment B.

3.3 In preparing this evidence, I have drawn upon the evidence of Mr Joshua Arbury, Mr Kevin Wong-Toi, Mr Scott Ebbett, and Ms Mairi Joyce in respect of Topics 043 and 044.

3.4 The primary assumptions which underpin my evidence include:

- (a) Current property values in Auckland are similar to or higher than in 2012. This assumption is important because the analysis presented in Appendix 3.9.11 and 3.9.13 is based on property transaction data from the period 2000 – 2012. My understanding is that current property values in Auckland are generally higher than they were in 2012, which would – other things being equal – tend

to increase the economic benefits associated with the removal of minimum parking requirements; and

- (b) Parking management costs are not significantly higher than they were in 2013, when the analysis presented in Appendix 3.9.11 and 3.9.13 was undertaken. This assumption is important because increased parking management is the primary economic cost associated with removing minimum parking requirements. I know of no evidence to suggest parking management costs have escalated (in real terms) since the time my analysis was undertaken.

4. SUMMARY

4.1 My views on the objectives, policies, and rules as they relate to Topics 043 and 044 are summarised as follows:

- (a) The proposed accessory parking provisions in the PAUP are likely to have significant positive economic impacts where they remove or reduce the minimum parking requirements (minimums) applied to new developments;
- (b) I hold this view because my analysis indicates the land use and transport efficiencies that arise from the removal and/or reduction of minimums exceed the costs of increased parking management. These benefits and costs are estimated in the Section 32 Report Appendices 3.9.11 & 3.9.13. For reasons I outline below, subsequent submissions and mediation has not given rise to any further information that would cause me to alter this view. In fact, the points raised in submissions and during mediation (both for and against the PAUP provisions) have tended to confirm the original findings of these Section 32 report Appendices 3.9.11 & 3.9.13 – for reasons explained below; and
- (c) With regards to key points raised in submissions, I respond as follows:
 - (i) The costs of parking management, or “spill-over”, in areas where minimums are not being applied has been explicitly considered and quantified in the Section 32 report Appendices 3.9.11 & 3.9.13. These costs are presented under the general rubric of “parking management costs”, which includes costs associated with parking enforcement officers, parking management plans, and pay and display meters (and/or other parking management technologies, such as time-restriction signs). As discussed in more detail in Mr Ebbett's evidence, Auckland Transport (“AT”) has recently adopted what is, in my view, a comprehensive and

effective parking demand management policy. This policy gives clear guidance to AT, and the Community, on how AT plan to manage the needs of competing users with regards to public parking resources.

Evidence suggests parking demand management policies, such as those adopted by AT, are likely to be more economically effective than the imposition of minimums on new developments.

- (ii) Retaining minimums in the City Centre fringe residential areas would have significant adverse economic effects. These negative effects would arise due to the relatively high value of land (and floor space) that prevails in those areas. The results of my economic analysis suggest these costs would be highly likely to outweigh the potential benefits of retaining minimums, such as reduced parking spill-over. In my view, the retention of minimums in these areas is not supported by the economic evidence.
- (iii) Removing minimums will also have significant direct and indirect transport benefits. Evidence suggests the availability and price of parking is an important factor influencing people's decision to drive. Over time, the removal of minimums can be expected to reduce the supply and increase the price (monetary and non-monetary) associated with parking. This will contribute directly to reduced traffic congestion. Removing minimums will also, over time, enable an increase in the density of urban development and thereby indirectly support the use of non-car transport modes. For these reasons, removing minimums is, in my view, likely to lead to considerable transport benefits, especially in the long run.
- (iv) Removing or increasing parking maximums for office activities can be expected to lead to an increase in the supply of parking, higher levels of vehicle use, and ultimately result in increased congestion. The economic costs of maximums stem primarily from their impacts on the viability of development. Hence, when considering the parking maximums it is important to balance the benefits of reduced congestion versus the costs imposed on new developments.

5. THE ROLE OF BENEFIT ANALYSIS

5.1 Benefit-cost analysis (BCA) is commonly used for evaluating public policies, including local and central government regulations (New Zealand Treasury, 2005¹). It is an economic framework that can be used to present, compare, and interpret different types

¹ New Zealand Treasury (2005), *Cost Benefit Analysis Primer*, available online at <http://www.treasury.govt.nz/publications/guidance/planning/costbenefitanalysis/primer/cba-primer-v12.pdf>.

of benefits and costs. BCA is particularly useful when analysing potential policy changes, because it is able to incorporate a range of relatively disparate impacts.

