Richardson from Cox Richardson who will talk about the plan and the plan itself in more detail for you.

Our involvement in this project started in 2002. As the Mayor quite rightly said, it has a long history. In 2002 the very first thing we did was we approached Council and had a series of meetings with Council to run through what Council's vision for the Mortlake Peninsula was. Clearly there was a lot of old industrial buildings there, quite a number of those buildings have contamination issues and there's obviously a lot of expense involved in remediating those sites and bringing them back, as you've all experienced with a number of sites along the Parramatta River.

As a result of that consultation with Council back in 2002, we then made a decision to move forward and consolidate the sites.

Now those discussions about Council's vision for the peninsula revolved around quite a number of issues. Not only contamination but the key community benefits that Council wanted to see from the urban renewal down on Mortlake Point, the Council's proposed changes to planning controls, densities, heights and car parking were all discussed, and Council expressed a strong preference to us to have a cohesive and consolidated plan for Mortlake Peninsula as opposed to just a series of small one off developments.

Now I'm sure most of you or many of you probably live in streets where you've seen a small development go up. The development goes up, minimum setbacks, street trees out the front and that's the extent of the development.

In this case what Council were hoping to achieve was something over a larger area with a much more cohesive architectural outcome. In other words, a series of buildings that worked together, that related together, that improved the public amenity and the private amenity for the people that were going to live there in the future. Open space, access to the foreshore.

There are some Council infrastructure issues particularly with stormwater which they wanted addressed as part of it and all of these issues can only be addressed and can only form part of a cohesive development of a number of sites as opposed to just a series of small one off developments.

As I said, that was 2002. Seems a very long time ago I must say, and off the back of that consultation we then moved ahead to consolidate the sites and as you can appreciate that took quite a number of years to do so. When we consolidated the sites and the time came to commence the planning process and the evolution of the proposal going forward with Council, the very first thing

we did, we went back to Council.

We went back to Council to discuss the sites that we'd managed to put together. Some of the sites in that period of time had been developed as one off sites because the process had taken time, and so for the avoidance of, and I really do want to reiterate we didn't do what most developers do which is create a plan, perhaps go and have a pre DA meeting with Council to fundamentally submit what the developer thinks is right and then push it through the DA process. We went to Council, we discussed the evolution of the plans.

Those meetings with Council were many and numerous. They were with both Council officers, they were with Council Departments, they were with Councillors, including a meeting with the full Council which was also attended by Council's former Chairman of the SEEP 65 Review Panel. You may be familiar, the SEEP 65 was a planning control introduced to improve the quality of developments and the quality of amenity and Mr Peter Stronnach, the former Chairman of that panel, attended that meeting to provide some expert input to Council on the plans. Because we were working with Council to create a plan and a concept plan which all parties were comfortable with and all parties could be supportive of.

So I'd like to probably just say this if I could at a more personal level. One of the questions you're probably asking yourself is why did this fellow go through this process as opposed to just putting in the DA? I have to say to you that I've been in this industry for quite a while, I do take a bit of a different approach to most people. I, like you, live in community and I live in a community that's undergone enormous change as a result of urban renewal and density, the policies are thrust upon us all, and all of us have an interest in our communities and hence you're here tonight and I appreciate the fact that you have taken your time tonight to come along.

We found historically that working with the community, working with the Council to achieve a plan, that achieves everybody's outcomes, results in a better outcome for everybody over time. At the end of the day people are going to have to live in this environment, you people probably already live in the environment so it needs to work for you and for us, we want to do something that we can say that we're proud that we did and it stands the test of time.

Our work up to 2010, believe it or not that took us up to 2010, was totally consistent with this approach and we've introduced many changes that Council suggested over that time into our concept plan to reach a plan which, at that particular juncture, Council officers and Councillors were supportive of.

So then the obvious question is if we've reached that wonderful point, why did we go Part 3A? The reason that we went Part 3A with the concept that had been created in consultation with people and with people's support was at the 11th hour, unfortunately after all those years we were advised that there was no longer unilateral support for the project. So unfortunately, after eight years of work that had gone into the evolution of these plans, without the unilateral support, we were left with no alternative but to lodge a Part 3A application to see the concept move forward and hence we've ended up at the Department of Planning.

Now it's very important to say at this juncture that notwithstanding that the plan is with the Department of Planning, our concept plan is with the Department of Planning, as you've heard from the gentleman from the Department of Planning there's the opportunity for you people as individuals to have input, there's opportunity for the Council to have input and we as the proponent have an obligation, which wasn't mentioned, we have an obligation to consult with the community as well, which we've done.

So we have to then incorporate that feedback from the community in our response to the Department and also to take some of that, take them on board and adjust the plans if necessary.

So I just wanted to say that notwithstanding it is in the process, there are those formal obligations upon us and there's also the ability for both Council and yourself to have input, but also we remain committed to continue to consult with Council. We remain committed to, where possible, assist in the resolution of community issues and we also remain committed to considering community benefits that may arise from the concept plan.

In this regard I would like to just take this opportunity to formally thank all of us who attended our public consultation evening earlier in the year and also the nearly 100 people that attended our public consultation evening on Thursday last week. We do appreciate you taking what is your private time to come along and be involved in our community consultation and I just want to assure you that your feedback is very valuable.

We do listen to what you say and you'll be very pleased to know that many of the items that were raised, some quite some constructive comments came out of last Thursday and many of them can actually be incorporated quite easily into our concept plan. So again, if it's constructive comments come out of this evening, we'll most certainly be considering whether they can be adopted and incorporated into our plan.

Brian mentioned earlier on at the end of the evening we have brought along some boards from our public consultation evening for those of you who would like more time to look at those quietly on your own and have a look in more detail. Alternatively, for those of you who would like to ask us questions, we'll be available for that and only too happy to work with you.

So on conclusion I hand over to Mr John Richardson from Cox Richardson Architects.

JOHN RICHARDSON: Thanks Ian. I hope everybody can see, I'll try and stand as far to the side as I possibly can. We have been involved in this project now for about four years because when Ian and his group had succeeded in amalgamating all the sites, then it became time to look at what the plan might be.

As Ian has said, the site obviously is industrial uses at the moment. It is zoned for residential, it's also zoned in part for business. I'll explain exactly where the sites are in a moment when the machine stops seizing up.

I think the first thing I would like to do while we're waiting for that is to just clarify something about the floor space ratios that people are talking about. The floor space ratios that we're talking about on this project are what we would call net. In other words, they are the floor space ratios that apply on the site itself, they don't include the roads and the parks and so on that exist in the area.

When you're making a comparison with Breakfast Point, the floor space ratio at Breakfast Point is .75 but it's across the entire area and it includes what are now all the roads and all the parks and so on that exist at Breakfast Point.

Some of the sites at Breakfast Point go up to a floor space ratio of almost 3, not 2.8 as we calculate it. So it is important to bear that in mind when making some sort of comparison between the floor space ratios at Breakfast Point and the floor space ratios that we're proposing here.

The sites we're talking about are sites here, here and here. Though run along the edge of Hilly Street, Bennett Street through the centre, Northcote Street through the centre running the other way. So they are the three sites and as you can see if you look with the other boards, I think about 28 different sites have been amalgamated to create this development opportunity.

As Ian has said, a lot of that land is contaminated and decontaminating land is not cheap. The existing uses of industrial have a very different sort of traffic configuration to residential. So obviously the change will mean a change from

trucks to a change to cars.

As I've already pointed out, we need to be careful when we talk about floor space ratio. To compare Breakfast Point at .75 to this proposal at 1.5 is totally unreasonable and in fact incorrect.

The principle of the plan was to, our starting point was actually what do we need to do to create a better public domain? So we looked at the site and we've come up with a plan that obviously has waterfront access because that's a Council requirement anyway and we totally support that. It also has a connection, a public connection through extending Whittaker Street through the waterfront.

What that does in our terms is it means that then there is a connection all the way around the Peninsula Road and through Whittaker and down to the waterfront so that the waterfront actually connects with Breakfast Point through to the waterfront over on Majors Bay without actually having to go out to the point.

We've also created a viewing corridor through here. We've already created another one - as you come along the walk from this direction, there's also one that works both ways that brings you into the centre of the site in this location here. In addition to that we've got a public way that goes through the site down to the waterfront through there and we have a small park in this location which really signals the arrival point between this connection across from Breakfast Point and the other side of the peninsula through to Majors Bay.

Then the buildings simply address those walkways in a fairly sensible and measured fashion. And to speed things up, essentially the heights we are proposing are three storey buildings in these waterfront areas through here, four storey building here, one six storey building there, three to four storeys there, three and then four storeys there and four storeys around the edges and then one nine storey building in this location here.

We've located that height there because there is a relationship between the buildings across the peninsula on Breakfast Point. They go up to nine floors as well and we considered this was a location which would have in a sense minimal impact if one looks at the totality of the site.

This one just describes the height. We have approximately 400 apartments proposed, that depends a little bit on the size of the apartments and car parking in accordance with Council's codes.

This diagram here, these drawings are best looked at on the boards but what we've tried to do is show the heights of Breakfast Point when it's finished, which are all these buildings here through here, through here, and then related it to the buildings that are proposed in this development to see what the impact would be from a distance. One of the principal interests we had was what would it look like when you look at it from all of the advantage points that are around the waterfront? So you will find in the application views from all the public places around the waterfront of the impact of the development. We would argue that in reality, the impact of that is very minor.

Next one. Now the traffic is an issue that's been raised by the Council. We were asked to look at two different scenarios to assess the traffic. One was the previous and existing industrial use, what was the traffic implication of that, and then secondly what was the residential use impact?

In doing that assessment, our traffic consultant looked at all of the possible future developments in the whole of the peninsula, not just the development that's proposed here. The conclusions from his work, that the local road functioning won't actually change, that less traffic is generated by residents in development compared to industrial, and that this development will have no impact on the level of service at the remote intersections.

Now I appreciate that you're all traffic engineers and you understand these things and what we're doing is we're removing the trucks.

Now these images show the changes between the existing environment in these streets, which is pretty poor we would argue, and these just indicate how these streets could change as a result of the development. Trees, footpaths, narrower roads, car parking and so on. Narrower carriageways so that you reduce the sort of impact of the traffic. So this becomes a much better environment than the one that exists there today.

As Ian has pointed out, if it remains being little bits of piecemeal development, then these streets will remain exactly as they are today.

Next one. So in summary, I think what we're basically saying that the land is consolidated, it creates a serious opportunity to improve this area. I'm not sure if everybody who laughed lives in that street but anyway that's their business. So we are proposing something that we consider will considerably enhance what will happen in this location here, over and above what will happen if it's little piecemeal development, trying to pay for the decontamination of the site. Thank you.

BRIAN ELTON: Thanks John. We have two more speakers before we hand over to you for questions and comments. Our first speaker is Gary Shiels of GSA Planning. Gary's firm has been commissioned by Council to examine the planning issues associated with the concept plan. Ladies and gentlemen, Gary Shiels.

GARY SHIELS: Thanks Brian, Mr Mayor, ladies and gentlemen, as Brian said, we've been engaged to do an independent assessment of the planning merit of this application. We've been involved in this project just the last week or two so we haven't gone through all the documentation in any detail. We have looked at the site in some detail. We have looked at the issues and we have looked at many of the points of concern that have been identified by various persons.

I think I should say the obvious to you firstly, and the Mayor's touched on it, that Canada Bay is, and has been, subject to a lot of development pressure for some considerable time and that development pressure brings about issues that affect residents and issues that need to be dealt with by planners.

We've had the Rhodes West Peninsula, which you're probably all familiar with. A slightly different scenario in so much as it has a rail service and Council in that instance moved quite strongly to limit the car parking in and around that area because of the obvious problems with it. Notwithstanding that, it also had access to some arterial roads.

You'd be intimately familiar with Breakfast Point and there's been issues with Breakfast Point with the confusion between some of the public and private domain. Some of the traffic generated and whether public and private parking has been appropriately dealt with.

It's been suggested that this site has a density of 1.5 or less than that with Mr Richardson's suggestion and comparison with Breakfast Point. In the documents submitted by Cox Richardson they suggest that the Breakfast Point overall floor space calculations of .7 to 1 and that the proposal is 1.09 to 1 overall. They're figures we need to have a look at in some detail but certainly the overall floor space proposed is in the vicinity of 1.43 to 1.

There is agreement, I think, that some sort of coordinated development is better than an uncoordinated development and there is probably also agreement that moving some of the industrial buildings that might have contamination out of the area was desirable. But when you get a major development like this, there are clearly issues that arise.

Some of the issues we've been looking at and have identified at this stage is the

relationship of the proposal to the foreshore. Some of the views from various areas contained in the Cox Richardson report indicated to you. Massing models really don't give you a really good indication of what you'll see but they do give you an appreciation for how much building you might see from various locations.

That probably comes to the second issue that needs to be considered and that's the context and character of the development in relation to development in the immediate area and its relationship to Breakfast Point. Clearly in the development in the locality and how it might fit in, it's very much an important consideration that planning needs to consider.

Probably the lead item on the list of issues is the scale and density of the proposed development and the potential impact that the development might have on the immediate and surrounding area and that manifests itself in any number of ways.

There's the relationship of the buildings to the open space, is there going to be a better result for the foreshore and for the general public and the relationship of the private versus the public domain? Will that be improved for residents benefit? Will there be limitations on how that gets used?

When you've got a building or series of buildings, albeit master plan buildings, where the floor space is greater then clearly the density is greater, you get an increased amount of car park. I think the Mayor mentioned when you're on a peninsula, your options for car parking in and/or cars in and out is limited and you need to be looking very carefully at what the alternatives are and it's not simply a case of saying well, ferries and buses might take care of this. There is really a serious item or issue that needs to be addressed.

Interestingly the applicant's traffic engineer, and I think his findings have been identified this evening, doesn't see a problem with the traffic generation of the proposal. This is not necessarily the views that are held by the person who has been engaged by the Council and he will speak to you in more detail about that.

