Analysis of TMR 2017 Boating Study
Rosslyn Bay Carpark

by Ian Herbert 17-03-2019

The Department of Transport and Main Roads (TMR) published the ***Queensland Recreational Boating Facilities Demand Forecasting Study 2017*** in December 2017 (available Jan 2018). A copy is available at http://www.tmr.qld.gov.au/Projects/Name/R/Recreational-boating-facilities/Recreational-Boating-Facilities-Demand-Forecasting-Study-2017 There is a separate report for each shire. The Livingstone Shire Report is the subject of this analysis. This Analysis supersedes the previous Analysis of the 2016 version of the ***Study***.

An analysis of these studies reveals many glaring shortcomings in the methodology of the mathematical models presented. So much so that it is extremely difficult to understand how such a study could be used to determine the number of boat ramps that are needed in specific locations.

The 2017 Study analyses information down to individual Local Govt. Areas (LGA). It is based on the number of boat registrations in each LGA, and in surrounding LGAs, and uses population projections for each LGA. However, it makes some grand assumptions in trying to convert boat ownership numbers into demand for boat ramps in every LGA. No evidentiary basis is given for many of these assumptions which are used in formulas as part of their mathematical modelling. In addition, there is absolutely no ground-truthing of the results. Even though the spreadsheets used by the consultants are quite detailed, due to the large number of LGAs in Qld, the mathematics is not particularly complicated, but it is the assumptions behind the formulas used in the processing of the data that is of great concern. The study authors are using macro numbers but applying them on a micro scale for each LGA, which leads to ridiculous results.

The first part of the study, in forecasting boat ownership numbers based in projected population growth for each LGA, appears valid. However, the next four stages include calculations of:

- What proportion of boats are used,
- How many boats per day can a boat ramp cater for,
- How many boats swap between neighbouring LGAs.
- How many carparks are needed for a particular number of boat ramp lanes.

In all these stages, courageous but misguided attempts are made to quantify highly variable parameters. We contend that the results are far less predictable than the consultants would have us believe. There is the contentious formula relating boat ramp lanes to car/trailer parking spaces. If the formulae presented are to be believed, then Rosslyn Bay already has far more parking spaces than demand would indicate.

Here are our main concerns in detail:

(1) **Peak Demand**. TMR's policy is to not cater for peak demand. (2017 Study pdf p 20) "TMR's approach . . . is to aim to satisfy <u>average demand</u> rather than <u>peak demand</u>" . . . (p21) "Provision is not made by TMR for peak boating periods such as Christmas,

Easter, school holidays, and long weekends." (p101) "TMR does not cater for peak demand."

It is abundantly clear that the only times when Rosslyn Bay carpark is full is on those days of peak boating periods only when weather conditions are favourable. There can be no doubt that there is enough car parking capacity to satisfy **average demand**. Therefore, TMR must be questioned as to why they are over-riding their own clearly stated policy that only requires them to meet **average** demand and not **peak** demand.

(2) **Registration activation rate**. Consultants use a "Registration Activation Rate" as the "**proportion of the recreational boating fleet likely to use boating facilities**". (refer pdf pp 101-105, EA pp 20-24). This section of the Economic Associates report contains a number of unsubstantiated mathematical assumptions declaring that Activation Rates for all LGAs in Qld are either 8%, 10%, 12% or 14%. The differences appear to be based on age, earning capacity and remoteness. There is no indication that any of these figures bear any resemblance to reality, and it all seems to be an exercise of black art. (Livingstone is 14% whereas Gympie is 8%. Why is that?). We contend that actual Activation Rates are far less predictable than this. To demonstrate how misleading this can be, translating this to predictions in the Study Table 1 (Study p5, pdf p7) means that the projected Demand for Boat Ramp Lanes by 2021 for Livingstone Shire would vary from 20 lanes (Table 1, 5th column) based on a 14% Activation Rate to 11 lanes based on an 8% Activation Rate.