5.2 The BCA framework requires results to be presented and compared in a consistent way, for instance through:

- (a) The comparison of proposed policies against a counterfactual, or do-minimum, scenario. In other words: what are the additional costs and benefits that can be expected to occur in the absence of the proposed policy?
- (b) Quantification of costs and benefits, where practical, with particular regard to 1) discounting and 2) monetisation. It is also important that benefits and costs are independent, i.e. not double-counted.
- (c) Comparison of costs and benefits in a benefit-cost ratio (BCR).

5.3 A 2013 amendment to section 32 (s32) of the Resource Management Act 1991 (RMA) strengthened requirements for evaluation of proposed planning provisions. Under the amended s32, there are several levels of evaluation that can be conducted:

- (a) Section 32(2)(a) requires a qualitative identification and assessment of costs and benefits, including environmental, economic, social, and cultural effects; and
- (b) Section 32(2)(b) requires, if practicable, the quantification of benefits and costs.

5.4 In my view, it is possible to quantify many of the costs and benefits arising from the minimum accessory car parking provisions (minimums) contained in the Proposed Auckland Unitary Plan (PAUP). The impacts of these provisions can, for the most part, be assigned monetary values. This does not mean it is necessary, or even desirable, to quantify *all* benefits and costs. Instead, it is more important to focus on the most tangible benefits and costs, so as to gain an understanding of the relative net benefits, or otherwise, of the policy. It is, however, good practice to consider the relative magnitude of benefits and costs, even if they have not been explicitly quantified. This is the approach I adopt in my evidence. In the case of the maximum accessory car parking restriction provisions (maximums) contained in the PAUP, I note that while the benefits are able to be quantified, it is in my view not practicable to quantify the costs of

these provisions, at least not “ex-ante”. Instead, it is my view that a mix of quantitative and qualitative assessment is required to gain insight into the relative economic value associated with maximums.

- 5.5** Following Boardman et al (2011), I assume the costs which policies impose on developers are ultimately passed on to the people who buy or rent the resulting building. These costs can be passed on either by way of increased prices and/or reduced supply. The assumption that costs are passed on to end-users is intuitive: why would a developer choose to develop a new building if they could not sell or lease it for a price that covered their costs, including financing costs, resource costs, and profit/risk margins? Consequently, it is my view that the costs of planning regulations in general and parking policies in particular must be understood as applying to end users, such as the owners/tenants of commercial and residential buildings.

6. PAUP ACCESSORY PARKING PROVISIONS – ECONOMIC FRAMEWORK

Policy Setting

- 6.1** Economic theory implies that in a perfectly functioning market the “optimal” supply of parking will be given by the level at which the private benefits are equal to the private costs. In such a setting, the level of parking which developers freely choose to supply with their developments would be expected to lead to optimal economic outcomes. This is because everyone who was willing to pay the marginal costs of providing parking would gain access to parking, and vice versa.
- 6.2** However, economic theory also implies that under certain circumstances, well-designed regulatory interventions may improve market functioning, and by extension lead to improved economic outcomes. Examples of such factors are those which are 1) not considered by direct market participants (buyers and/or sellers), e.g. externalities and/or 2) act as barriers to efficient market functioning, e.g. transaction costs. These factors cause the private benefits and costs of providing parking to diverge from the social benefits and costs. In general, where the presence of these factors is considered to result in imperfect market functioning then there is a prima facie reason for regulatory intervention to try and improve market functioning.
- 6.3** Minimums are a regulatory intervention that seeks to increase the supply of parking above what would normally be provided by developers with their developments. Maximums, on the other hand, have the opposite effect; they are a regulatory intervention that seeks to reduce the supply of parking below what would normally be provided by developers with their developments.

6.4 I note parking is what economists define as a “private good”. More, specifically parking is “rivalrous”, insofar as consumption by one person precludes consumption by another, and also “excludable”, insofar as it is possible for suppliers to control the consumption of the good if they so choose, e.g. through implementing parking management measures. This means that in a perfectly functioning market, then the people who supply, own, manage, and/or use parking are able to internalise the costs and benefits associated with parking, if they so choose.

6.5 In my view the appropriate counterfactual scenario when considering the economic value of accessory car parking is “no parking regulation”. Under, such a scenario developers would be free to decide freely how much parking to provide with their developments. Taking this counterfactual as a starting point, then the question to be considered when assessing the economic impacts of PAUP parking provisions is, firstly, whether there is by evidence of imperfect market functioning? Evidence of imperfect market functioning is necessary but not sufficient to warrant regulatory intervention. To justify the latter a second question needs to be answered, specifically do the benefits of the proposed regulatory intervention outweigh the costs? To answer these questions it is now necessary to consider the PAUP provisions themselves.

PAUP Provisions

6.6 As outlined in the evidence of Mr Kevin Wong Toi and Mr Josh Arbury, the PAUP provisions relating to accessory car parking tend to define two primary categories of zones, or overlays:

(a) Those areas where maximums apply and minimums do not; and

(b) Those areas where minimums apply and maximums do not.