Just apropos of absolutely nothing, I am a traffic engineer as well as a planner so I can relate to the figures but again I won't steal any of his thunder, I'll let him address those matters.

Clearly density does bring issues relating to traffic. Clearly traffic does bring issues relating to amenity and at the end of the day they become key considerations that the Department of Planning and Council need to take into consideration. Thank you.

BRIAN ELTON: Thanks Gary. Final speaker is the traffic engineer who has been engaged by the Council to do an independent assessment, Mick Bridgeman of Transport & Urban Planning, Mick.

MICK BRIDGEMAN: Good evening. My name is Mick Bridgeman, I'm a director of Transport & Urban Planning. We're traffic, transport and road safety consultants, we were engaged by Council in mid 2010 to undertake a traffic study of the entire Mortlake Peninsula, not just the area that Ian and John have spoken about beforehand. My understanding is that their development represents about 22 percent of the total area.

Council asked us to do a number of things. One was to assess the existing situation. That was pretty straightforward, it's a matter of measuring what the traffic issues are now, the volumes, what the service levels are at critical intersections, what the constraints are.

We looked at a scenario where full development would occur under the existing LEP, LEP 2008. As I said that was done back in 2010, some of that additional development has already occurred. We haven't brought it up to date. But in short, the third and fourth scenarios were a 50 percent increase in floor space ratio for the entire peninsula, 100 percent increase in floor space ratio for the entire peninsula.

So we looked at the existing traffic, we developed a road hierarchy which effectively shows the blue roads are the RTA roads or the state roads, the sub arterial roads where the RTA may give Council funding for improving the operation and performance of those roads, and of course there's the collector roads.

Now whilst we're only talking about this area up here, is this up on a board that people can look at later on? Effectively what we have is a road hierarchy and we've measured existing traffic volumes on those roads under the different scenarios. We've made projections of what impacts the various scenarios would have though on roads. Roads.

To put it in some sort of quantitative terms, the RTA and Austroads talks about environmental capacity of a road. They talk about in the peak hour being about 500 vehicles an hour two ways being an environmental capacity for those roads.

When I talk about those roads I'm talking about the purple ones, certainly not the yellow ones and the state roads.

Having said the environment capacity is in the order of 500 vehicles an hour, we then had an operational capacity which is about 900 vehicles per lane. A lot of those roads are in excess of 500 vehicles per hour now and up towards the 900 vehicles per hour in the peak times. So there's not a lot of spare capacity there at the moment.

Next slide. The existing roads are at environmental capacity now and close to operational capacity now. The scenarios in the greater DCP provision would cause additional traffic congestion on the feeder roads. Now that simply means if that were to occur, there's a need for some sort of remedial works on those roads.

There are many ways to deal with it but major - some of those local roads would be to provide four lanes of traffic through routes, upgrade the intersections. That certainly takes away from the capacity of amenity of those roads as they are today but that's what we've got to balance out and that's what this is all about, whether we upgrade roads to cater for traffic or whether we preserve these roads and maintain their capacity of amenity.

New public transport services to the peninsula. It's served well by buses and ferries at the moment and in contacting those organisations, the common response is when the demand is there, they'll put on more buses and they'll pull on put on bigger buses and the same with ferries, they'll run more frequent services. But I think to convince yourself that buses and ferries is the ultimate answer is really not the way to go. It's part of the answer but not the full answer.

So we do have additional development in there in those increased scenarios then there's a need to undertake some sort of management traffic planning and some remedial works on those roads. That's about all I've got to say for the moment. Thank you for your time.

BRIAN ELTON: Thanks Mick. We're exactly where we need to be in terms of time so we have probably a full 45, 50 minutes to take your questions and comments. Heather here will be running around with this microphone and just to remind you of the process, I'll invite someone to make a comment or ask a question. Allow that question to be answered, allow you just to follow it up and then I won't come back to you until I've exhausted hands in the air. Is that okay? Thank you.

So very much over to you, gentleman here and a lady there. Start with the gentleman in blue. If you could give us your name and where you live or

whether you're representing an organisation.

PAUL DRIVER: My name is Paul Driver, I live on Tennyson Road in the Rosewood building. When we moved to Breakfast Point eight years ago we spoke to Council at the time to find out what the likelihood of development was going to be in the area. It went on from there and we were advised that we were looking at the LEP, that it would be about twelve metres in height with floor space ratio of .75.

I agree that we need to do something with Mortlake Peninsula but you talk about it being a coordinated plan. At the moment the developer does but I don't see that because it's one part of Hilly Road heading towards the water, it's not what occurs between Tennyson Road and Hilly Road.

I think if the development was restricted to the 12 metre limit I think there's some merit, but I find that a proposed nine storey building, and I've located that, it's directly opposite where we live, our building which is a five storey building would be sandwiched between the nine storeys building at Breakfast Point and a nine storey building on the peninsula.

The other point that I would like to raise is concerning the traffic. The traffic is quite heavy at the moment, as has been mentioned, but one of the things I think people don't realise, that we are on a peninsula, there is really one major road into that peninsula and in the event of a major emergency or if there was a need for an evacuation, and people forget I think in a lot of cases that underneath Breakfast Point, particularly along Tennyson Road, there's a lot of gas mains that still supply large parts of Sydney. If there was ever to be an event there that required an evacuation, it would be difficult to clear the peninsula.

BRIAN ELTON: Thank you very much. Do the proponents want to make any response to that issue?

IAN EDWARDS: No.

BRIAN ELTON: I have a lady here.

VERONICA PERERA: Hi, my name is Veronica Perera, I live in Bayard Street in Mortlake and I would like to, one of my favourite, Majors Bay which this development is on, has a perimeter of mangroves that have been protected for many, many years and we're finally getting them to grow and actually clean up the river.

Majors Bay is not a deep water port, it's very shallow. As a matter of fact my kids used to call it "the mud bath" because at low tide you could actually walk across Majors Bay without having to swim. So I want to know what impact is this rather excessive development, as I see it, going to have on the natural environment of where we live?

BRIAN ELTON: A response in relation to the proponents that environmental studies be undertaken?

IAN EDWARDS: Thank you. The answer to that question is at the moment, firstly with regard to mangroves, there is no plan to damage any of the existing mangroves and we fully acknowledge that the mangroves are something that are steadily, as you quite rightly say, increasing their area that they're in and we acknowledge that. As a matter of fact, I'm happy to stand corrected but I think they're in fact protected, I don't think you can touch the mangroves.

The bottom line is we're not going to impact the mangroves at all.

In terms of the quality of water, there is to be a major improvement to the quality of water going into the bay because at the moment you've got a situation where a lot of the stormwater runs down the streets, and particularly Northcote Street which is a street that is at a low point, there's a lot of water that runs down Northcote Street and for those of you who live down there you're probably familiar with the big drainage ditches that you drive through as you go along Hilly Street. That water at the moment just runs unfiltered and uncleaned into the bay, along with a lot of rubbish. I'm sure if you've been down there after a heavy rain, you'll see a lot of rubbish washed off the streets into the bay as well.

As part of this development, and this again comes with and please don't misinterpret me in saying this it's just fact, again if this was developed as small, compliant individual lots, there would be no work done on these streets.

Now Council to their credit, when we first approached Council, acknowledged that there was a significant problem with the existing street infrastructure, the stormwater infrastructure, and asked us as part of this development, in return for increasing some density, to install firstly what's called gross pollutant traps that collect all the heavy debris from the streets before it hits the bay and also the street tree plantings that you see particularly in Northcote Street and Eglin Street are in fact, where the road gets reshaped for the water to be directed off the road into the base of these trees into what are called bioswales, where the water is effectively cleansed. Obviously it's not drinkable water but it's cleansed to a point where when it comes back up and heads into the bay, it's

certainly much cleaner and the gross pollutants are removed from it. That is a significant improvement in terms of the quality of the water that runs into the bay.

As for the development itself, at the moment you've got large areas of concrete because it's industrial, most of the sites are in fact covered in either concrete or industrial buildings. What happens with these developments is you end up with very large areas of open space and porous ground, which of course decreases the run off as opposed to what's there now.

In addition we've got 7,000 square metres of landscaping in this proposal. In addition to that you've also got a situation where we introduce retention and you're probably all familiar with that, in most new development there is stormwater retention. So again it's reduced not only with the increase in permeability but also the retention. Most important is the street issue for the lady's concern about the mangroves.

BRIAN ELTON: Very quickly would you like to respond?

VERONICA PERERA: My other issue is the added impact on our environment by the increasing population of the area.

BRIAN ELTON: The gentlemen here.

ROD JEFFREY: My name is Rod Jeffrey. I'm a resident of the Breakfast Point community. It seems to me that really the key to all the problems here is the floor space ratio. Because floor space ratio, if it's very high which is what is being proposed at the moment, means massive building, height of building, a lot of traffic. So if we had a lower floor space ratio then we would be in a far more comfortable position for most people sitting here.

There's reference been made to floor space ratios in Breakfast Point community and I think if one were to survey of numbers of people in Breakfast Point community now you'd find considerable disenchantment with the floor space ratio in parts of that community. Some parts are great, other parts are becoming extremely dense and will become more and more dense. Parking problems already occurring.

So I think there shouldn't be an assumption that already that's a benchmark which is a good benchmark, there's parts which are most unsuitable.

The next issue is that what really we should be looking at as a reasonable floor space ratio and the first point we should start with there, and I ask Council to

clarify this, what is the current zoning? I understand the zoning is both residential and industrial in the areas that are to be redeveloped. What the floor space ratios for that?

Secondly, there are a number of developments currently under construction in that same area, one of which has being completed recently and two other quite big ones are residential developments. What are the floor space ratios of those?

And thirdly, what is Council's opinion as to what they believe is an appropriate floor space ratio? Thank you.

BRIAN ELTON: Thank you. If I could look to Council to respond to those three questions about existing floor space ratio and zones, floor space ratio of surrounding areas and whether you have a view of that.

TONY McNAMARA: Thanks, Tony McNamara, director of planning and environment with Canada Bay Council. The zoning over the peninsula at the current time is general residential. It allows a variety of developments but principally in the locations we're talking about density of 0.75 to 1 for residential and density of 1 to 1 for industrial developments.

We don't get industrial development really on Mortlake any more but when those sorts of densities were created going back about ten years there was still a reasonable mix of industry on the peninsula. But it's desirable to clean up the peninsula and clean up all the contaminated sites and so forth, but the intent wasn't to drive out the business overnight. So the zoning does accommodate those.

The question of what is the appropriate density over the peninsula, it's not just a number that's been grabbed out of air. Going back quite a period of time the Council has done a number of studies over the peninsula. The traffic generation, which was a big concern, is directly related to the form of development and the densities over the peninsula.

So 0.75 to 1 for residential was identified at the time as a reasonable measure. It was adopted for Breakfast Point which has got some high density areas but spread out over a big site and it was also on the assumption that the balance of the peninsula would develop in larger and smaller clumps, but certainly not as big as Breakfast Point at that rate of 0.75 to 1, primarily being residential development into the future.

Now Mick Bridgeman has tested that and he found at those densities we're still

going to have issues with traffic into the future. We know we have them now and there's a lot of redevelopment to occur. A lot of the industry has gone and we've got a lot of vacant sites and there's a lot of new residential development to occur into the future.

So to try and answer the question Rod and in a shorthand version, at this stage we're saying .75 to 1 is the default density, we know the implications for that. For those densities to change to a higher number, it really needs some assessment of what that means and how we're going to achieve it into the future so that the local traffic system and the traffic system within Canada Bay Council area doesn't come to a gridlock at peak hours and that's the sort of test and examination that needs to be undertaken so we can stand understand that outcome. .

BRIAN ELTON: The final question is what do we know of floor space ratios of recently approved developments in the area. I think what's your final question.

TONY McNAMARA: I'm just trying to think of which developments you're referring to Rod, which ones are they?

ROD JEFFREY: I can't remember the name of the street but down from Anzol on the right-hand side, there's about a five storey, seven storey, opposite there's a very large vacant lot which has been cleaned up. Opposite the Hillsong church.

TONY McNAMARA: Is this the empty site that's cleared but not developed yet?

ROD JEFFREY: That's one of them.

TONY McNAMARA: Yes, to the best of my knowledge, that one is 0.75 to 1. It's not gone to a higher density. So for reasons that I don't know at this stage, I think the site has changed hands, it hasn't developed yet, it's got an approval on it but to the best of my knowledge that's just a complying density on that site .

BRIAN ELTON: Just to clarify it, we might come back via the minutes just to clarify that that is the floor space ratio for accuracy if you like.

Clarification added by Tony McNamara. The site at 100 Tennyson Rd has a DA consent No 40/2006. This site has been subject to two approved variations to design under section 96. The approved FSR complies with the 0.75:1 requirement for residential development on the site.

The gentlemen in the striped shirt.

JOHN TAYLOR: Thank you, John Taylor, I live in Breakfast Point towards the oval. I've heard about the traffic measurements that have been undertaken, I've heard about the density factors. An aspect that worries me is that we've already got a master plan in for Breakfast Point and that's going to occur, it's already been planned, the development is working around in that direction.

It seems to me that the part that Breakfast Point has or the developer has yet to complete there is largely moving towards this very site. Out towards Tennyson Road. That will be an area that I would be very surprised if it's not quite towards the higher density aspects of Breakfast Point because that's the direction of the recently developed parts are going. But it will also be developing traffic as well.

I would think from what I know of the Breakfast Point future development probably almost in the same size as the development that is taking place there. So that the traffic aspects that need to be looked at are not in comparison with existing traffic at all but in comparison with what his future plans at Breakfast Point are. I would say they're very, very severe indeed in that area.

BRIAN ELTON: Anyone want to comment on that before I pass on to this gentleman here?

