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10th December 2016

Attention: Director, Transport Assessments
Planning Services
Department of Planning and Environment
GPO Box 39
Sydney NSW 2001

McCaffrey Interchange

December 2016 Revision

Dear Sir,

Ref: Newcastle Inner City Bypass – Rankin Park to Jesmond
McCaffrey Drive Interchange – Submission for Review

With great interest I studied the earlier 2007 designs for the above Bypass and the latest Refined 2016 Strategic Design for the McCaffrey Drive Interchange, and wish to offer some thoughts and possibilities for the project.

The following attached pages show my understanding of the various RMS Aurecon designs for the McCaffrey Drive Interchange, plus an additional option incorporating a roundabout under the Bypass rather than a series of multiple flyover roadways and numerous complex traffic control signals.

This suggested “**roundabout-option**” appears to meet the by-pass parameters at lower cost, whilst also reducing traffic delays, improving safety, overcoming all or most of the alleged complaints offered by residents in relation to converting residential Grandview Road into a main access road, the lack of northbound entry to the by-pass for residents of Rankin Park, Elernmore Vale, New Lambton Heights including those residents on Lookout Road situated south of McCaffrey Drive.

Objection to roundabouts usually relates to limited traffic flow which is approximately 3600 vehicles/hr, whereas in this situation the suggested roundabout would only be handling suburban traffic, of which only some will be entering or leaving the by-pass, therefore the roundabout would not be required to handle the RMS assessed traffic numbers already travelling north and south on the new By-pass.

I submit these thoughts and ideas to you in good faith, and welcome your response regarding the option of incorporating a roundabout below the Bypass rather than major alteration of the landform to cut in the Bypass, and this option also avoids constructing distribution roads which meander high above the proposed major Bypass road.

Yours faithfully,

Geoff Stewart.

Attached:- p2 of 4 - Design comparison showing some perceived advantages and disadvantages.
P3 of 4 – Overview with some thoughts, recommendations and questions.
P4 of 4 – Some additional notes for clarification

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No northbound access to the Bypass from McCaffrey except via Grandview Rd or via Grandview Rd>Marshall St/Cardiff Rd.

No southbound access to the Bypass from McCaffrey except via Grandview Rd or via Grandview Rd>Marshall St>Cardiff Rd.

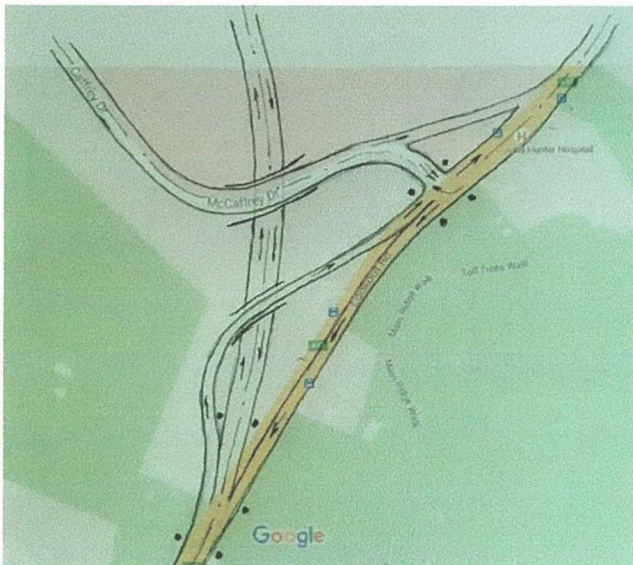
Nil consideration for "peak-flow" entering Bypass northbound or southbound from McCaffrey to enter the Bypass

No northbound or southbound access from the Bypass to the John Hunter Hospital entry on Lookout Rd.

No northbound access to the Bypass, nor to the Lookout Rd entry to the hospital for those residents on Lookout Rd south of the McCaffrey Interchange.

McCaffrey Bridge over the Bypass is contrary to landform.

2016 RMS Revised Design



Still no northbound access to the Bypass from McCaffrey except via Grandview Rd or via Grandview Rd>Marshall St>Cardiff Rd.