There are also particular activities in particular zones where both a minimum and a maximum car parking rate applies to new developments. I note that there are no zones or overlays where neither minimums nor maximums apply, i.e. the PAUP provisions deviate from the “no regulation” counter-factual everywhere. This situation is summarised in the following table:

Regulation	Zone
Maximums	<ul style="list-style-type: none"> • City Centre, City Centre Fringe (overlay), Metropolitan Centre, Town Centre & Local Centre (except rural centres), Mixed Use (except adjacent to rural centres), Terrace Housing and Apartment Buildings. • Studio dwellings in the Mixed Housing Urban zone.
Minimums	<ul style="list-style-type: none"> • Neighbourhood Centre, Mixed Housing Urban, Mixed Housing Suburban, Single House, Large Lot, General Business, Business Park, Light Industry, Heavy Industry, Rural (All Rural Zones & Future Urban), Other. • Town Centre zone in Helensville, Kumeu, Huapai, Pukekohe, Warkworth and Wellsford. • Local centre zone in Karaka, Kaukapakapa, Leigh, Matakana, Riverhead, Snells Beach, Te Hana, Waimauku and Waiuku. • Mixed Use Zone adjacent to Rural Satellite Centres.
Minimum & Maximum	<ul style="list-style-type: none"> • Dwellings (except studios) in Mixed Housing Urban zone. • Offices outside City Centre, City Centre Fringe (overlay), Metropolitan Centre, Town Centre, Local Centre, Mixed Use, Terrace Housing and Apartment Buildings

Benefits, Costs, and Distributional Effects

6.7 When considering benefits and costs it is important to differentiate between minimums and maximums, as the policies have distinct economic impacts. As identified in my economic evaluation report in Appendix 3.9.13 of the PAUP s32 Report, the primary benefits and costs associated with each policy are summarised in the following table:

Regulation	Benefits	Costs
Minimums	Reduces parking spill-over Improves ease of finding car-park Avoids need for parking management	Reduces value of development Increases traffic congestion Creates compliance costs
Maximums	Reduces traffic congestion Improves amenity	Reduces value of development Increases parking management costs Creates compliance costs

6.8 My evaluation of the economic effects of PAUP provisions causes me to conclude:

- (a) Minimums are often a binding constraint on development, i.e. they directly influence the decisions made by developers. This leads to an increase in the supply of parking and a reduction in the supply of floor space (whether for residential or commercial purposes).

- (b) In this way, minimums act like a tax on floor space, which reduces the development potential of sites, and by extension reduces urban density. This directly reduces the supply (and increases the costs) of floor space.
- (c) Minimums increase the availability of parking and thereby lower its costs, both perceived (non-monetary) and actual (monetary). In a monetary sense, minimums represent a subsidy for vehicle ownership and use, which is likely to reduce the uptake of non-car transport modes. This subsidy is an economic transfer from property owners and tenants to drivers.
- (d) My assessment finds that minimums have economic costs which are in excess of their benefits by a ratio of at least 6:1. In other words, the economic benefits of removing minimums are at least six times greater than the economic costs incurred in doing so. The primary economic benefit associated with the removal of minimums is the more efficient use of land through the provision of more floor space and less parking. Transport efficiencies, specifically reduced congestion, are a smaller – but nonetheless sizable – economic benefit. Together, I find that the land use and transport benefits of removing minimums outweigh additional costs of parking management due to reduced supply.
- (e) This assessment considered the economic impacts of minimums in areas of metropolitan Auckland that are typical of those where the PAUP envisages intensification. Further analysis indicates the removal of minimums was likely to be beneficial in most areas of metropolitan Auckland, especially in areas of moderate to high employment and/or residential density. This finding was robust to changes in key underlying assumptions; indeed the BCR associated with removing minimums ranged from a low of 6 up to a high of 12.
- (f) Moreover, the results of this assessment are, in my view, conservative insofar as they are likely to underestimate the economic benefits of removing minimums, for reasons I now explain. First, my assessment excluded higher density multi-storey developments, where the land use inefficiencies introduced by minimums are expected to be the greatest. Second, my assessment does not quantify a number of additional economic benefits, such as agglomeration economies (from increased density) and health benefits (from increased uptake of walking, cycling, and public transport), which would be expected to follow from the removal of minimums. On the latter point I agree with the points made by the representative of the Auckland Regional

Public Health Services (ARPHS) during mediation that the removal of minimums could result in additional health benefits. If health benefits were to be included in the BCA, then the economic benefits associated with removing minimums would be higher than indicated by my assessment.