LAURIE INITIV: Laurie Initiv, I live at Breakfast Point. I'm going to get a little bit technical here with my comments so I apologise. I'm going to talk about the contamination assessment in the documents, all 200 pages. I'll admit I haven't read them from beginning to end. However, I've gone through them enough to form some opinions.

Some of the data is ten years old on the Anzol site which hasn't been remediated so there may be significant changes. There may be something that's been leaking for the last ten years which makes those results obsolete.

In reviewing the reports I do not believe they comply with the EPA guidelines and I certainly do not believe that the report satisfies the requirements of SEPP 55 which requires all remediation options to be identified before approval's given.

Certainly when you look at the report the number of sample locations appears to meet the EPA guidelines but they haven't tested every location for all the contaminants. More importantly they haven't used a PID measuring device

when they're doing their work and that picks up volatiles which cover things like solvents. They are really a concern and they've only been tested at some locations.

They actually had one very, very high hit but because the actual test results aren't presented I don't know which particular contaminant that is.

The problem with solvents are they are heavier than water so if they get in the ground water they can go offsite and they're very hard to control. The lack of ground water study is of concern particularly because of the presence of these volatile compounds and is another reason I believe it doesn't comply with the EPA guidelines.

I'm not sure why but there is no auditor appointed at this stage, an EPA accredited auditor who would, I'm sure, pick up all these points. So that's my question, when is an EPA auditor going to be appointed? When are the deficiencies in the report going to be addressed?

BRIAN ELTON: Do you want to respond to that. The Department of Planning.

ANTHONY WITHERDEN: The first point I'd like to make tonight is that I'm not an expert on contamination. We do have people in the Department of Planning who have expertise in this area and we will consult with the Department of Environment and Heritage and they will give us advice on contamination issues.

Now in terms of the appointment of an auditor, it depends on the level of contamination that's found within the site and we'll be taking advice from the Department of Environment and Heritage on those kinds of issues. The appointment of auditors and the like usually form conditions of approval.

Now one thing you should know with this application is that it is a concept plan approval so that level of detail may be required at a future stage in the assessment. As I said, we will consult with the Department of Environment and Heritage and will be guided by them in those kinds of matters.

BRIAN ELTON: Do you want to make a comment?

IAN EDWARDS: Thanks very much. That's not much more to add. There is a very, very strict regime determined by the Department on contamination and how it has to be handled and quite rightly the auditor will be appointed at the appropriate time. The auditor then sets out I think what's called remediation action plan. The remediation action plan sets out the tests that are required, the

processes that are required and then in terms of the removal or remediation of the contamination how that is handled.

So the bottom line is it is determined independently and an auditor will be appointed at the appropriate time. Thank you.

BRIAN ELTON: Gentlemen here.

MURRAY PLATEAU: Murray Plateau, also Breakfast Point. Now I'm sure everyone is familiar with the statement that there are lies, damn lies and statistics. Now I'm looking at just the traffic study and if you've compared what I think you have compared, which is a full working industrial site as against a residential site and you came up with a fact that there was going to be no increase in traffic, but that is not what we have here. We have a derelict industrial area. There is very little traffic generated by the industrial area at the moment.

Now if you're going to tell me that that was a valid statement that fits under my previous statement about lies and statistics, so I would like you to clarify that and I would like to point out to you people that there is no parking around anymore at Cabarita Park for the River Cat traffic because it's already full at the moment. So if there are extra River Cat services out of Cabarita, nobody will be parking, you'll be walking there. It's alright for me, it's only ten minutes.

BRIAN ELTON: Any response? I had a gentlemen here waiting for a while.

VINCE SHERRY: My name is Vince Sherry, I live in Albion Street, Concord. My main concern again is traffic. Let's be practical about this, I am not a road traffic engineer but basic common sense tells me that this is not going to work. Now the reason being as is it won't work, if we were to increase the lanes, let's increase the lanes. Let's increase the lanes out of the peninsula, out of the very few exits we have. Where are they going to go to?

Are they going to say to Parramatta Road: Stop we're coming out? Or are they going to say to Burwood, over the new overpass over Parramatta Road, get out of the way, we're coming through. Where are these extra lanes going to? Thank you.

BRIAN ELTON: Gentlemen here.

LEO KIRKIRAN: My name is Leo Kirkiran, I live at Concord West but I own industrial property at Mortlake. With these 402 units I presume they're going to be two to three bedroom apartments. Again I presume there's going to be

two to four people living in each of these apartments, how many off street car spaces have you guys allowed per unit? Have you worked it out yet?

IAN EDWARDS: We've provided carpark

LEO KIRKIRAN: But how many per apartment have you got? One, two, three? I've got to follow on, just give me a number.

JOHN RICHARDSON: For a three bedroom apartment it's two car parking spaces. For a two bedroom apartment it's 1.5, for a one bedroom apartment for one and that complies with Council's strategy.

LEO KIRKIRAN: Okay, I live in a house and we've got four cars. These days if you've got a couple of kids, they're past 17 years of age or older they've all got cars. Where are you going to put these cars? I've got a cousin who lives at Breakfast Point. We went to visit them a few months ago at night time, all the roads were chock a block, we couldn't find parking. So what's going to happen down there at Mortlake, all the streets there are going to be chock-a-block full of cars? You won't be able to park anywhere so you know, you need to provide more parking because these days it's not like forty years ago people used to have one car per family. Today it's two to three cars. So all the surrounding streets are going to be chock-a-block full of cars.

BRIAN ELTON: Thank you.

JOHN SIDOTI: Thank you, John Sidoti, member for Drummoyne. Let me just say firstly to commend you on the gathering here tonight, that it's been in very civilised and respectful fashion.

I just want to touch on a couple of points, car parking requirements and traffic flow. Now car parking requirements, you can go to any block of units anywhere in the municipality and the parking requirement to my recollection is an old LEP 1979, 1.2 car spots for a two bedroom unit, thereabouts. It's deficient and why is it deficient because you can't find parking anywhere where there's units, full stop.

There's no way Council can force someone to park in their garage, they can use that for storage, they can rent it out, they can do whatever they like and the reality is anywhere there's units you're not going to get off street parking. Look anywhere, whether it's Drummoyne, whether it's Five Dock, whether it's Concord or Rhodes.

Now while the applicant may be able to address the issues of car parking on

site, that's fantastic, but the reality is traffic flow won't be addressed. Not by this development, not by any development. The reality is studies have been done on the Mortlake Peninsula but they're not holistic studies, they're studies on just the Mortlake Peninsula. So if I live in Drummoyne, that development in Mortlake or Rhodes or Concord would affect where we are in Drummoyne. We use the same roads. They use the same roads, they use the same hospitals. They're looking to the get their kids into schools that the spots are very limited.

Now I'm not putting pressure on this development but there has to be a holistic approach in planning. That's why the new government has basically endeavoured to rewrite the whole planning system. It's not something that's going to take place overnight. They have been given a target for an 18 month period, something that was expected to four years and it's going to be rewritten from the bottom up. I'm standing here pretty much on, if it's a one issue thing I was elected on, this was it. Over development, lack of infrastructure, transport issues as a result of what we've seen.

So the traffic flow issue is not going to be addressed. I was at a meeting the other day in Braddon Street, they're suffering now before any development takes place. I was at Patterson Street a couple of weeks ago, same issue, I was at Warbank and Fovell streets, the same issue. It's really the tail chasing the dog. They put speed humps in, they put chicanes in, they put this and that in. You change driver behaviour, you address one issue of speed, then it becomes an issue of traffic, then it becomes an issue of rat running and there hasn't been a holistic approach to the municipality.

What I would have suggested you do, and having some experience in Council, was if there's such an issue right across the municipality every Council in New South Wales is currently doing an LEP, they're Local Environment Plan, and that's something that will last 20 to 30 years and has a vision. If Mortlake was such an issue and they should learn because I'm inundated on a daily basis from the bottom in Canada, Rhodes where you've got 25 storey developments and we're talking traffic flow. Parking is being a different story again there because the parking requirements in Rhodes have actually been relaxed in the hope people catch public transport. Let me tell you, you're not going to get people out of cars, it's not going to happen.

So my issue or my question is to the Council, if traffic flow's a problem, if a over development is a problem, if population is a problem, has Council by its LEP looked to down zone the peninsula or have they upzoned the peninsula?

BRIAN ELTON: Any response?

TONY McNAMARA: Thanks very much Brian. Great question, no, we haven't down zoned it, the government never allows you to down zone things. The Metro Strategy encourages Councils to put more density right across Sydney. So the approach that the Council has taken, which I believe is a very responsible approach, is to look at nodes such as where there's railway stations where there is an option for transport and try to focus the development in those localities.

The rail system in Sydney has work to be done obviously. They've increased capacity but that's where the capacity comes from. The roads are pretty tight and as a result, the peninsulas are the areas where we've experienced real issues with trying to get development to service the transport needs adequately. They don't seem to be well enough serviced by buses or ferries, you just can't keep up with that growth at the moment that is coming from those areas.

The reality is we're doing basically what the State Government demands, and it's not this government, it's the government before it that started it but it's this growth that occurs in Sydney which is pretty extreme. But we're trying to focus on areas where there is transport access and there is a real challenge of getting people to move from cars into public transport, at least Monday to Friday when they're just going to work. Weekends I think are another story where the roads are getting worse but that's the issue.

We're working with government directions, we are increasing densities by primarily around the public transport opportunities. Thank you.

BRIAN ELTON: A number of people on this side of the room.

TED CORSON: My name is Ted Corson, I've lived in Mortlake for fifty years. I was the local bread carter in the '50's and I was a milkman for 25 years so I've got a fair idea of what's going on.

We've been fighting, since 1981 they've wanted to close, a certain group of people, close Braddon Street, that means you people, a lot of new people here that live in Breakfast Point, if you wanted to go to the hospital or those sorts of things you'd only have to travel an extra kilometre and a half. If people don't want traffic going past their house they want to move to Cobar or Bourke.

Traffic is something that has just grown. You can put up with it. I'm 80 odd, my daughter is driving me around, I haven't got a car and we can pick say to go to Burwood or whatever between 10 and 2. It's something that we can all contribute to. Today after bingo at St Patrick's, beautiful morning tea, I counted

the traffic for fifteen minutes and it was eight cars an hour which is 480 an hour, it was eight cars a minute.

You know, you go to Majors Bay Road or Burwood Road, that 480 an hour is nothing. It was predicted at some of these different meetings that there would be over 1200. Now people hour I've never, ever counted more than 650. I think some of the things that the people with these exaggerated numbers have forgot to put in that the gasworks had 3,000 people working there, they carted all their ashes out in trucks, used to go down Braddon Street which was a ten tonne limit, now it's three.

The Council has done everything to slow the traffic down and I think that's it, slow it down, don't close it down. I think that we could probably look at the whole situation instead of just saying well, you know, I want this or I want that.

BRIAN ELTON: Thank you. Gentlemen here.

ROB BRENNAN: Rob Brennan, I live in Hilly Street. We residents of Hilly Street I think would be in agreement that even when a new block of units of fairly modest size is added to our street, that the traffic became significantly worse and the parking became significantly harder.

I've heard one of our speakers here tonight saying, and I think I heard this correctly, that we're going to have narrower roads to reduce the impact of traffic. I can't figure that one out. I do know that it's not uncommon when I'm driving along Hilly Street that I have to stop to allow a bus to pass me because there is not sufficient room with cars parked on both sides of the street to actually continue with confidence. Certainly if we've got narrower street in places like Hilly Street it's going to be a very serious problem.

It sounds also to me as though when it comes to getting the advice of experts, you can get whatever advice you want. We've had some very divergent opinions about what's going to happen to the traffic. I think the people who live in Hilly Street would say we know what's going to happen to the traffic. At present we've got a lot of undeveloped blocks, we've got a lot of factories that are not functioning and we've got heavy traffic. When all those areas are developed we're going to be in big trouble, as I understand it, with traffic.

I've heard the developers say we've got all this remediation work to do, therefore we have to develop to the height and the density that we proposed because it's going to very expensive to do the remediation. I don't think that should be laid on the residents of this area. Presumably if you buy a block of land that is polluted, you pay less for it because you're going to have to

remediate it. I don't think it's fair to say we've got to have a nine storey building, we got to have this floor space ratio because we've got to pay for all this remediation.

BRIAN ELTON: Lady here.

AUDIENCE: Good evening, I live in Norman Street and for those of you who were not part of the last meeting let me just say that we were told that the normal number of traffic or cars that should be in one road in a residential area is 1,000. I know this gentleman doesn't have a problem because he lives in Kensington Avenue with 380 cars. Norman Street at this point has 2,700 cars a day. We are seeing an increase of at least up to 3,500, if not 4,000 in the near future.

So we're not talking about the 200, 300, 400 car streets, we're talking about thousands and I'm not an expert, I'm not an engineer, I'm just a normal mother who has kids in that street and I find it a real insult to say that we're not experts but we have common sense.

Another thing is with the letter drop, if you want to double the size here, then you would have needed to make sure that we all had a letter drop. None of us in Brays Road, Norman Street or any of the main streets but oh, surprise, in the little streets on the side, yes, there was a letter drop. And I'm sure that you would also do a letter drop when it comes to your votes, we will get those letter drops, I'm sure. But nobody double checked that we have it in all the main streets that actually have a problem with the traffic.

I just think it's horrendous to think that I'm looking at this board where they said there would be no traffic increase and no real big issue because all the industry that was there before had more. Well, at the moment the industry that is there doesn't really have much traffic in my opinion compared to what it's going to be like if you have apartment blocks 400 at a time.

At this point I find it incredible that now we hear about a project that has already been in progress. How many are in progress that we don't know about? That's another point that I would really like to know because in another two, three years time you'll have another project coming up that was in progress for the last 20 years. That's all I can say.

BRIAN ELTON: Thank you. Just before I go to the gentleman over the back, did you want to respond about to the issues about contamination?