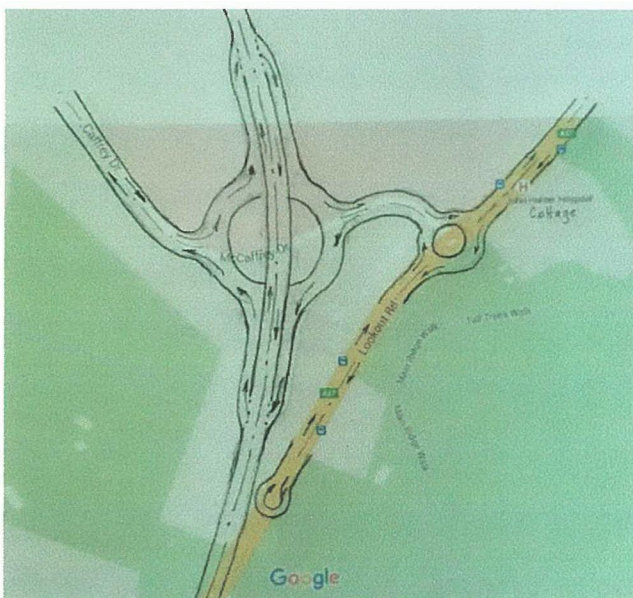
Added, is a southbound access from McCaffrey Drive via a one-way residential road on Lookout Rd plus two traffic light systems.

Still no consideration given for "peak traffic flows" northbound or southbound to/from the Bypass and McCaffrey Drive.

Still no southbound access to John Hunter Hospital from the bypass, nor to the Hospital and Lambton or New Lambton for those residents on Lookout Rd south of McCaffrey Drive.

Still no northbound entry to the Bypass, or northbound entry to their property for those residents on Lookout Rd south of McCaffrey Drive.

Two bridges and the undercut Bypass are contrary to landform



Workable Option - Roundabout under the Bypass

Full northbound and southbound access to/from the By-pass for residents of Rankin Park, Elmore, and for the short section of Lookout Road south of McCaffrey Drive.

Full northbound and southbound access to/from John Hunter Hospital for residents of Rankin Park, Elmore, and for the short section of Lookout Road south of McCaffrey Drive.

Full compensation for peak flow traffic to/from McCaffrey Drive for the Bypass and John Hunter Hospital entry on Lookout Rd.

One bridge in keeping with the landform built over a distribution roundabout leading to a secondary smaller roundabout on Lookout Rd, all of which requires no traffic lights or delays.

Low-cost on/off ramps built as part of the over-pass abutments.

Free-flowing Bypass with opportunity to reverse direction.



Sketch showing an artist's impression of a city-bypass built over a distribution roundabout with integral on/off ramps built into the abutments to take advantage of natural landform.

The McCaffrey Interchange

The landform at the McCaffrey Interchange appears to lend itself to the Bypass being built **OVER** McCaffrey Drive rather than raising McCaffrey Drive above the Bypass, or lowering the Bypass into a deep cutting contrary to the natural landform.

Modelling of Traffic Flow.

It appears the revised RMS modelling of traffic flow using the Bypass from McCaffrey Drive for 2020 is now downgraded to 80-90 cars/day north, and 80-90 cars/day south, ignoring the serious issue of PEAK Flow, which currently banks-up in McCaffrey Drive often as far back as Elbrook Drive on busy work days waiting for the traffic lights at Lookout Rd. To assess the future daily average traffic flow on McCaffrey Drive towards the Bypass at 160-180 cars/day seems an unrealistic assessment of PEAK traffic flow requirements in 2016, nor as a projection for 2020.

Earlier RMS modelling indicated 16000-19000 cars/day travelling on McCaffrey Drive towards the Bypass which required on/off ramps to/from the northbound and southbound lanes on the Bypass. Now in 2016 for reasons unexplained the revised modelling suggests only 160-180 cars/day entering the Bypass by 2020, thus creating a major modelling conflict as justification perhaps for excluding on/off ramps at this important Hospital-Interchange?

Transfer of traffic Flow.