- (g) Finally, I note that the PAUP proposes to remove minimums from a considerably smaller area than what is supported by the results of my economic assessment. For this reason the PAUP has, in my view, taken a relatively cautious approach with regards to the removal of minimums. In this regard, the economic evidence tends to align with the views of a number of submissions, for example Generation Zero, who expressed support for the more widespread removal and/or reduction of minimums in the PAUP.

6.9 My assessment of the economic effects of maximums leads me to conclude that they generally would have moderate benefits in terms of reduced congestion. The primary economic cost of maximums arises from compliance costs and impacts on development viability. In my view, maximums should seek to balance two somewhat desired outcomes. First, maximums should be designed to target the specific activities and areas that contribute to and/or experience traffic congestion. Second, maximums should be designed to minimise distortions in land use investment decisions between different activities and different zones/overlays, i.e. to be relatively consistent. Thus, when setting maximums there is a need to balance specificity versus consistency.

7. MAIN ISSUES RAISED IN SUBMISSIONS

7.1 A range of issues were raised in submissions, as summarised in the evidence of Mr Kevin Wong Toi. I now consider specific aspects of these issues as they relate to the economic benefits and costs of the PAUP accessory parking provisions.

Parking “spill-over” effects

7.2 The Key Retailers in particular submitted that minimums should be retained in centres to avoid general “spill-over” effects with regards to their properties and to ensure on-street parking is available for the residents in adjacent residential streets.

7.3 I note that the costs of parking spill-over effects have been explicitly considered and quantified in my evaluation of the economic impacts of proposed parking provisions in Appendix 3.9.13 of the s32 Report. This evidence was not referenced by the Key Retailers submission and nor (at this stage) have they presented evidence to suggest

its findings were unsubstantiated. Nonetheless, below I summarise key points in relation to the issue of parking “spill-over” that they have raised in their submission.

- 7.4** With regards to private off-street parking, there is evidence to suggest the adverse effects (if any) of spill-over can be readily mitigated by the owners of these car parks. Mitigation simply requires landowners to manage access to their car parks, in the same way that they manage access to and use of their land (and other improvements). I note that, under New Zealand law, management of private accessory parking is a fairly straightforward and inexpensive activity; all that is required of the landowner is that they install signage at the entrance to a car-park specifying the rules by which the parking is able to be used. Should people choose to park in the car-park, then they are subsequently considered to have entered into an implicit contract with the landowner, which binds them to abide by the rules that pertain to the car-park. If the driver is subsequently found to be parking in violation of these rules, then the landowner is within their rights to impound or remove the offending vehicle, and recover associated costs from the owner of the vehicle. The fact that many landowners across Auckland already choose to manage their accessory parking in this way would seem to indicate it is a straightforward and cost-effective response. For this reason, I consider the costs of managing private accessory parking in response to parking spill-over to be small.
- 7.5** With regard to public parking, my evaluation sought to explicitly quantify the economic costs of spill-over. Using a discounted cash flow model, the application of minimums could be expected to save in the order of \$14.5 million in parking management costs over 30 years for the areas included in our analysis. This was used as an input into the benefit-cost ratio presented in Appendix 3.9.13. Results demonstrate that the benefits of removing minimums exceed the costs by a ratio of at least 6:1. In my view, this is evidence the costs of managing public parking (i.e. parking spill-over) are less than the benefits that would follow from the removal of minimums.
- 7.6** This is not to suggest spill-over is not an issue. The question to be considered here, however, is whether minimums are the appropriate policy response to the issue of high parking demand and the risk of spill-over? By reducing the requirements for new developments to provide accessory parking, it is reasonable to expect the utilisation of parking to increase, as concluded by the Key Retailers.
- 7.7** Many submissions, in my view, make an unsubstantiated logical leap by concluding that minimums are the most appropriate policy response to the presence of high parking demand. Upon closer examination, it seems that this conclusion is premised on several

implicit assumptions, which tend to be unsubstantiated. I now identify and discuss these assumptions in more detail.

- (a) The first assumption implicit in many submissions which expressed support for minimums is that they are a relatively accurate predictor of parking demand. This assumption is not supported by the evidence. Shoup (2005), for example, evaluates the statistical models used to predict parking demands, from which minimums are derived, and finds they are often a poor predictor of the demand for parking. Hulme-Moir (2010) analyses parking occupancy at small (under 5,000m² GFA) suburban retail sites in Porirua and finds only 17% of the variation in parking demand is explained by floor area. Hulme-Moir suggests other factors, such as surrounding land uses, transport accessibility, and type of retail activity are stronger determinants of parking demand. Consequently, the evidence suggests applying a minimum based on floor area is not necessarily an accurate predictor of the parking demands associated with many activities.
- (b) The second assumption implicit in many submissions which expressed support for minimums is that developers, with the apparent exception of the Key Retailers Group, will not supply adequate parking for their development. In contrast, my professional experience suggests developers are keenly aware of the importance of parking, and will supply parking at a level that is sufficient to ensure the viability of their development. Submissions supporting the retention of minimums did not present robust evidence to show developers were not aware of the appropriate level of parking. Consequently, the claim that developers will supply insufficient parking remains unsubstantiated.
- (c) The third assumption implicit in many submissions which expressed support for minimums is that perceptions of parking demand are accurate. Weinberger and Karlin-Resnick (2015) analyse parking oversupply in 27 districts in US suburbs and cities, all of which were subject to minimums. Even after allowing for 15% of parking to be available at all times, Weinberger and Karlin-Resnick find evidence of parking oversupply in all locations. The oversupply ranged from 6% to 253%, with an average oversupply of 65%. In nine areas where businesses or policymakers believed parking to be scarce, the level of oversupply ranged from 6% to 82%, with an average oversupply of 45%. This suggests that, in the absence of robust data on parking demands, submitters' perceptions may not be a reliable measure of parking demand.