MAYOR ANGELO TSIREKAS: I'll respond. Just on your last point there

with notification, we're bound to notify people when there is a submission actually lodged by a developer. Until that time we don't have a submission. There are lots of discussions but until we get a final application submitted then we must notify.

With the letter boxing of tonight's meeting, we letter boxed a large area, over 3,000 letter boxes. I mean if you want the job done, you've got to do it yourself. There are some streets that did apparently get missed but that's a problem we've got to face because we really hope that everybody would have got a letter box tonight.

AUDIENCE: Unfortunately they were the ones with traffic problems that were missed.

BRIAN ELTON: Do you want to respond to the contamination question?

IAN EDWARDS: No, I was just going to respond to Rod about the widening of the streets. I apologise for misunderstanding there, when Mr Richardson was referring to the streets at that particular juncture he was talking about Bennet Street and Northcote Street, both of which are streets that are not thoroughfare streets, they'll be within the development. So they were to be narrowed and increasing on street parking to be frank, and increasing though bioswales we talked about.

Hilly Street we acknowledge is an issue and Hilly Street was acknowledged as an issue by our traffic engineer and in fact the proposal we've got before you in the concept plan is to widen Hilly Street. Hilly Street at the moment is below the width that's required to have parking on either side and safe passing traffic so this proposal will be addressing that and widening so that you don't have to pull over for the buses.

BRIAN ELTON: Gentleman up the back there.

GREG McGRATH: Good evening, my name is Greg McGrath, I live at Breakfast Point as well. I have a question for perhaps Council, perhaps the Department of Planning. The question is this, we've heard about the problems that this particular development might create to traffic on the peninsula. I have a great concern that if this development is approved at the floor space ratio suggested, that they will create a precedent for the floor space ratio that will supply over the rest of the peninsula.

So if you're concerned about the amount of traffic that there little development is going to the create, just imagine what might happen if a precedent is allowed

to increase floor space ratios almost double them over the peninsula. My question to both Council and the Department is if this is approved, is there a guarantee that no precedent would be created whereby somebody could go to the Land and Environment Court and seek double the density?

BRIAN ELTON: One for Tony and then Anthony.

TONY McNAMARA: Thank you. In respect of Part 3A, Part 3A has gone so this mechanism could not be repeated. The reason that Council commissioned Mick Bridgeman to do the study over the peninsula was on the basis that this development, you referred to it as a little development Greg but it's not that little, it's a pretty reasonable size development and the question is what if this development set the level of density level for the balance of the peninsula there? From memory this would constitute about one quarter of the sites in total area still available to be developed on the peninsula.

So that's what really we were testing, what if it did establish the precedent for the peninsula and came to the conclusion that what you've heard already, that it would generate some traffic issues. So where we wanted the discussion to go is forever adopting increased densities, where do we go with traffic? What do we do about it? Is there a solution to it?

We just haven't got to that point at this stage so that's where the position hasn't moved from a Council policy point of view.

MAYOR ANGELO TSIREKAS: Just following on from that, if this were to be approved and signed off by the Minister, there is certainly a large proportion still undeveloped and certainly our concern would be if it was going to cause a knock on effect, that people would look at this as a precedent and say if this can be considered a viable option at that density, with that floor space ratio, at that height, why couldn't my building, my block of land also carry that capacity?

So of course there is a concern that we could have with a knock on effect if this were to be approved.

BRIAN ELTON: Department of Planning could, do you want to comment on the question of precedent versus merit?

ANTHONY WITHERDEN: Yes, sure. Now this application will be determined on its own merits, as is every other application that could come in on the peninsula. For this particular project the Minister for Planning won't be determining this application, rather it will be determined by the Planning and Assessment Commission. As I said earlier in the meeting, if 25 or more

submissions are received, so that's basically it.

BRIAN ELTON: I've got four or five people waiting for a while.

RAY: My name is Ray and I've recently moved into the area so you could call me the new kid on the block. My work involves work the Parramatta Road area. In the traffic studies I notice it said that the measurements were taken during the peak period and off peak periods.

Over the last couple of years I've noticed that Saturday when people from outside the area are actually coming in for sporting events and so forth, it really makes it difficult as far as traffic flow goes, it just stands still. Sometimes it can take 30 minutes to get from the Burwood area to the other side of the Concord, it just stays still.

The other part of the traffic survey, with the Mortlake ferry and the line you've up of traffic on Hilly Street often blocking driveways and so forth, now I was told when I moved into the air that the Mortlake ferry was Sydney's best kept secret. However that lie seems to be getting longer and longer. What are the predictions as far as traffic and using that ferry goes once this development takes place? .

BRIAN ELTON: Do we have any data about potential use of the future?

JOHN SIDOTI: Other than ferry use is basically over stretched and hence there was an announcement recently of 25 extra ferry services per week. Regardless of that, just with River Cat services alone, that is an issue. Transport is an issue full stop with no additional developments in the area.

BRIAN ELTON: Gentlemen here.

BARRY PETERSON: Thank you. My name is Barry Peterson, I've lived here for most of my 71 years. I've seen many changes in this area, the majority of them good, some not so good.

Going back to the earlier developments which were the ones at the bottom of Burwood Road, Cabarita, the Dulux site, Breakfast Point and then some at North Strathfield and other places, we're all subject to a sort of a rule that was sold upon in those days which was we have to let more development into the area to utilise the existing services, sewer, electricity, water, gas, the whole box and dice. This was generally accepted by the community and the developments went ahead and have, by and large, been very welcomed by most of the community and blend in beautifully.

The trade off was to the municipality, Concord as it was in those days, and I think Drummoyne had very similar philosophies, the trade off was that the bulk of the peninsula would remain as the old quarter acre block and that development areas would be constrained to those that are well serviced by public transport such as the rail.

We want to return to that, the current LEP provides for that sort of situation, I believe, and we want to see that retained and approvals go back to Council and be subject to community scrutiny before anything happens.

Just a further point on the Mortlake ferry, which is a very popular little service, there has been more than one attempt to kill that off over the years so hopefully that doesn't occur again.

BRIAN ELTON: Gentleman over here.

PETER: Peter --, I live on Tennyson Road and like Milko and Baz, I've lived here for quite some time since 1974 so I have seen a lot of change in the area. Ian unfortunately got me on Thursday night for an hour and my question to Ian when I seen the development was does it come with wings? I was being facetious and he said you lost me. I said well how is the traffic going to get in and out of the area?

I agree with milko, we need to share, not close. I'm concerned, I have a young family, I have a mother that is unwell tonight and couldn't be here but got stuck in the middle of Tennyson Road the other day and my wife had to go out and get her with the bags of shopping because she couldn't cross the road.

It's very good for Ian to say and it's good for the area, and again I'm not against the development, I'm for the beautification of the area, Council has done a lot to slow traffic down in the area which is great to all residents.

In regards to John's comment about trucks, we're going to get rid of the current trucks in the area, the only trucks that are moving in and out of the area at the moment John are the removalist trucks of people entering and leaving and also the workers that are getting the building materials for the units that you're proposing to build.

BRIAN ELTON: We have time for three or four more questions before I hand back to the Mayor.

SIMONE BRIDGE: My name is Simone Bridge, I've lived in the area for more

than 30 years and I mean, the gentleman that's representing the developer outlined his eight years of planning and whatever and he's professing how much he really wants to work with the residents of the area and the Council and community. Then he goes and puts a Part 3A on.

I mean if he did have the objections with the Council and the Council represents us, the residents, why is he not prepared then to renegotiate the problems with the Council? At the end of my statement I'd probably like to know what objections the Council had to the proposal but he is professing to want to work with the residents and obviously I can't see any residents that are for this over development. It's the ratio, it's the number of people that you're going to stuff into the area.

I mean it's just common sense, it's a peninsula, there's only one way out. It's a very narrow peninsula and there are going to be thousands and thousands of people stuffed into this area with only one way out. I can't see that widening Hilly Street is going to do much either. And what about the poor people living on Hilly Street? Are they going to have cars going right next to their dwellings?

There's a few things. I notice that he said there was a public consultation and that a lot of positive comments came out of it. I've never even heard of any public consultation so again that's something that we weren't notified about. Only probably certain select people were notified about.

Also, I just think that we need to have continual public consultation. The gentleman from the planning Department also said that if there's 25 submissions that there can be a public speaking about this. I didn't like the word can, I prefer the word will be a further public meeting about this. So I just really don't see this desire by the developer to really work with the Council or with the residents of this area.

BRIAN ELTON: Thank you.

ANTHONY WITHERDEN: Thank you. You raised a few issues there. First I want to make it clear that basically the application is being assessed under Part 3A. Now that is the old legislation that the former government had and the reason why it is a Part 3A application is because it's basically a non discretionary proposal. What that means is that this proposal had a capital investment value of more than $100 million so that means it's basically automatically a Part 3A.

So under the old legislation, Council couldn't determine it but under the new legislation, now that the new government has repealed Part 3A, such

applications will now be determined by Councils.

Now in terms of the Planning and Assessment Commission, the Planning and Assessment Commission are an independent body and I don't represent the Planning and Assessment Commission because that's what they're designed to be, they're designed to be independent. As I mentioned in my earlier talk, you can probably contact the Planning and Assessment Commission or view their website but I know it is a policy of theirs that if there's more than 25 submissions they can hold a public meeting.

Further, if the Council object, it can also go to the Planning and Assessment Commission but that's basically the rules around that.

BRIAN ELTON: Very briefly Ian do you want to respond:

IAN EDWARDS: No.

BRIAN ELTON: Two final comments.

SUSAN: Hi, I'm Susan and I live on the corner of Bennett Street and Northcote Street so we're right smack bang in the middle of all of the development. I would have to say thank you for wanting to do something about it, it's an eye sore and it's dangerous and we get all of the boy racers, the dope smokers, whatever wants to go on down in that cul de sac we get it and see it.

My concern though is when you've looked at all the development in the area, and I want to refer to the gentleman that spoke first but nobody actually responded to him, you're going right up to nine storey buildings. How can you double the size of apartments? We live at the bottom of that hill and we're going to be looking straight up that hill and we're going to be absolutely completely overshadowed by buildings all around us.

The gentleman spoke about the streetscape or the scape out on the peninsula looking back in. We don't live in the middle of the peninsula, we live in it. It's not us sailing past on the ferry. You can compare it to Breakfast Point but they're on the other side, they're not living where we're living right now. So just because the buildings measure up up here, we're down here and I'd like to know how you've got that justification to be going up to nine storeys. Thank you.

BRIAN ELTON: Thank you, John?

JOHN RICHARDSON: Thank you. First of all the buildings that are around your building are proposed as four storeys and the one at the top of the hill or

up the hill, it's not at the top of the hill but up the hill is proposed at nine storeys. There is no way that that building can overshadow you because it's south of you. But it is specifically designed so that it doesn't actually impact on the street.

SUSAN: It's not about the sun, it's actually about standing in that space and feeling completely surrounded by high rise buildings. We purchased on the basis of what the gentleman was saying from Hilly Street, it was going to be no more than four storeys.

JOHN RICHARDSON: As I say, all I can repeat is that the buildings around you in the street are no more than four storeys and yes, there is a building proposed on the other side of the block that is nine storeys.

BRIAN ELTON: Before I hand back, the lady over here, last question please.

MARION HEATHERINGTON: My name is Marion Heatherington and I live in Norman Street. Quite a few of the issues have been raised by other people so I don't want to be repetitive in any way. I would just like to make a comment about what I think is really important in regards to transparency and people being fully informed of things.

The lady over there said that she knew nothing about any public meetings, I certainly didn't. There was no letter box drop about this meeting or any other previous ones. Perhaps a solution to it is that there are public notices put in the Inner West Courier or the other newspaper that comes around so that people actually can avail themselves of going. I wouldn't have known about this if somebody hadn't told somebody who told somebody who told somebody. And I would imagine that I'm not an isolated case.

So perhaps if everybody knew, the number would be even larger here and been able to voice their opinion because there would be a lot of people who are sitting at home totally unaware that this is actually taking place.

BRIAN ELTON: Thank you. Ladies and gentlemen we're rapidly approaching 9 o'clock, I do need to hand back to the Mayor.

MAYOR ANGELO TSIREKAS: Thanks very much. Certainly we've had the opportunity to hear from both sides so there's been a bit of transparency here tonight.

This is not our application, we're not the consent authority. We've done this as a very important part of being part of the community and consulting and

notifying and of course we did put notifications out. We did put them on notices and we put them in the Council notices in the paper as well. We letter boxed 3,500 so there were areas that we missed and certainly we're disappointed with that.

I think first of all there's been some very good questions raised by everybody, particularly from the back of the room, the last couple of questions about why did Council decide not to proceed and be part of any consultation, any further discussions?

The basic thing was that we weren't happy with the justification of the densities that they were requesting. Namely, they couldn't answer how the traffic was going to be dealt with, how they were going to get people in and out and that has been raised here very clearly.

The other point was that how was it is going to relate in its development size? You cannot look at this and compare it with Breakfast Point. This is a much smaller site, it's got very little open space, not many park areas. So the density of 1.34, which is in their documents, is what we're considering. So it's a fairly sizeable development.

What I want to do is make sure the first thing that we resolve tonight is that we all here agree that there be a request for a public hearing with PAC. It's not whether they can or not but they must, and that we have the opportunity in the next four weeks, prior to December the 2nd, to make sure that we're listening, we're hearing. We have the opportunity to discuss items of interest because basically Council has got some thoughts on it but we haven't gone through the whole assessment of their application and that's what we need to do.

Gary Shiels and our traffic experts are going to put together a response, but we do also need your assistance, your views and how we can both put forward a very good argument of the pros and cons.

But certainly at this density, I've got my concerns of the viability of this actually being a sustainable development on this peninsula.