(3) **Boat ramp demand** (refer Section 5.1 (p18, pdf p20) (also EA3.3.1 p28, pdf p109) **"The vessel registrations have been converted to an effective lane demand based on a typical boat ramp lane being able to accommodate 40 launch/retrieval manoeuvres per day. It has been assumed that the midpoint (40) between unhampered overall amenity (30 boats per lane per day) and congested operations (50 boats per lane per day) would represent the ideal scenario."** The basis for these numbers is obscure but reference is made in the 2011 study to research in WA and Redlands.

Picking 40 as a midpoint between 30 and 50 means we have a possible 25% error rate to start with. Translating this to predictions in the Study Table 2 (pdf p7) means that the projected Demand for Boat Ramp Lanes by 2021 for Livingstone Shire would vary from 20 (Table 2, 5th column) to a low of 16 or a high of 26. These are very rubbery figures indeed and it seems unwise to apply them on an individual LGA basis. How relevant are these number to all Qld LGAs?

(4) **Contribution to Boat Ramp Demand from other LGAs**. Table 9 (p20 pdf p22 and Table A1, EA p36, pdf p117) claims that recreational boaters who use Livingstone boat ramps comprise 84% of Livingstone boat owners, 30% of Central Highlands boat owners, 9% of Rockhampton boat owners and 5% of Isaac boat owners. There is no evidence to support any of these numbers. This is a key step in the estimates of boat ramp demand, but nobody knows where these numbers come from. Variations to these numbers would result in significant changes to the boat ramp demand predictions made by this report.

(5) **Boat ramp capacity evaluation.** Section 4.1.1 (p12, pdf p14) "**TMR (2016) provides guidance on its standard/reference number of CTU spaces to match boat ramp lanes: 90 CTUs for four-lane ramps . . . . an average relationship of 22.5 CTU spaces per lane**"

Using this formula, the 8 lanes of boat ramps at Rosslyn Bay Boat Harbour would require 180 CTUs. There are already 246 car/trailer parking spaces existing. TMR then uses an escalation factor of +50% because of the queueing benefit of having a floating walkway, so they claim that the 8 Actual Boat Ramp Lanes should be regarded as 12 Effective Boat Ramp Lanes. This would require 270 car/trailer parking spaces based on the 1:22.5 formula. There is no justification in the Study for the 50% escalation factor, which leads to an apparent CTU demand anywhere from 180 to 270. These huge variations in the so-called demand for CTU spaces, based on an unexplained fudge-factor, are difficult to understand, particularly when it is used for justifying the expenditure of a large amount of public money.

Also, the two southern rows at the Marina provide an extra 52 CTUs giving an overall total of 298 CTUs. While the Marina may be private land, it is not fenced off from public use and recreational boaters are quite free to park there. Therefore, the Table at Appendix B is grossly incorrect.

(6) **Boat Ramp Lane Capacity reduced during peak times.**
Both the 2016 and 2017 Studies claim that there are eight (8) boat ramp lanes available at Rosslyn Bay. The eastern ramp is 15m wide and the western ramp is 13m wide. Four lanes would normally require 14m width, so on face value, it appears that there are eight lanes. However, when observing how these ramps operate, particularly during peak times, it is clear that the left side lane, closest to the floating walkway cannot be used as a vehicle-trailer unloading lane because there are always a number of boats tied up to the floating walkway, close to the water's edge on the ramp. Therefore, there are effectively only six (6) lanes available, not eight. This further undermines the credibility of the flawed TMR studies. It also adds weight to the boaties' view (published in the *Cap Coast Mirror* on many occasions) that what boaties need is more ramps, not more carparks, and that more carparks will only make the current ramp congestion situation even worse. If we were to apply TMR's own formula of 1:22.5 to the effective 6 lanes, then there would only be a requirement for 135 CTUs, well short of the 246 CTUs that exist at present.

(7) **No data of Actual Occupancy.** There appears to have been no attempt to "ground truth" any of the conclusions from the various theoretical studies. Surely a record of the number of days in any year that the existing carpark was full would be highly relevant when deciding whether there is sufficient parking. Such records would be essential in determining the veracity of both the theoretical studies and the anecdotal or hearsay information. It is very concerning to note that TMR have no records of the actual occupancy of the existing carpark.

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