7.8 Even in situations where the aforementioned assumptions do hold, this would not necessarily warrant the imposition of minimums on new developments. More specifically, many submissions which expressed support for the retention of minimums do not consider the potential for other – potentially more effective – policy options. I note Auckland Transport has formally adopted parking management policies that commit to proactively monitoring and managing demand, as documented in detail in the evidence prepared by Scott Ebbett. Indeed, many of Auckland Transport’s policies are specifically designed to address issues that arise in situations of high parking demand, where the risks of “spill-over” is the greatest. These policies include, for example, residential parking schemes, pricing, and time-limits.

7.9 In my view, there is evidence, both in Auckland and elsewhere, that parking demands can be more effectively addressed through other policies (Shoup, 2005; Litman 2008). Evidence shows that both time-limits and priced parking, for example, are effective at reducing parking demand and increasing vehicle turnover, such that more people are able to find a car-park when and where needed. In this way, parking management policies manage parking demands in a way that reduces search costs much more directly and effectively than is achieved by imposing minimums on new developments.

7.10 As some submissions note, high parking demand already exists in some parts of Auckland – even in those areas where minimums are currently applied. This suggests that even with minimums additional parking management measures may be required. In my view this observation does not justify persisting with minimums, rather it suggests more targeted and effective parking policy settings are required, such as those adopted by Auckland Transport. High demand (or low vacancy) are precisely the conditions under which Auckland Transport will intervene in order to manage public parking.

7.11 Therefore I consider the economic benefits of removing minimums more than outweigh the economic costs associated with parking spill-over.

Retaining minimum parking requirements in the city centre fringe residential areas

7.12 A number of submissions seek that the PAUP include minimums for residential areas within the City Centre Fringe Area overlay. These submissions cite, amongst other things, the effects of spill-over parking onto surrounding residential streets, and consequential reduction in the ability of existing residents to utilise the on-street car parking, as the reasons for their submissions.

7.13 The City Fringe overlay area includes extensive areas of Mixed Use, Terrace Housing, Single House and Apartment Building zoned land. The overlay area has been identified in the PAUP to:

- (a) Support the planned intensification provided for in the area;
- (b) Recognise the area's proximity to the city centre results in a high level of accessibility to PT services and supports walking and cycling.

7.14 In general terms, the results of my evaluation of the economic effects of minimums suggests that, on balance, they are likely to have large negative economic impacts in areas with high values of land/floor space and/or high density. These negative economic impacts arise due to the combination of:

- (a) Land use inefficiencies, which arise because minimums require new developments increase the space used for accessory parking. This subsequently reduces the area available to other activities, including floor space, and reduces the overall value of the development; and
- (b) Transport inefficiencies, which arise because minimums increase the supply of parking and hence reduce the price of driving. These costs are especially relevant in central areas, such as the City Fringe overlay, where congestion is a more common occurrence.

7.15 My evaluation also suggested that removing minimums and allowing the price of parking to gradually rise so that it aligned more closely with the market value of parking would be likely to increase the demand for public transport, and hence reduce the latter's need for operating subsidies. This is a good example of how removing an economic distortion in one market (i.e. subsidies for parking) enables another secondary market (i.e. public transport) to operate more efficiently. In my view, it is clear that the land use and transport inefficiencies caused by minimums are likely to exceed their benefits in most parts of metropolitan Auckland, and especially in the City Fringe.

7.16 In terms of land use, my evaluation finds the negative economic impacts of minimums are largely determined by two key variables:

- (a) The relative value of floor space to parking; and
- (b) The degree to which parking substitutes for floor space.