I'd like to thank the member John Sidoti for being here and all our special guests and of course Ian Edwards. We certainly are not there yet. Part 3A, a letter from the Minister to Gary, or the Director-General of Planning and Infrastructure indicated a number of applications were sent back and a number that were held and for your interest, I'm sure you already know, but there are two in Breakfast Point. Seashore Precinct Residential Development, two in Seashore precinct that are still being considered under Part 3A.

So there's a number of applications that are still there. It is disappointing that community aren't part of the process where the Council is a consent authority because I think that process and I must also give credit that the present government got rid of Part 3A, but not entirely. There were a few things that snuck through which we weren't happy we weren't given that advice prior. But nevertheless, we're here tonight to make sure that information goes out and if there are any people out wanting to know what's happening, it will all be on our web page, the transcript, the application, so you'll have an opportunity to have a look at that.

What I'd like to do is get a consensus. Are we all happy for Council to push for a public hearing of PAC so we all get the opportunity to have a say on this application? All agreed. Declare that carried.

That's the first resolution of what I think may be a few more through our consultation. If you're happy to be part of Council and have some time to work as a bit of a group, please come and see me afterwards. Certainly we do need to work together if you're of a mind to assist.

With that I'm going to finish and just thank you all again for attending and certainly here's our opportunity between now and December the 2nd to put our case forward and a strong case at that. Thank you.

oOo

SCANNED
18 OCT 2010
DOC NO:

MORTLAKE REDEVELOPMENT
TRAFFIC IMPACT ASSESSMENT

ON BEHALF OF
CITY OF CANADA BAY COUNCIL

Ref. 10008r

August 2010

Prepared By

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EXECUTIVE SUMMARY

INTRODUCTION

Transport and Urban Planning has been engaged by the City of Canada Bay Council to:

- *Assess the cumulative impact of traffic generated by future medium density residential development in the Mortlake, Breakfast Point and Cabarita Peninsulas, on the surrounding local and collector roads leading to nearby State and Regional Roads;*
- *Estimate the impact of additional traffic generated from an increase in FSR permitted under LEP 2008 using 2 scenarios; and*
- *Make recommendations of what, if any, increase in FSR could be permitted considering the impact on the surrounding local and collector roads.*

To undertake the recommended traffic assessments Transport and Urban Planning has:

- *Surveyed current peak traffic volumes and delays at critical intersections on the local and collector road network;*
- *Calculate the current level of service at those locations;*
- *Make assessment of potential future residential development in the peninsulas under current LEP 2008;*
- *Make assessment of net additional peak traffic generation of that development and assignment of peak volumes to the collector road network;*
- *Make calculations of future delays and level of service at the critical locations;*
- *Estimated additional traffic generated by an increase in FSR permitted under LEP 2008 under 2 scenarios (50% and 100% increase to FSR on all properties);*
- *Calculated future delays and level of service at the critical intersections under the increased FSR scenarios;*

EXISTING PEAK HOUR TRAFFIC SITUATION

- *Existing AM/PM peak hour traffic volumes are shown in Figures 4A and 4B within the main body of this report.*
- *As a guide, Austroads and the RTA Guidelines suggest urban peak hourly, single lane traffic flows of up to 900 vehicles per hour (i.e. Level of Service (LOS) D when interrupted by parking/unparking, pedestrians etc.) as a maximum before additional lane capacity is required.*
- *Conversely, the RTA Guidelines also suggest that the maximum flows on collector road in residential area for amenity and environmental capacity considerations should not exceed 500 vehicle per hour (two way).*

- *Clearly peak hourly traffic volumes on some key access roads (within Concord) and to/from the Mortlake and Breakfast Point precincts are approaching and/or exceeding the above 500 vehicle peak hour amenity threshold limits.*

  i.e. Ian Parade and Broughton Street
  Majors Bay Road and Crane Street
  Patterson Road and Gipps Street

SUMMARY OF INTERSECTION MODELLING

The AM / PM traffic modelling for the 12 key intersections in or bordering the study area indicated that:

- *For the 3 sites adjoining Concord Road, spare capacity does exist to absorb more peak hour traffic although longer queue lengths and side street delays will result.*

- *For the 2 sites adjoining Parramatta Road, Broughton Street can afford a small increase in peak hour traffic. Conversely any increase to Burwood Road traffic at Parramatta Road is not recommended.*

- *In addition, the peak hour east / west traffic flows on both Gipps Street and Crane Street at Burwood Road are such that any increase to existing peak traffic volumes is not recommended without providing additional lanes or tidal flow provisions.*

- *For other intersections within the study area capacity does exist at peak times to absorb higher traffic volumes although this is likely to result in lower service levels, increased delays and a reduction in amenity levels.*

  - *Indicatively in the AM peak, up to 90% of eastbound traffic on Crane Street is local traffic i.e. originates in the study area;*
  - *However, in the AM peak on Gipps Street, only 36% of eastbound is local traffic and up to 64% is bypass through traffic;*
  - *Conversely, in the PM peak up to 90% of westbound traffic on Crane Street is local traffic;*

  - *Whilst on Gipps Street only 20% of westbound traffic is likely to be localised traffic.*

ROAD SAFETY

- *A review of Councils crash data base for (police) reported accidents 2006 to 2008 indicated those intersections having a history of accidents in the three year timeframe.*

- *In many cases the accidents are of a minor nature however any increase in traffic volumes at the more critical intersection are likely to result in a comparative increase in traffic delays and vehicle collisions.*

The key intersection having recorded accidents are:

Intersection	*No. of Crashes*	*No. injury crashes*	*Total No. of injuries*
Wellbank St/Majors Bay Road	*1*	*1*	*1*
Broughton St/Crane Street	*15*	*7*	*9*
Broughton Street/Gipps Street	*18*	*8*	*12*
Crane Street/Burwood Road	*7*	*6*	*12*
Burwood Road/Gipps Street	*10*	*6*	*7*
Burwood Road/Burton Street	*5*	*2*	*2*
Gale Street/Brays Rd/Mortlake St	*1*	*0*	*0*

- *The following locations may warrant further crash data analysis to investigate a range of possible remedial treatments.*

- *Broughton/Crane Streets*
- *Broughton/Gipps Streets*
- *Burwood Road/Crane Street*
- *Burwood Road/Gipps Street*

PUBLIC TRANSPORT

- *The Mortlake, Breakfast Point and Cabarita precincts are well served by existing bus services that connect to Five Dock, Burwood railway station and Sydney Ferry services at Cabarita Park.*

- *Discussions with Sydney Buses indicate that the frequency of bus services varies between peak and off peak times and days of the week. However, the frequency of a bus service is primarily demand dependant, i.e. when the passenger numbers increase the frequency of services increases comparatively.*

FUTURE DEVELOPMENT SCENARIOS

- *Councils planning staff have advised that the expected future medium density yields for the Mortlake and Breakfast Point precinct are likely to be 85%, 1 or 2 bedroom units and 15%, 3 or more bedroom units. This equates to an average 0.5225 peak hour trips per dwelling.*

- *Up to 5% of all new peak hour traffic is assumed to be local trips ie. to schools / shops etc and remains within the study area. The agreed broader distribution of additional AM traffic to destinations outside the study area has been assigned as follows:*

PEAK HOUR TRAFFIC DISTRIBUTION

Northbound	*10%*	*To Rhodes / Ryde and beyond*
Southbound	*10%*	*To Burwood / Strathfield and beyond*
Eastbound	*65%*	*To Five Dock and all destinations to the City*
Westbound	*15%*	*To Homebush / Parramatta and beyond*

- *The existing Canada Bay LEP 2008 will permit up to +752 additional medium density developments (dwellings) in the Mortlake Precinct. In addition, LEP 2008 also includes a further 1271 medium density dwellings in the Breakfast Point precinct.*

- *In place of the +752 permitted under LEP 2008 in the Mortlake precinct.*

  - ***Scenario 1** (+50% FSR) will allow up to +1136 new dwellings in the Mortlake precinct*
  - ***Scenario 2** (+100% FSR) will allow up to +1512 new dwellings in the Mortlake precinct*

The projected AM peak hour vehicle trips in/out of the Mortlake Precinct at Gale Street for the existing and future scenarios are:

Existing Traffic (2010)	***With LEP 2008 Development***	***With Scenario 1 Development***	***With Scenario 2 Development***
640 veh/hr	*1058 veh/hr*	*1265 veh/hr*	*1454 veh/hr*
+0%	*+65%*	*+98%*	*+127%*

Allowing 65% of all peak hour traffic exiting the study area would realise projected increase east bound traffic demand as follows:

STUDY AREA - PROJECTED EASTBOUND ONLY TRIPS

	AM PEAK (veh/hr)			***PM PEAK (veh/hr)***		
	Out	*In*	***Total***	*Out*	*In*	***Total***
LEP 2008	*522*	*131*	***653***	*131*	*522*	***653***
SCENARIO 1	*620*	*156*	***776***	*156*	*620*	***776***
SCENARIO 2	*718*	*180*	***898***	*189*	*718*	***898***

- *Assuming all eastbound traffic utilises Mortlake Street/Ian Parade/Broughton Street or Brays Road/Majors Bay Road to access Crane Street, Gipps Street or Parramatta Road.*

NB: Currently about 60% of traffic exiting the precinct uses Brays Road but this also includes north and westbound traffic. For comparison proposed, below are the existing and proposed peak hour directional volumes at selected locations in the study area. Refer figures 4A/4B

EXISTING AND PROJECTED AM PEAK HOURLY VOLUMES (VEHICLES PER HOUR)

On Route		*Existing*	*LEP 2008*	*Scenario 1*	*Scenario 2*
Gale Street	*Northbound*	*246*	*325*	*365*	*435*
	Southbound	*346*	*660*	*820*	*945*
Mortlake Street	*Northbound*	*181*	*185*	*195*	*120*
	Southbound	*173*	*575*	*675*	*740*
Ian Parade	*Northbound*	*504*	*570*	*580*	*600*
	Southbound	*664*	*1065*	*1165*	*1230*
Brays Street	*Eastbound*	*145*	*290**	*320**	*370**
	Westbound	*388*	*790**	*890**	*955**
Majors Bay Road	*Northbound*	*577*	*650*	*670*	*705*
	Southbound	*415*	*535*	*600*	*645*
Crane Street	*Eastbound*	*1005*	*1325*	*1375*	*1425*
	Westbound	*836*	*925*	*935*	*945*
Gipps Street	*Eastbound*	*843*	*1045*	*1095*	*1145*
	Westbound	*719*	*765*	*775*	*790*

NB: LEP 2008, Scenario 1 and Scenario 2 includes projected eastbound traffic only.
** Also included projected north/south/west exiting peak hour traffic.*

Excluding Crane and Gipps Streets which are four lane road from Broughton Road to Burwood Road, all of the above roads (which function as collector roads) are 2 lane undivided roads with kerbside parking, landscape kerb blisters roundabouts, speed platforms and other traffic calming devices. Effectively only 1 traffic lane in each direction is provided.

- *Gale Street, Ian Parade, Brays Street and Majors Bay Road exceed these environmental capacity thresholds already (ie. 50km/hour), based on our existing (year 2010) traffic counts.*

- *It is our experience that when single lane volumes on residential roads exceed 700 vehicles per hour (LOS C) through traffic will start to seek alternate parallel (by-pass) routes. All key access roads into the Mortlake and Breakfast Point will start to exceed the Austroad / RTA mid block road capacity threshold from Scenario 1 and onwards.*

CONCLUSIONS

Additional development under Scenario 1 or 2 ***should only occur*** *in conjunction with road and intersection infrastructure upgrades and increased public transport services (bus and ferry) commensurate with the anticipated level of additional AM and PM peak hour traffic flows and public transport demands.*

Notwithstanding some conventional traffic amenity levels on major access routes to / from the Mortlake precinct particularly those accommodating new AM eastbound and PM westbound traffic flows will be compromised beyond acceptable limits regardless of these upgrades.

In addition, our intersection modelling (completed for all 12 key sites) for existing intersections (and calibrated) and for LEP 2008, Scenario 1 and Scenario 2 options indicates the following intersection outcomes ie. intersection along Crane and Gipps Streets will have capacity and operation difficulties i.e. Level of Service E or lower.

EXISTING AND POST DEVELOPMENT TRAFFIC SERVICE LEVELS AND DELAY

LOCATION	EXISTING CONTROLS	Existing (Year 2010) Traffic		LEP 2008 Traffic		Scenario 1 Traffic		Scenario 2 Traffic	
		AM	PM	AM	PM	AM	PM	AM	PM
Concord Rd / Hospital Road	Signals[1]	✓	✓	✓	✓	✓	✓	✓	✓
Concord Rd / Correys Ave	Signals[1]	✓	✓	✓	✓	✓	✓	✓	✓
Concord Rd / Wellbank St	Signals[1]	✓	✓	✓	✓	✓	✓	✓	✓
Wellbank St / Majors Bay Rd	Signals	✓	✓	✓	✓	✓	✓	✓	✓
Broughton St / Crane St	Signals	✓	✓	✗	?	✗	✗	✗	✗
Broughton St / Gipps St	Signals	✓	✓	✓	✓	✓	✗	?	✗
Broughton St / Parramatta Rd	Signals[1]	✓	✓	✓	✓	✓	✓	✓	✓
Burwood Rd/ Crane St	Signals	✓	✓	?	✗	✗	✗	✗	✗
Burwood Rd / Gipps St	Signals	✓	✓	✓	✓	✓	✓	✓	✓
Burwood Rd / Burton St	Roundabout	✓	✓	✓	✓	✓	✓	✓	✓
Burwood Rd / Parramatta Rd	Signals[1]	✓	?	✓	?	✓	?	?	?
Gale St / Brays Rd / Mortlake St	Roundabout	✓	✓	✓	✓	✓	✓	✓	✗

✓ *Indicates acceptable traffic service levels, delay times and queuing lengths for existing traffic controls and intersections/layout*

? *Indicates Level of Service D operation ie. minimum LOS before intersection traffic oversaturation occurs*

✗ *Indicates unacceptable traffic service levels, delay times and queuing lengths for existing traffic controls and intersections/layout*

Level of Service E traffic conditions are generally represented by long queue lengths (several hundred metres) and long delays of several signal cycles (10 or more minutes).