Having presented a modelling contradiction of traffic flow to justify excluding on/off ramps, the 2016 report then reverts to the earlier high traffic flow figures of 16000-19000 vehicles/day on McCaffrey Drive to illustrate the 2016 Revised Design will reduce traffic flow on McCaffrey drive by 15% from 19000/day down to 16000/day. This inference begs the presumption that the 2016 Revised Design will divert 8000-9000 cars/day to the southbound Bypass lane via the Lookout Rd one-way residential track, and the other 8000-9000 cars/day to the northbound Bypass lane via Grandview Rd, or via Grandview Rd > Marshall St > Cardiff Rd to enter the Bypass northbound lane at the Charlestown Rd intersection. This concept splits the high traffic flow entering the Bypass into two groups, being southbound via McCaffrey Drive and northbound via Grandview Rd but ignores the need for emergency access from the Bypass to the Lookout Rd entry to John Hunter Hospital, and ignores the requirement for emergency vehicles or unfamiliar visitors to reverse direction back to Jesmond, the university or to the M1.

Modifications and Costing:-

The RMS revised 2016 Design has failed to address the majority of resident-related shortcomings. The addition of meandering flyovers with southbound entry via a one way roadway from McCaffrey Drive have all been added at disproportionate impost ^(See Notes 1 & 2), including extensive cut/fill with costly overhead "in-situ" concrete construction to raise two meandering distribution roads high up above the Bypass plus two sets of complex traffic signals ^(See Note 3).

The 2016 RMS design has not addressed the majority of residential issues as outlined below ^(See Notes 4, 5 and 6).

Summary.

With traffic flow in mind there is a cost effective, simple, workable option, which is to construct a major roundabout below the proposed Bypass at the McCaffrey Drive Interchange with four on/off integral abutment ramps and a secondary distribution roundabout on Lookout Rd. This option provides for PEAK flow traffic in all directions as well as addressing **ALL** or most of the referenced shortcomings of the 2007 and 2016 RMS Designs, having less earthworks, less concrete construction, two-way access for Lookout Rd residents and rendering traffic signals unnecessary.

Questions:- Is the 2016 RMS Revised Design now cast in stone, or is there an opportunity to review a more favourable outcome for residents of New Lambton Heights, Rankin Park, Elmore Vale and unfamiliar visitors to the area?

Notes:-

1... The 2016 RMS re-design incorporated a SOUTHBOUND one-way entry from McCaffrey Drive to the Bypass via a traffic-light-controlled one-way entry road in front of private homes on Lookout Rd south of McCaffrey Drive, thereby restricting those residents from entering the by-pass or travelling north to reach the hospital or Newcastle via Lambton or New Lambton.

2...The impost of the 2016 RMS re-design includes the need for a deeper and more costly undercut Bypass to allow McCaffrey Drive to meander over the top of the Bypass, plus the additional high cost of high overhead formwork and concrete poured 'in-situ' (ie: poured in place) for the meandering roads overhead, rather than quick-fit pre-cast concrete beams placed on abutments using a crane for a straight-line two-span bridge. For this suggestion of an overhead by-pass with a roundabout below, the cost of earthworks for on/off ramps is minimal as they can be constructed integrally with the bridge abutments and eliminates the perceived need for a western hospital entry road.

3...The purpose of this by-pass was to reduce the number of traffic light restrictions, and yet the RMS have included additional oblique-angle traffic lights at the Lookout Road southbound entry point presenting an unnecessary additional risk for drivers entering the bypass and for drivers travelling on the Bypass suddenly being required to stop or slow down for entering traffic. Oblique-merge traffic lights at Harvey Norman near Gateshead are a nightmare.

4... Some of the issues which remain so far unaddressed by the RMS for this important "Hospital Interchange " include conflicting modelling for traffic flow in 2016 and into the future. This by-pass project requires simplicity of design for residents and unfamiliar visitors to the region. The residents of Rankin Park, Elmore vale, New Lambton Heights, and those who live on Lookout Road south of McCaffrey Drive should not be deprived of both north and south access to the Bypass, or to the John Hunter Entry on Lookout Road and the rest of the city.

5...Having been on highways and bypasses in Europe it takes only one small error of judgement for an unfamiliar visitor to the area or an emergency vehicle to be stuck on a road to a somewhere in a panic without an opportunity to turn back, which is why this important Hospital Interchange needs the roundabout option to allow local and visiting drivers to reverse direction on the Bypass at this location, and to have full access from all related roadways in both directions to the Lookout Road Hospital entry.