- 7.17** With regard to the relative value of floor space to parking discussed in 7.16(a), I note that the results of my analysis suggests that floor space is valued much more highly than parking. This result is corroborated by Nunns (2015), which analyses a larger property transaction data set from across Auckland. More specifically, the coefficients for floor space and parking derived in Nunns (2015) are a similar order of magnitude to those presented in Appendix 3.9.13 of the s32 Report.
- 7.18** Both of the two aforementioned variables in 7.16(a) and 7.16(b) are likely to be positively correlated with the density of an area and the value attached to capital improvements. It is therefore reasonable, in my opinion, to infer that the negative land use impacts of minimums will tend to increase in areas such as the City Centre Fringe, which have high average densities and high average property values. In areas such as the City Centre Fringe, the effect of minimums is to reduce the supply of floor space and thereby increase its price. This ultimately contributes to higher costs for owners and tenants. For these reasons the application of minimums to the City Fringe overlay would be likely to have negative land use impacts. Moreover, the distributional effects are likely to be regressive, for reasons I explore in more detail below.
- 7.19** As noted above under the previous heading of ‘Parking spill-over effects’, the cost of implementing parking management policies is likely to be less than the economic costs associated with imposing minimums, especially in relatively dense and high value areas such as the City Centre Fringe. When considering residential activities in this area, an important aspect is the impact of minimums on the cost of housing. Research presented in Appendix 3.9.13 of the PAUP s32 Report identifies that in dense areas, minimums set at 1-2 car-parks per residential dwelling can increase the costs of housing in the order of 10-20%. Moreover, evidence suggests the incidence of this regulatory burden falls most heavily on low income households. This distributional impact arises because low income households are more likely to own fewer vehicles and make more frequent use of non-car transport modes (Litman, 2014). Such households therefore benefit less from the additional costs imposed by minimums than high income households, who tend to own a greater number of vehicles.
- 7.20** The application of minimums to the City Centre Fringe would appear inequitable for other reasons. In the time I have been working with district plan parking regulations, I have frequently encountered residents who have explained to me how they moved into an area and chosen to occupy accommodation with insufficient accessory parking for their needs. This choice was premised on the assumption that they could utilise public

parking. In other words, existing residents have made choices that were contributing directly to parking overspill. The economic reason existing residents made such a choice is because they placed a higher value on floor space than accessory parking.

7.21 It is useful to consider the submissions seeking to apply minimums to the City Fringe overlay in this context. That is, often the submissions appear to have been made by existing residents who are advocating for changes that seek to reduce the ability for new residents to choose more floor space instead of accessory parking. During mediation, they also expressed a view that Auckland Transport should assign more parking permits to residents. From an economic policy perspective, it is my view that the residents are, perhaps unintentionally, seeking to influence the political economy and secure a so-called “first mover advantage”. That is, having moved into the area at some time in the past and made the deliberate choice to live with less accessory parking than they perhaps needed, they are now advocating for changes that would reduce the ability for new residents to make the very same choice. From an economic perspective, there is no prima facie reason why existing residents should be favoured in this way.

7.22 The evidence suggests the issue of parking spill-over has arisen largely because of historical issues with the management of public parking, more so than the application – or otherwise – of minimums. I note that in many of these areas parking has not been actively managed, e.g. priced. As such, residents choosing to move into the area in the past did not have access to information, or signals, about the relative scarcity of public parking. Hence, they were unable to make informed decisions about how much accessory parking they should secure with their dwelling. This, however, is a transitional issue. The parking management policies adopted by Auckland Transport set out to manage public parking more proactively than has happened in the past. More specifically, this will see the application of prices to areas of high demand. Moreover, Auckland Transport is working with existing residents to manage transitional issues through the delivery of a residential parking scheme that enable residents to gain preferential access to public parking at a cost that is relatively low compared to its market value. In this way, Auckland Transport has developed policy measures that seek to favour existing residents, while at the same time working to improve the signals which communicate the relative scarcity of public parking.

7.23 Overall, it is my view that the application of minimums to the City Centre Fringe Area is not supported by the economic evidence. More specifically, it would be likely to contribute in less efficient and less equitable land use and transport outcomes.