The Concord Road sites will continue to operate at LOS C or better with spare capacity, even with Scenario 2 volumes. Albeit with increased queue lengths to 15 vehicles and increased side street delays.

The future AM eastbound and reciprocal PM westbound volumes on Crane Street, Gipps Road and ultimately Parramatta Road exceed the practical intersection capacities at north/south cross roads without:

1 – significant road widening and intersection upgrading and/or
2 – an extension of the M4 Motorway to reduce existing by-pass (through) traffic volumes on these routes (i.e. to give some peak hour capacity back).

CONTENTS

FIGURES

APPENDICES

1.0 INTRODUCTION

A proposal to develop a consolidated parcel of land in Mortlake at a higher Floor Space Ration (FSR) permitted in Council's LEP 2008 has been submitted.

In order for Council to consider an increased intensity of development in this area, there is a need to assess the cumulative impact of traffic generated by future medium and high density residential development in the Mortlake, Breakfast Point and Cabarita Peninsulas, on the surrounding local and collector road network leading to nearby State Roads.

Transport and Urban Planning has been engaged by the City of Canada Bay Council to:

- Assess the cumulative impact of traffic generated by future medium density residential development in the Mortlake, Breakfast Point and Cabarita Peninsulas, on the surrounding local and collector roads leading to nearby State Roads;
- Estimate the impact of additional traffic generated from an increase in FSR permitted under LEP 2008 using 2 scenarios; and
- Recommendation of what, if any, increase in FSR could be permitted considering the impact on the surrounding local and collector roads.

The study area is shown in **Figures 1 and 2** overleaf.

To undertake the recommended traffic assessments Transport and Urban Planning has:

- Surveyed current peak traffic volumes and delays at critical intersections on the local and collector road network;
- Calculated the current level of service at those locations;
- Made assessment of potential future residential development in the peninsulas under current LEP 2008;
- Made assessment of net additional peak traffic generation of that development and assignment of peak volumes to the collector road network;
- Made calculations of future delays and level of service at the critical locations;
- Estimated additional traffic generated by an increase in FSR permitted under LEP 2008 under 2 scenarios (50% and 100% increase to FSR on all properties);
- Calculate future delays and level of service at the critical intersections under the increased FSR scenarios; and

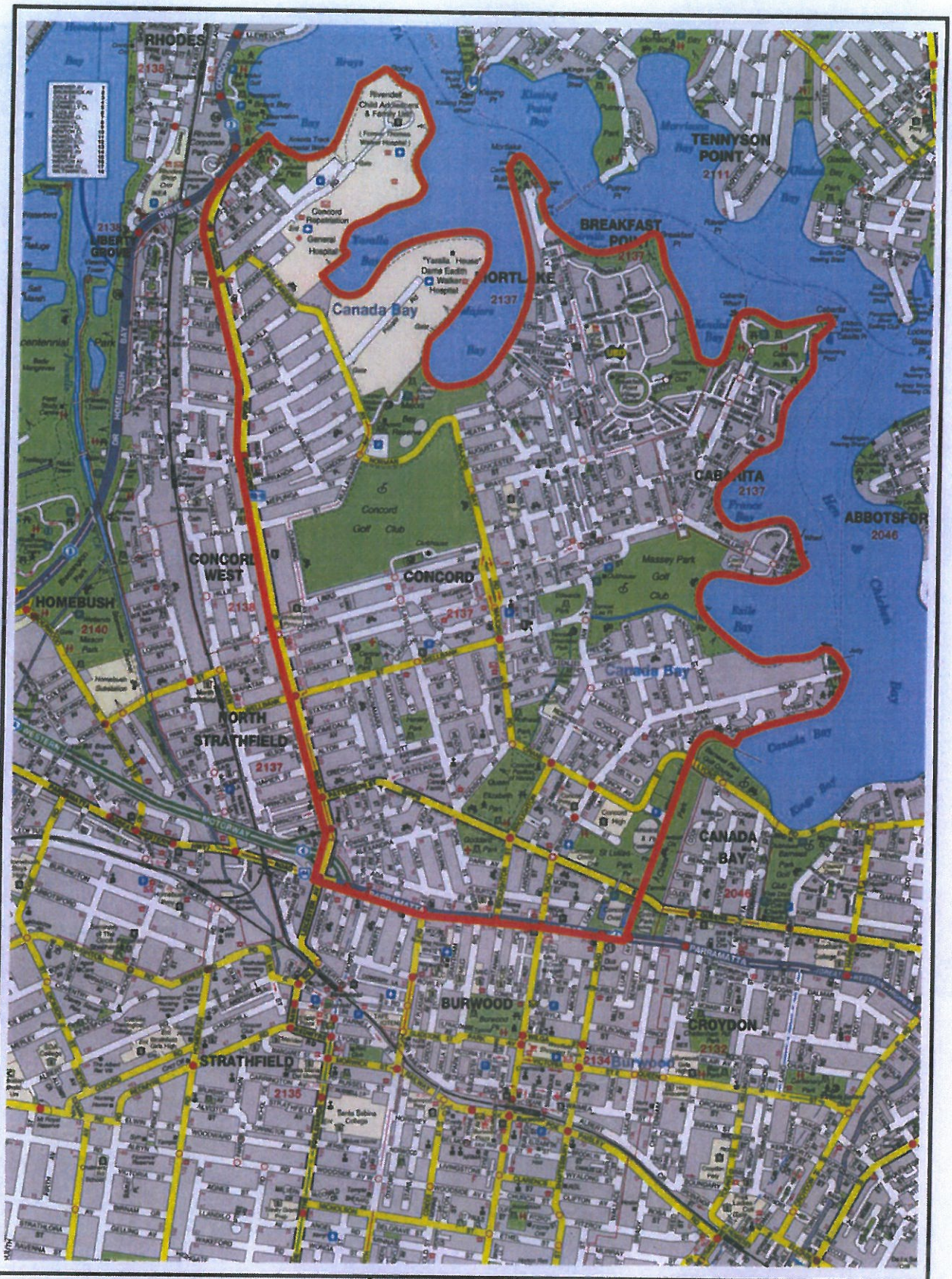

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FIGURE 1

MORTLAKE TRAFFIC STUDY AREA

STUDY AREA

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FIGURE 2

MORTLAKE TRAFFIC STUDY AREA

STUDY AREA

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2.0 EXISTING ROAD AND TRAFFIC CONDITIONS

2.1 Road Network and Function

The road classification system now adopted by the RTA is:

Arterial Roads – predominantly carry through traffic from one region to another forming principal avenues of communication for metropolitan traffic movements. They are usually part of the proclaimed Main Road system, including highways and freeways. Freeways are those roads having full access control and grade separated intersections, whose primary function is to service large traffic volumes.

Sub-arterial roads - connect the arterial roads to areas of development or carry traffic directly from one part of a region to another. They may also relieve traffic on arterial roads in exceptional circumstances.

Collector roads – connect the sub-arterial roads to the local road system in developed areas.

Local roads – are the sub-divisional roads within a particular developed area. These are used solely as local access roads, but traffic volumes and types of vehicles will depend on the intensity and nature of the development – e.g. residential, commercial, industrial, recreational, etc.

Application of strict traffic volume figures does not necessarily classify a road to be a particular class, but generally local roads carry less than 2,000 vehicles a day, collectors 2,000 to 10,000, sub-arterials 5,000 to 20,000 and arterials over 15,000.

Within and bordering the study area, Concord and Parramatta Roads are arterial RTA (State) roads. Hospital Nullawarra Avenue/Norman Street/Majors Bay Road/Crane Street, Queen/Gipps/Patterson Streets are sub-arterial roads. Broughton Street/Ian Parade, Burwood Road, Wellbank Street and Correys Avenue are collector roads. All other roads in the study are local roads excluding the arterial roads, see **Figure 3**. An area wide 50km/h speed limit applies in the study area.

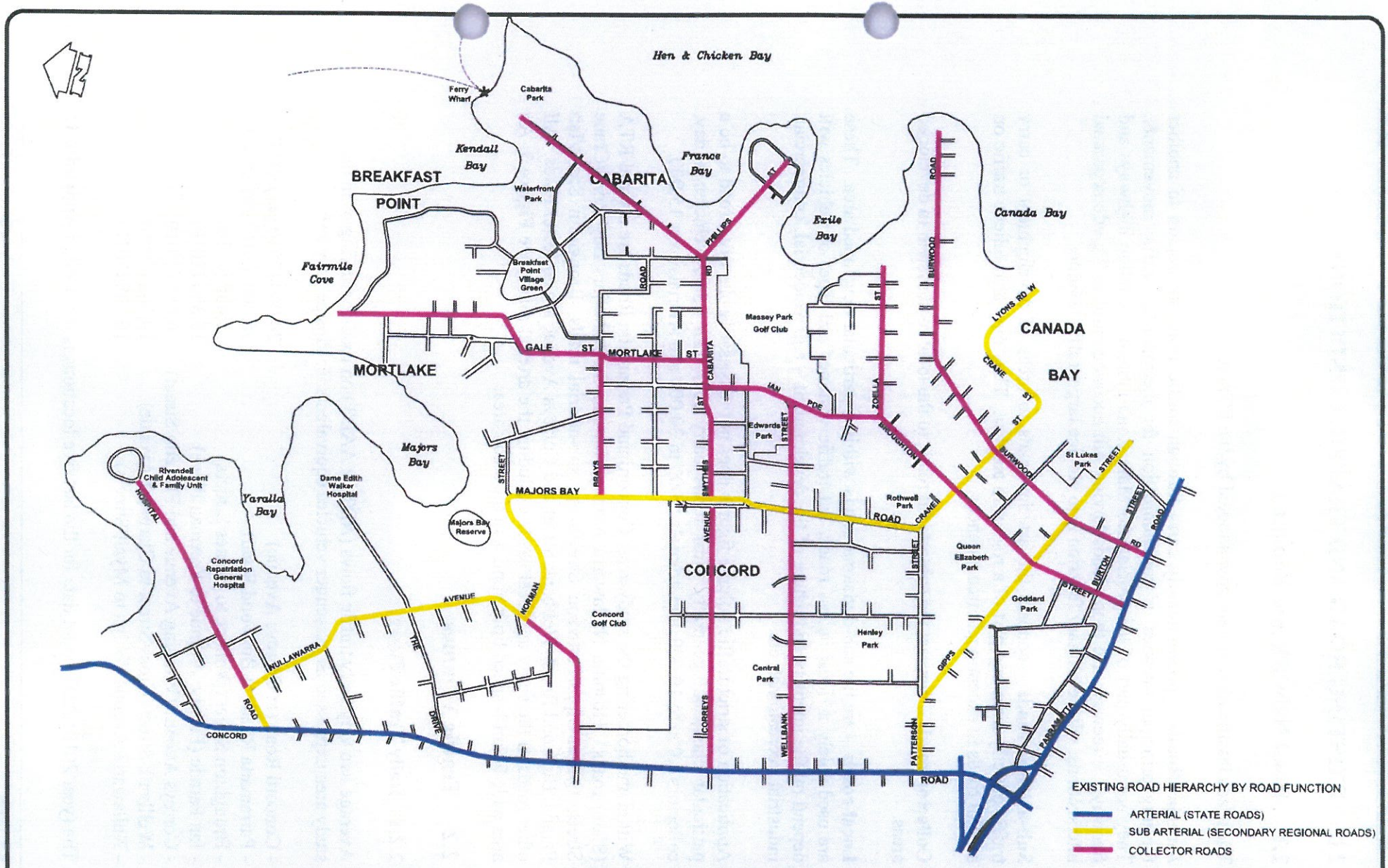
2.2 Traffic Volumes

2.2.1 Daily Traffic Flows

Average two way daily traffic flows (ADT or AADT) on roads bordering or in the study area expressed as passenger vehicles equivalents ie. trips per day are:

- Concord Road (at Correys Avenue)	24,000 (2010 projected)
- Parramatta Road (at Burwood Road)	56,200 (2010 projected)
- Broughton Street (Wallace to Cranes Streets)	13,438 (2010)
- Ian Parade (Empire Avenue to Freeman Place)	15,356 (2010)
- Correys Avenue (Winning Avenue and Flavello Street)	6,681 (2010)
- Wellbank Street (Cross Street to Clarmont Avenue)	10,602 (2010)
- Nullawarra Avenue (Wilga to Myall Streets)	10,908 (2010)

The (year 2010) ADT count data for the last five locations is included in **Appendix 1**.