6... A by-pass built OVER a roundabout at this hospital interchange offers the following advantages:-

- a) **Lower Cost:-** Installation of a pre-cast concrete beam overpass with integral on/off abutment ramps takes advantage of existing land-form and would cost no more than the proposed multiple fly-over roads with traffic lights, and has an additional cost-saving by removing the perceived need for a Western hospital entry.
- b) **Less Delays:** Without the RMS traffic light systems at McCaffrey Drive and the RMS oblique bypass entry at Lookout Rd, the by-pass traffic will flow and delays will be reduced in periods of peak and low traffic flow.
- c) **Improved Safety:** Without the RMS option for an oblique-angle traffic-light control-system at the intersection of the proposed one-way southbound by-pass entry-track from Lookout Road, the risk and annoyance is reduced for drivers entering the by-pass, and for southbound drivers already on the By-pass.
- d) **Resolves Conflict:** This option prevents the conversion of residential Grandview Rd into a main access road to/from the By-pass for residents in Rankin Park, Elmore, and Elmore Vale. The roundabout option allows for reversal of direction for by-pass traffic and provides access to the hospital entry on Lookout Rd for by-pass traffic and for local residents including those living on Lookout Rd south of the Interchange.
- e) **Meets Requirements:** Objection to roundabouts usually relates to limited traffic flow which is approximately 3600 vehicles/hr, whereas in this situation the suggested roundabout would only be handling suburban traffic, of which only some will be entering or leaving the by-pass, therefore the roundabout would not be required to handle the RMS assessed traffic numbers already travelling north and south on the By-pass.

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10th December 2016

Attention: Director, Transport Assessments
Planning Services
Department of Planning
GPO Box 39
Sydney NSW 2001

Jesmond Interchange

December 2016 Revision

Dear Sir,

Ref: Newcastle Inner City Bypass – Jesmond to Rankin Park
Jesmond Interchange – Submission for Review.

With great interest I studied the RMS Aurecon by-pass designs for the Jesmond Interchange for which the latest 2016 RMS layouts appear to have used an extremely complex set of traffic lights which may be avoidable, which would allow the project to proceed at much lower cost by utilising much of the existing roundabout layout and partially duplicating the current on/off Northbound ramps for the Southbound construction.

Previous issues experienced with vehicle accidents at the existing roundabout at Jesmond were related more to the complex entry-point design and driver impatience rather than the roundabout itself, and roundabout traffic lights were installed to handle the driver-impatience, angles of entry, and design complexity.

Objection to roundabouts usually relates to limited traffic flow which is approximately 3600 vehicles/hr, whereas in this situation at Jesmond the suggested roundabout would only be handling suburban traffic, of which only some will be entering or leaving the by-pass, therefore the roundabout would not be required to handle the RMS assessed traffic numbers already travelling both ways on the new By-pass.

The following attached pages show my understanding of the latest RMS design for the Jesmond Interchange and I've included an artist's sketch showing the Bypass built OVER Newcastle Road simplifying the traffic movement, eliminating the need for traffic lights altogether, and providing opportunity for emergency vehicles and drivers unfamiliar to the area to reverse direction on the Bypass and/or Newcastle Road when necessary.

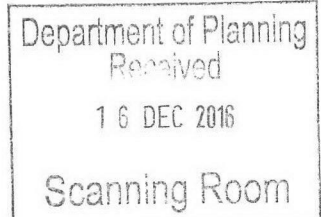
I submit these thoughts and ideas to you in good faith, and welcome your response regarding the option of a much more workable and cost-effective road plan than is currently proposed by the 2016 RMS design, for this important Interchange

Yours faithfully,

Geoff Stewart.

Attached:- p 2 of 3 - sketches of the RMS complex traffic light system, and a simple roundabout option
P 3 of 3 - some additional notes supporting a roundabout option.