The effects of removing or increasing parking maximums for office activities

- 7.24** The primary economic benefit of maximums arises due to their ability to reduce the supply of parking, and thereby reduce the relative attractiveness of driving compared to non-car transport modes. This in turn can be expected to reduce congestion.
- 7.25** I note that maximums are what economists refer to as a “second best” policy. This is because maximums do not directly target the cause of the externality, i.e. congestion. Indeed, congestion arises primarily because people’s decision to drive does not account for the many costs they impose on the transport system, especially delays. A “first best” policy would seek to set the price of driving such that it accurately reflected the costs associated with driving at peak times, i.e. time-of-use road pricing. At the present time, however, a “first best” road pricing policy is not a viable option for Auckland Council. Transport pricing remains the domain of central government, which does not currently have a plan to implement time-of-use road pricing in Auckland. In this context, and given the presence of congestion in Auckland, it is appropriate for the PAUP to consider “second best” policy measures, such as maximums.
- 7.26** In terms of their implementation, Appendix 3.9.13 of the PAUP s32 notes that the application of maximums would seem to be most effective where they:
- (a) Minimised compliance costs, e.g. by being set in a way that provided certainty to new developments on how much parking they were able to provide.
 - (b) Were set at a level and in a way that was commensurate to the economic costs of the externality they are seeking to manage. This is especially important for office developments, which tend to 1) draw employees from a relatively wide catchment and/or 2) generate travel demands that are more likely to occur at peak times.
 - (c) Were set in a way that did not distort development decisions, e.g. by creating an incentive to prefer certain activities and/or certain areas.
- 7.27** Appendix 3.9.13 of the PAUP s32 also notes the need to consider the unintended consequences of maximums. Specifically, that they may encourage “lock-in” of existing parking supply by discouraging redevelopment of existing sites.

7.28 For these reasons, it is my view that there is a prima facie case for the application of maximums. In terms of the rationale for setting specific rates, I understand this is discussed in the evidence submitted by Mairi Joyce – to which I refer on these matters.

The effects on congestion from removing minimum parking requirements

7.29 One of the reasons raised by submissions opposing the removal of minimums is that too few accessory parking spaces will increase congestion in the surrounding road network.

7.30 While some localised congestion may result, it is my view that minimums generally have the opposite effect. That is, minimums do more to increase total demand for vehicle travel and hamper the efficiency of the road network (through increasing vehicle ownership and use) than they contribute to localised congestion. Evidence of the relationship between parking supply and levels of vehicle use is presented in Appendix 3.9.13 of the PAUP s32. Minimums may also make an indirect contribution to congestion by reducing density, which in turn reduces the viability and attractiveness of non-car modes. The indirect contribution of minimums to congestion (i.e. above and beyond their price effects) has not been quantified in my evaluation, but is simply noted.

7.31 Moreover, as noted previously the removal of minimums will not necessarily lead to the reduced availability of public car-parking. This is because Auckland Transport has formally adopted policies designed to ensure that parking is well-used but not over-saturated. Such an outcome typically arises when peak utilisation is between 80-90%, which effectively means that one in every ten car-parks will be available even at peak times. When coupled with such a management regime, it seems unlikely that the removal of minimums will give rise to additional localised congestion.

7.32 Therefore it is my view that the concerns raised in submissions with regards to the impacts of removing minimums on localised congestion are unsupported. In practice the removal of minimums, along with complementary parking management measures, may be expected to reduce congestion compared to a scenario where minimums applied.

8. CONCLUSION

8.1 My views on the objectives, policies, and rules as they relate to Topics 043 and 044 are summarised as follows:

- (a) The proposed accessory parking provisions in the PAUP are likely to have significant positive economic impacts where they seek to remove or reduce the minimum parking requirements (minimums) applied to new developments;
- (b) I hold this view because my analysis of the land use and transport efficiencies that arise from the removal and/or reduction of minimums exceed the costs of increased parking management. These benefits and costs are estimated in the Section 32 Report Appendices 3.9.11 & 3.9.13. For reasons I outline below, subsequent submissions and mediation has not given rise to any further information that would cause me to alter this view. In fact, the points raised in submissions and during mediation (both for and against the proposed changes) have tended to confirm the original findings of these Section 32 report Appendices 3.9.11 & 3.9.13; and
- (c) With regards to key points raised in submissions, I respond as follows:
 - (i) The costs of parking management, or spill-over, in areas where minimums are not being applied has been explicitly considered and quantified in the Section 32 report Appendices 3.9.11 & 3.9.13. These costs are presented under the general rubric of “parking management costs”, which includes costs associated with parking enforcement officers, parking management plans, and pay and display meters (and/or other parking management technologies, such as time-restriction signs). Evidence suggests parking demand management policies, such as those adopted by Auckland Transport, are a more effective way to manage the effects of spill-over than the application of minimums.
 - (ii) Retaining minimums in the City Centre Fringe Areas would be likely to have significant adverse economic effects. These negative effects would arise due to the relatively high value of land and floor space that prevails in those areas. The results of my economic analysis suggest these costs would be highly likely to outweigh the potential benefits of retaining minimums, such as reduced parking spill-over. Moreover, not only is the application of minimums to the City Centre Fringe area likely to be inefficient, in the sense that its costs outweigh its benefits, but it is also likely to be regressive, in the sense that the regulatory burden falls more heavily on low income households. In my view, the application of minimums to the City Centre Fringe is not supported by economic evidence, i.e. it would be likely to be inefficient and inequitable.