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MORTLAKE TRAFFIC STUDY AREA

EXISTING ROAD HIERARCHY (BY ROAD FUNCTION)

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FIGURE 3

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2.2.2 Peak Hour Traffic Flows

Recent peak hour (AM/PM) traffic and pedestrian counts undertaken at (12) twelve key intersections within or bordering the study are summarised in **Figures 4A, 4B and 4C** overleaf and included in full as **Appendix 2.**

2.3 Critical Intersections

Traffic signal plans indicating intersection geometry and movement phasing are included as **Appendix 3.**

2.3.1 Traffic Models

Existing peak hour traffic service levels and operational parameters at the following intersections have been assessed (on site) and traffic modelled to determine the following outcomes:

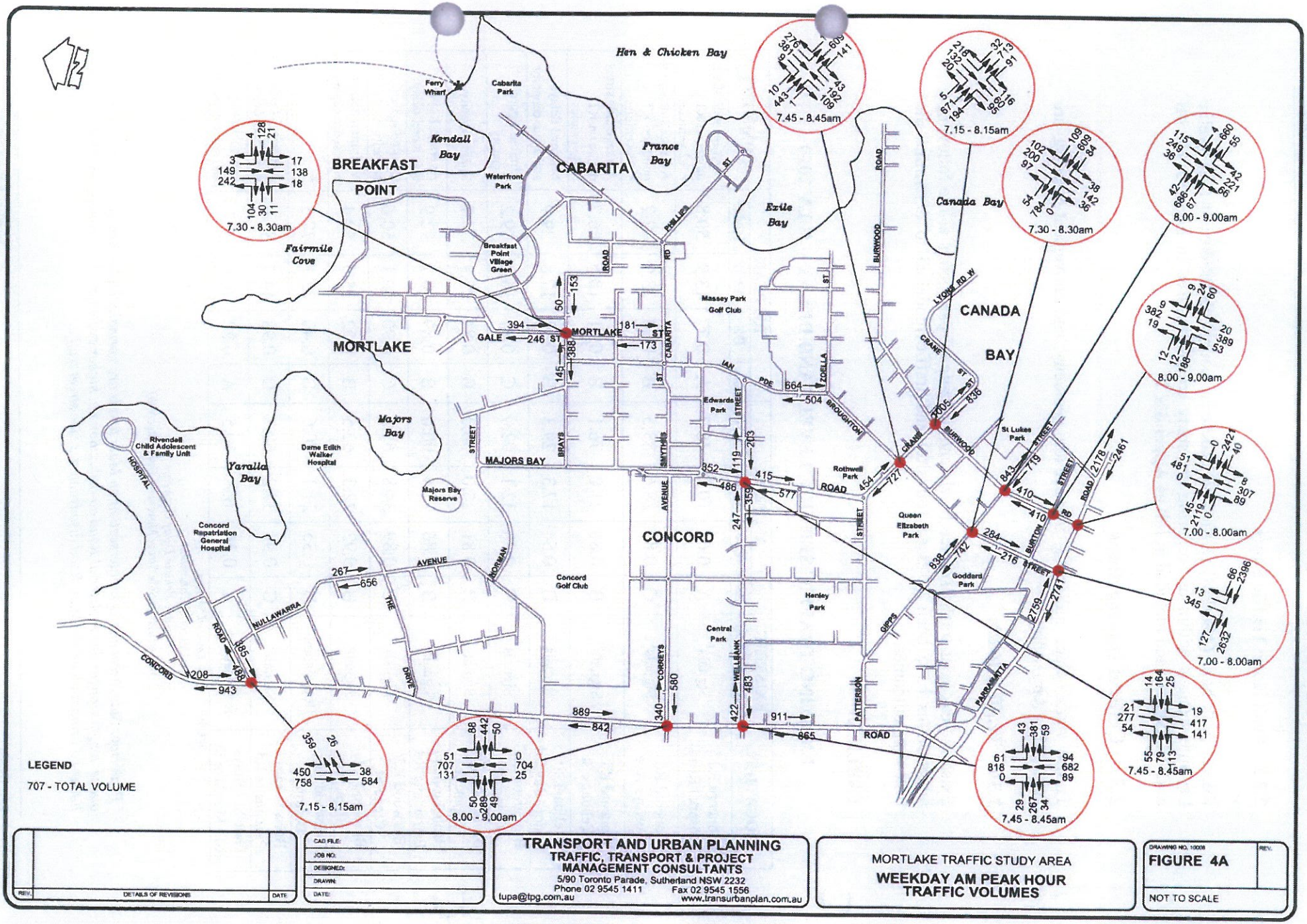
TABLE 2.1

EXISTING TRAFFIC SERVICE LEVELS AND DELAY – JULY 2010

LOCATION	EXISTING CONTROLS	AM PEAK				PM PEAK				COMMENT
		LS	DS	AVD	HMD	LS	DS	AVD	HMD	
Concord Rd / Hospital Road	Signals[1]	A	0.61	10.0	48.7	A	0.77	13.9	50.8	Average side street queue on RT = 12 vehicles
Concord Rd / Correys Ave	Signals[1]	C	0.80	28.6	83.5	B	0.73	23.9	62.2	Average side street queue on RT = 11 vehicles
Concord Rd / Wellbank St	Signals[1]	B	0.80	21.0	76.1	B	0.81	18.6	66.7	Average side street queue on RT = 8 vehicles
Wellbank St / Majors Bay Rd	Signals	B	0.54	17.3	29.3	B	0.62	17.8	29.9	Minimal delays and spare capacity
Broughton St / Crane St	Signals	C	0.90	32.1	92.0	C	0.87	33.8	79.2	Limited spare capacity
Broughton St / Gipps St	Signals	B	0.81	25.0	50.0	B	0.84	25.9	75.7	Spare capacity
Broughton St / Parramatta Rd	Signals[1]	B	0.86	17.4	90.6	B	0.89	20.7	92.9	Average 1 cycle side street delay
Burwood Rd/ Crane St	Signals	C	0.89	34.8	61.2	C	0.90	40.1	50.6	Limited spare capacity
Burwood Rd / Gipps St	Signals	B	0.92	22.3	62.5	B	0.92	25.5	59.4	Minimum delays with spare capacity
Burwood Rd / Burton St	Roundabout	B	0.35	21.1	70.6	B	0.40	22.1	77.3	[2]
Burwood Rd / Parramatta Rd	Signals[1]	C	0.93	37.2	68.7	D	0.98	44.7	81.4	Average 2 cycle side street delay
Gale St / Brays Rd / Mortlake St	Roundabout	A	0.26	6.2	10.5	A	0.22	6.0	9.7	Minimal delays and spare capacity

Where: LS – Level of Service
DS – Degree of Saturation
AVD – Average Vehicle Delay (sec/veh)
HMD – Highest Side Street Movement Delay (sec/veh)

[1] *Peak Hour Side Street delays at intersection on Main Roads are normally higher and side street queue lengths longer due to Arterial Road co-ordination i.e. higher cycle lengths to benefit two way linear co-ordination on the Main Road disadvantages side street traffic.*



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MORTLAKE TRAFFIC STUDY AREA
WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES

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FIGURE 4A
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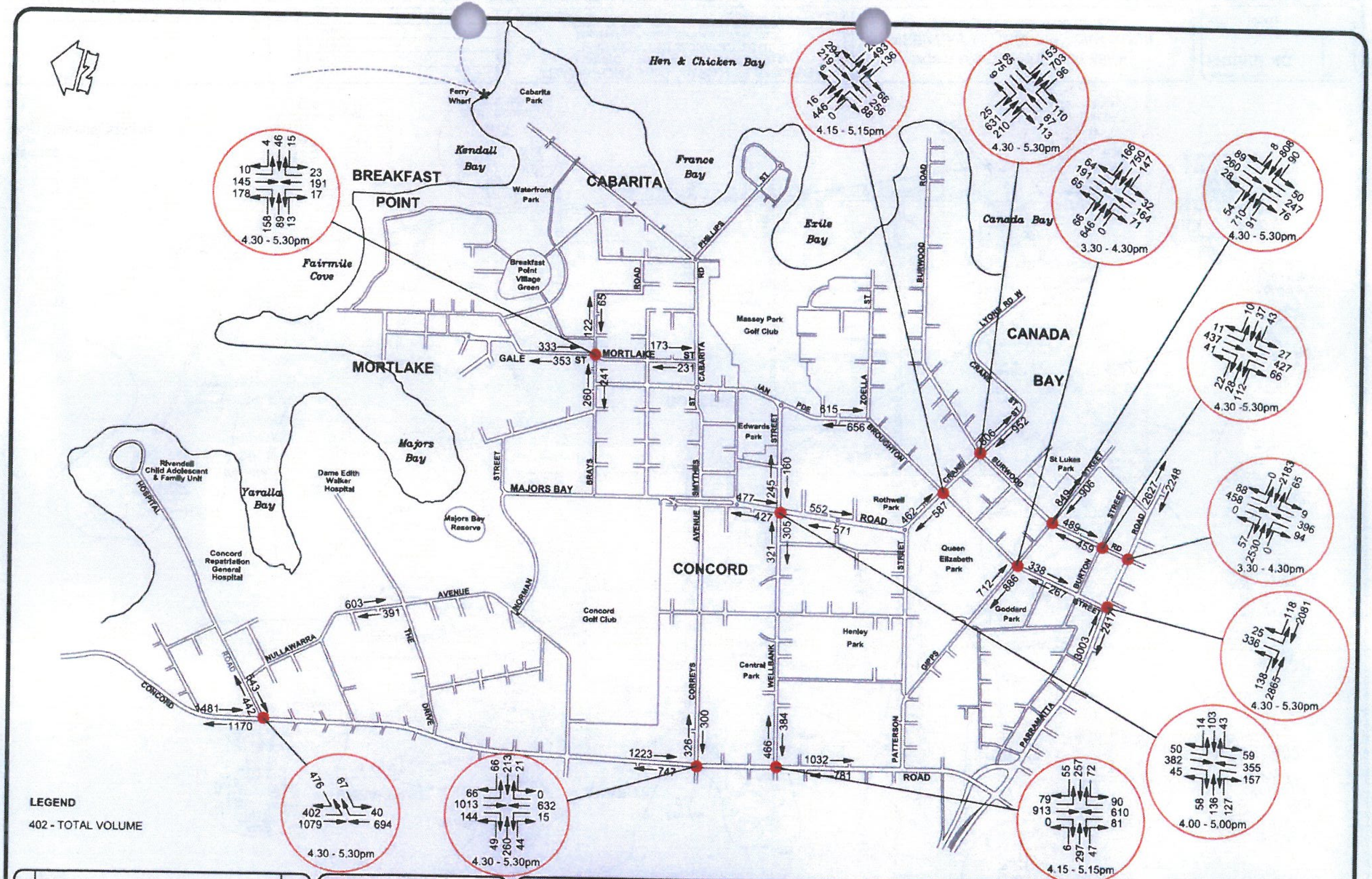

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MORTLAKE TRAFFIC STUDY AREA

WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES

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FIGURE 4B

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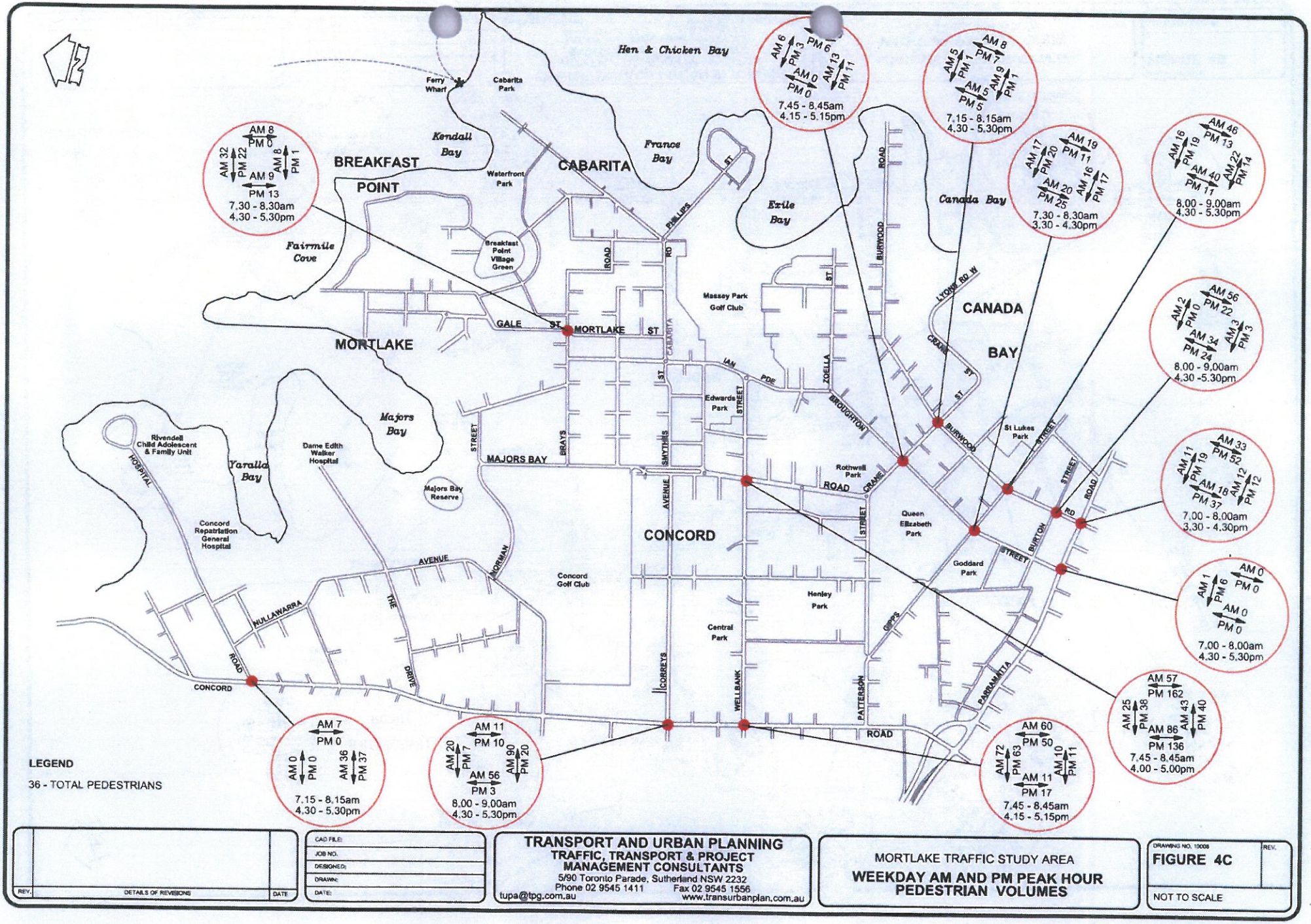

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MORTLAKE TRAFFIC STUDY AREA

WEEKDAY AM AND PM PEAK HOUR PEDESTRIAN VOLUMES

DRAWING NO. 10008 REV.