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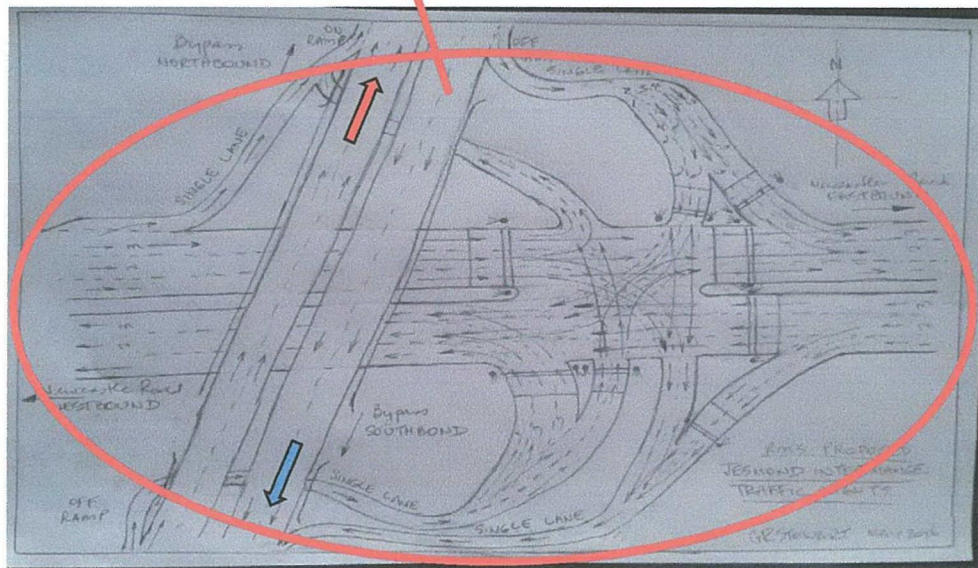
Bypass Southbound



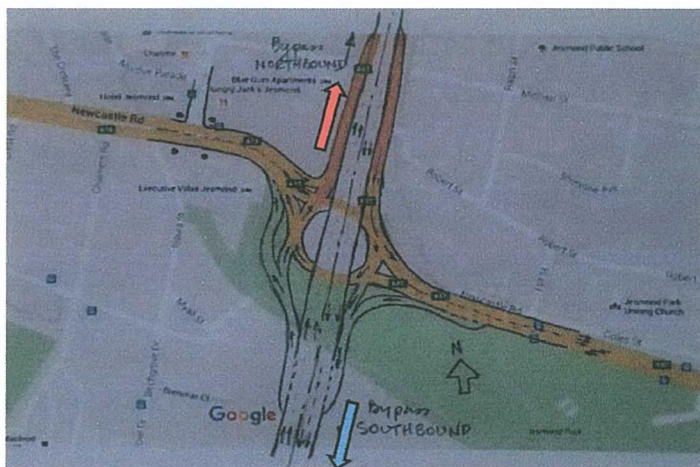
Bypass Northbound



2016 RMS Proposed Jesmond Interchange with highly Complex Traffic Light Control on Newcastle Rd



The 2016 RMS highly complex, flow-disruptive Traffic Light System designed for Newcastle Rd.



A simpler option for the Jesmond Bypass with on/off ramps.



Artistic Impression of Overhead Bypass

The lower two sketches illustrate a Lower-cost, Free-Flowing Option, using EXISTING Roads, Ramps & Roundabout, with ZERO traffic lights and an opportunity for all traffic on the Bypass and Newcastle Rd to reverse direction when necessary.

Landform and Available Land-space

The landform at the proposed Jesmond Park Interchange lends itself to the Bypass being built **OVER** the Existing Roundabout, utilising both the roundabout and the Bypass road to the north which are already in place. The traffic using the roundabout will be reduced by the introduction of the Bypass and roundabout renowned world-wide for improved traffic flow and safety when space is available, as it is here at Jesmond.

Traffic Lights.

The use of traffic lights in highway or bypass applications can be a serious safety hazard usually indicating a lack of road planning, and the installation of such a complicated series of traffic lights at the Jesmond Park Interchange would be a serious disruption to traffic Flow with an added risk for local and visiting drivers entering and leaving the bypass suddenly being confronted by traffic signals and having to make a highly complex decision on the correct pathway through this incredibly complex set of traffic lights when it is totally unnecessary.

Reversing Direction.

Having been on highways and bypasses in Europe it takes only one small error of judgement and a visitor or stranger to the area in an emergency can be stuck on a road to a somewhere in a panic without an opportunity to turn back, which is why this important Hospital Interchange needs the roundabout option to allow local and visiting drivers to reverse direction on the Bypass to reach the John Hunter Hospital, and to have the opportunity to turn back on Newcastle Rd if necessary.

Summary.

The complexity of the traffic light control system being recommended by the RMS for this Jesmond Park Interchange is so disturbing that the above suggestion for a simpler and more cost-effective option might prove worthy of consideration.

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