- (iii) Removing minimums will have significant direct and indirect transport benefits. Over time, the removal of minimums can be expected to reduce the supply and increase the price of parking. This will contribute directly to reduced traffic congestion. Evidence suggests the availability and price of parking is an important influence on people's decision to drive. Removing minimums will also, over time, enable higher density development and thereby indirectly support the use of non-car transport modes. For these reasons, removing minimums is, in my view, likely to lead to considerable transport benefits, especially in the long run.

- (iv) Removing or increasing parking maximums for office activities can be expected to lead to an increase in the supply of parking, higher levels of vehicle use, and ultimately increased congestion. The economic costs of maximums relate primarily to their impacts on the viability of development. Hence, when setting maximum rates the economic trade-off to be considered is the benefits of reduced congestion versus the costs imposed on new developments.

Stuart Burnet Donovan
2 June 2015

Attachment A

Stuart Donovan

BA (History), BE (Eng. Sci.) Hons, ME (Eng. Sci.) Hons, MSc (Economics) Hons

Principal Consultant

Stuart is an engineer and economist with 10 years' experience working in the transport and energy industries in New Zealand and Australia.

Since joining MRCagney in 2007, Stuart has led a wide variety of studies for a range of public and private sector clients. He has internationally recognised expertise in parking policy and operations; integrated transport and land use planning; spatial, transport, and urban economics; and data analysis and econometric modelling. With regard to parking, Stuart has worked in numerous cities and towns across New Zealand and Australia. He has in-depth and practical understanding of the interaction between policy and operational settings.

Stuart brings a unique blend of quantitative and qualitative skills to his work. This means he is as comfortable developing bespoke economic and financial models as he is communicating complex issues to general audiences.

Qualifications

Bachelor of Arts (History)
University of Auckland, 2005

Bachelor of Engineering (Eng. Sci.)
Hons
University of Auckland, 2005

Master of Engineering (Eng. Sci.)
Hons
University of Auckland, 2007

Master of Science (Economics)
Hons
VU University Amsterdam, 2011

Affiliations

Member New Zealand Association
of Economists.

Career History

2011 – present

Principal Consultant, MRCagney, Auckland and Brisbane

2007 – 2011

Transport Engineer and Economist, MRCagney, Auckland

2006 – 2007

Wind Engineer, Mighty River Power, Auckland

2005 – 2006

Transport Engineer, SKM, Auckland

Expertise

- Parking policy and operations
- Integrated transport and land use planning
- Spatial, transport, and urban economics
- Data analysis and econometric modelling

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Selected Project Experience

Parking Policy and Operations

- Expert evidence on management of Garden City car-park (Hamilton City Council, 2014)
- Commercial Arrangements for Managing Off-street Parking Facilities (Dunedin City Council, 2013)
- Strategic Direction for Parking Policy (Christchurch City Council, 2013)

- Section 32 Parking Policy Analysis (Auckland Council, 2013)
 - On-street Parking Policy Review (Rotorua District Council, 2013)
 - Review of On-street Parking Policy (Auckland Transport, 2012)
 - Parking Management Plans in Albany and Onehunga (Auckland Transport, 2012)
 - Beenleigh Parking Study (Logan City Council, 2011)
 - Tauranga City On-street Parking Policy Review (Tauranga City Council, 2011)
 - Sunshine Coast Parking Study (Sunshine Coast Regional Council, 2011)
 - Hamilton City CBD Parking Management Plan (Hamilton City Council, 2010)
 - Parking Study for the Square Mile (Adelaide City Council, 2010)
 - Gold Coast Parking Strategy (Gold Coast City Council, 2010)
 - Glen Eden Parking Study (Waitakere City Council, 2009)
- Integrated
Transport and
Land use
Planning
- Impacts of Urban Form on Economic and Transport Outcomes (NZTA, 2012)
 - Integrated Transport and Land Use – Sylvia Park as a Case Study (NZTA, 2011)
 - Bay of Plenty Transport Futures Study (Bay of Plenty Regional Council, 2010)
 - Managing Transport Challenges when Oil Prices Rise (NZTA, 2008)
- Spatial,
Transport, and
Urban
Economics
- Economic Impacts of Minimum Parking Requirements (Auckland Council, 2012)
 - Contribution of Public Transport to Economic Productivity (NZTA, 2012)
 - Valuing the Health Benefits of Walking and Cycling (NZTA, 2008)
- Data Analysis
and
Econometric
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- The Impacts of Frequent, Connective Public Transport Networks (Auckland Transport, 2013)
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- 'The Economic Benefits of Walking and Cycling', Conference paper and presentation to AITPM Annual Conference, Brisbane, April 2010. <http://trid.trb.org/view.aspx?id=1099144>
- 'How free is your parking?' Frontier Centre for Public Policy, Winnipeg, July 2009 (plus associated YouTube video). <http://www.fcpp.org/publication.php/2839>
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