FIGURE 4C

NOT TO SCALE

[2]*Southbound Peak Hour delays and queue length in Burwood Road continues to north of the Burton Street roundabout thereby impeding the operation of the roundabout.*

NB: The RTA normally accepts a peak hour LS of D before acknowledging intersection capacity improvements are required.

The criteria for interpreting intersection traffic service levels is reproduced below:

TABLE 2.2

LEVEL OF SERVICE CRITERIA FOR INTERSECTIONS

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs
A	< 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity; at signals, incidents will cause excessive delays Roundabouts require other control mode	At capacity, requires other control mode

The figures in Table 2.2 are intended as a guide only. Any particular assessment should take into account site specific factors including maximum queue lengths (and their effect on lane blocking), the influence of nearby intersections and the sensitivity of the location to delays. In many situations, a comparison of the current and future average delay provides a better appreciation of the impact of a proposal, and not simply the change in the level of service.

Although in some situations additional traffic does not alter the level of service, particularly where the level of service is E or F, additional capacity may still be required. This is particularly appropriate for level of service F, where small increases in flow can cause disproportionately greater increases in delay. In this situation, it is advisable to consider means of control to maintain the existing level of absolute.

Source: RTA Guide to Traffic Generating Developments 2002

2.3.2 Summary of Modelling

The AM / PM traffic modelling for the 12 key intersections in or bordering the study area indicated that:

- For the 3 sites adjoining Concord Road, limited spare capacity does exist to absorb more peak hour traffic although longer queue lengths and side street delays will result.

- For the 2 sites adjoining Parramatta Road, Broughton Street can afford a small increase in peak hour traffic. Conversely any increase to Burwood Road traffic at Parramatta Road is not recommended.

- In addition, the peak hour east / west traffic flows on both Gipps Street and Crane Street at Burwood Road are such that any increase to existing peak traffic volumes is not recommended without providing additional lanes or tidal flow provisions.

- For other intersections within the study area capacity does exist at peak times to absorb higher traffic volumes although this is likely to result in lower service levels, increased delays and a reduction in amenity levels.

    - Indicatively in the AM peak, up to 90% of eastbound traffic on Crane Street is local traffic i.e. originates in the study area;
    - However, in the AM peak on Gipps Street, only 36% of eastbound is local traffic and up to 64% is bypass through traffic;
    - Conversely, in the PM peak up to 90% of westbound traffic on Crane Street is local traffic;
    - Whilst on Gipps Street only 20% of westbound traffic is likely to be localised traffic.

2.4 Traffic Amenity

Residents within the study area have, (to date) indicated their concerns with traffic volumes, noise and traffic speed on some local roads.

Traffic on any class of road has an impact on the amenity of an area. Noise and pedestrian access are also important factors to be considered in the development of new properties abutting major roads. Traffic impacts such as volumes, speed limits, do not generally apply to major roads, although emphasis is currently being placed on traffic calming issues on sub-arterial roads in residential areas by road Authorities. Traffic limits are necessary on minor roads as pedestrian safety here is of primary concern. Environmental capacity considerations are relevant to streets in residential areas, neighbourhood shopping centre and educational precincts.

Meeting the needs of both traffic and pedestrian access is the main objective in accommodating new development. This is achieved in a different manner with new areas compared to the approach of redevelopments in existing areas.

Environmental Capacity is best estimated by considering a range of differing perceptions and attitudes to traffic impacts in a particular area. The environmental expectations of residents often varies significantly, even within the same district. It is accepted that the performance standard usually occurs at the top end of a range. While it can be argued that there is no particular threshold beyond which problems may emerge, this standard is subject to the same constraints as all other standards. Engineering standards are often based on concepts of good practice, with a concerted focus on safety factors. While it is generally accepted that a departure from this standard may be accommodated to a degree, developers must justify plans where designs significantly exceed the standard. The table below sets out the recommended Environmental Capacity performance standards. This table relates to streets with direct access to residential properties. Trunk collector and spine roads with no direct property access can carry higher traffic flows.

TABLE 2.3

ENVIRONMENTAL CAPACITY PERFORMANCE STANDARDS ON RESIDENTIAL STREETS

Road Class	Road Type	Maximum Speed (km/hr)	Maximum peak hour volume (veh/hr)
Local	Access way	25	100
	Street	40	200 environmental goal
			300 maximum
Collector	Street	50	300 environmental goal
			500 maximum

Note: *Maximum speed relates to the appropriate design maximum speeds in new residential developments. In existing areas maximum speed relates to 85th percentile speed.*

Sources: RTA Guide to Traffic Generating Developments 2002

In the performance standards set out above, two levels are given – one for the desirable maximum (the environmental goal), and one for the absolute maximum. There may be situations where alterations to these levels might be appropriate, however it is up to the developer to justify a departure from the standards.

For example, a road with a wide central-median, and with separate carriageways of approximately 5 metres width would have less impact on pedestrian safety than an undivided road of width 7 metres, and hence could accommodate a higher traffic flow for the same degree of safety.

Table 2.3 indicates that the functional classification of the street is important. While two streets may be similar, if one street functions as a collector street, then local access, safety and amenity are not the only issues to be considered. The movement of traffic along the street from adjoining areas also becomes a planning issue. Since it is still a residential area both traffic movement and planning issues need to be accommodated.

Table 2.3 takes into account both amenity and safety considerations. The maximum speeds given are design speeds for new residential areas. They might not be achieved in existing areas without the assistance of traffic calming methods. In assessing a proposed development, the existing average speed (even if over the desirable limit), is the starting point in determining the existing level of hazard. The Environmental Capacity of a street can be increased through a reduction in speed. For example, on an existing residential street where traffic volumes reach the Environmental Capacity maximum (and a proposed development could cope with the volume over the standard), traffic speed may be reduced by the introduction of traffic calming methods.

In general, the distance required by a vehicle to stop when unexpectedly confronting a pedestrian on the road is proportional to the speed of the vehicle squared. Thus a reduction in speed can cause a disproportionate improvement in pedestrian safety. In situations where Environmental Capacity standards are already exceeded, rather than allowing the situation to be made slightly worse with additional traffic, speed reduction measures can be introduced. These may have a positive effect on traffic noise, and ensure that the existing level of pedestrian safety remains the same, or is reduced.

The following collector roads carry two way peak hour volumes exceeding the maximum (500 veh/hr) thresholds recommended for good levels of residential amenity. Burwood Road and Broughton Street (south of Crane Street) Gale Street, Correy Street and Wellbank Street (west of Majors Bay Road).

2.5 Road Safety

Excluding Concord Road and Parramatta Road, an area wide 50km/h residential speed zone applies in the study area supplemented with 40km/h (before and after) school zones as required.

A review of Councils crash data base for (police) reported accidents 2006 to 2008 indicated those intersections having a history of accidents in the three year timeframe.

In many cases the accidents are of a minor nature however any increase in traffic volumes at the more critical intersection are likely to result in a comparative increase in traffic delays and vehicle collisions.

The key intersection having recorded accidents are:

Intersection	No. of Crashes	No. injury crashes	Total No. of injuries
Wellbank St/Majors Bay Road	1	1	**1**
Broughton St/Crane Street	15	7	**9**
Broughton Street/Gipps Street	18	8	**12**
Crane Street/Burwood Road	7	6	**12**
Burwood Road/Gipps Street	10	6	**7**
Burwood Road/Burton Street	5	2	**2**
Gale Street/Brays Rd/Mortlake St	1	0	**0**

The following locations may warrant further crash data analysis to investigate a range of possible remedial treatments.

- Broughton/Crane Streets
- Broughton/Gipps Streets
- Burwood Road/Crane Street
- Burwood Road/Gipps Street

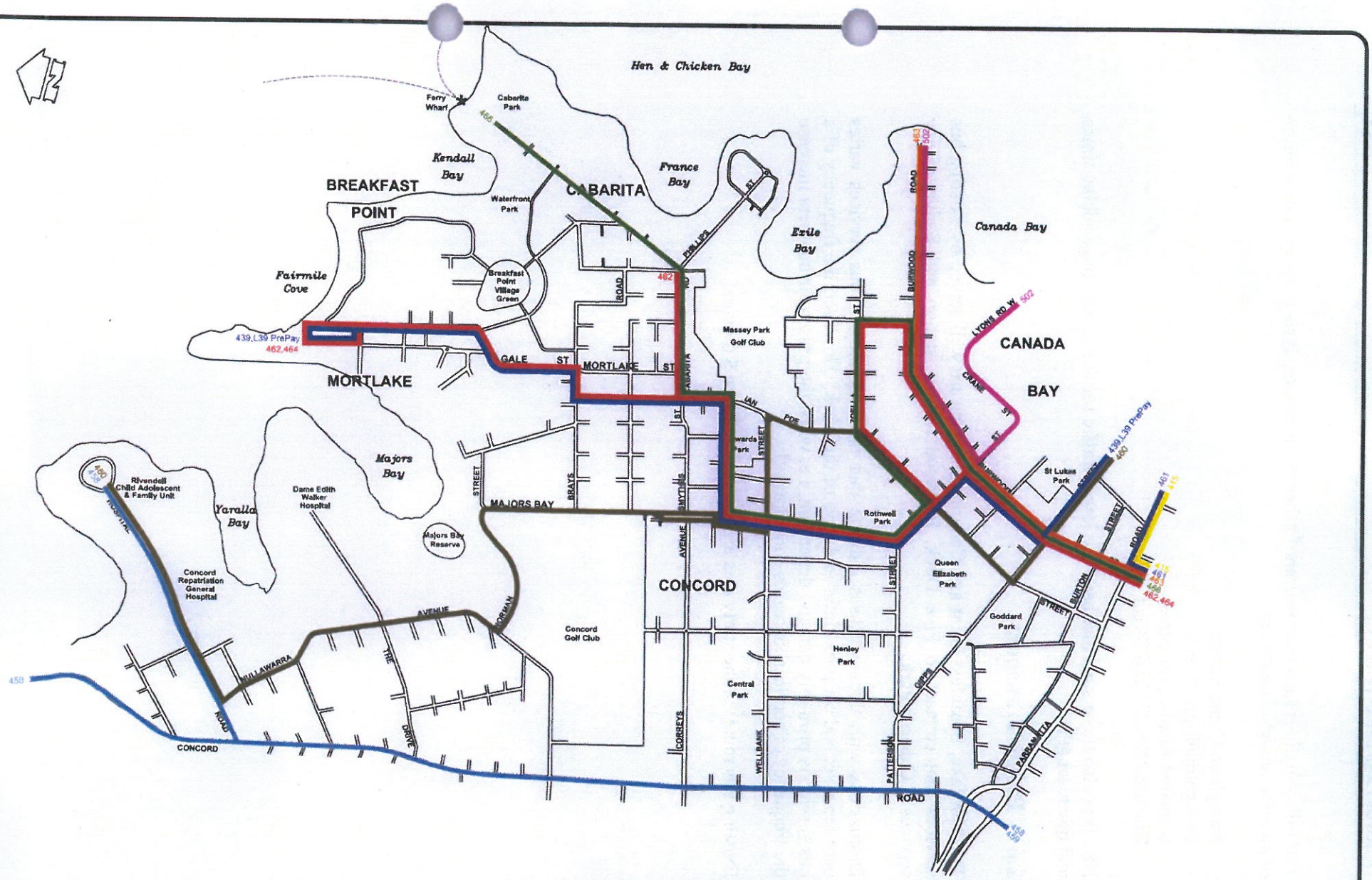
NB: It is also these sites that have the lower traffic service levels longer delay times and queue lengths.

2.6 Public Transport

The Mortlake, Breakfast Point and Cabarita precincts are well served by existing bus services that connect to Five Dock, Burwood railway station and Sydney Ferry services at Cabarita Park.

Discussions with Sydney Buses indicate that the frequency of bus services varies between peak and off peak times and days of the week. However, the frequency of a bus service is primarily demand dependant, i.e. when the passenger numbers increase the frequency of services increases comparatively.

Existing bus routes in the study area are shown in **Figure 5** overleaf.



REV.	DETAILS OF REVISIONS	DATE

CAD FILE:
JOB NO.
DESIGNED:
DRAWN:
DATE:

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MORTLAKE TRAFFIC STUDY AREA
BUS ROUTES

DRAWING NO. 10008
FIGURE 5
REV.
NOT TO SCALE

3.0 FUTURE DEVELOPMENT SCENARIOS

The land parcels subject to future redevelopment, (as identified by Council), are shown in full in **Appendix 4** and as precinct extracts overleaf.

The projected level of AM/PM peak traffic generation has been derived from the RTA's Traffic Generation Guideline (2002) for medium density residential development as follows:

Peak hour @ 0.5 trips per 1 and 2 bedroom units + 0.65 trips per 3 or more bedroom units.

Peak hour residential traffic has been assigned to the road network as 80% outbound and 20% inbound in the AM peak and 20% outbound, 80% inbound in the PM peak in accord with RTA recommendations.

Council has advised that the expected medium density yields are likely to be 85%, 1 or 2 bedroom units and 15%, 3 or more bedroom units. This equates to an average 0.5225 peak hour trips per dwelling.

Up to 5% of all new peak hour traffic is assumed to be local trips ie. to schools / shops etc and remains within the study area. The broader distribution of additional AM traffic to destinations outside the study area has been assigned as follows:

TABLE 3.1

AM PEAK HOUR TRAFFIC DISTRIBUTION

Northbound	10%	To Rhodes / Ryde and beyond
Southbound	10%	To Burwood / Strathfield and beyond
Eastbound	65%	To Five Dock and all destinations to the City
Westbound	15%	To Homebush / Parramatta and beyond

The existing Canada Bay LEP 2008 will permit up to +752 additional medium density developments (dwellings) in the Mortlake Precinct. In addition, LEP 2008 also includes a further 1271 medium density dwellings in the Breakfast Point precinct.

In place of the +752 permitted under LEP 2008 in the Mortlake precinct.

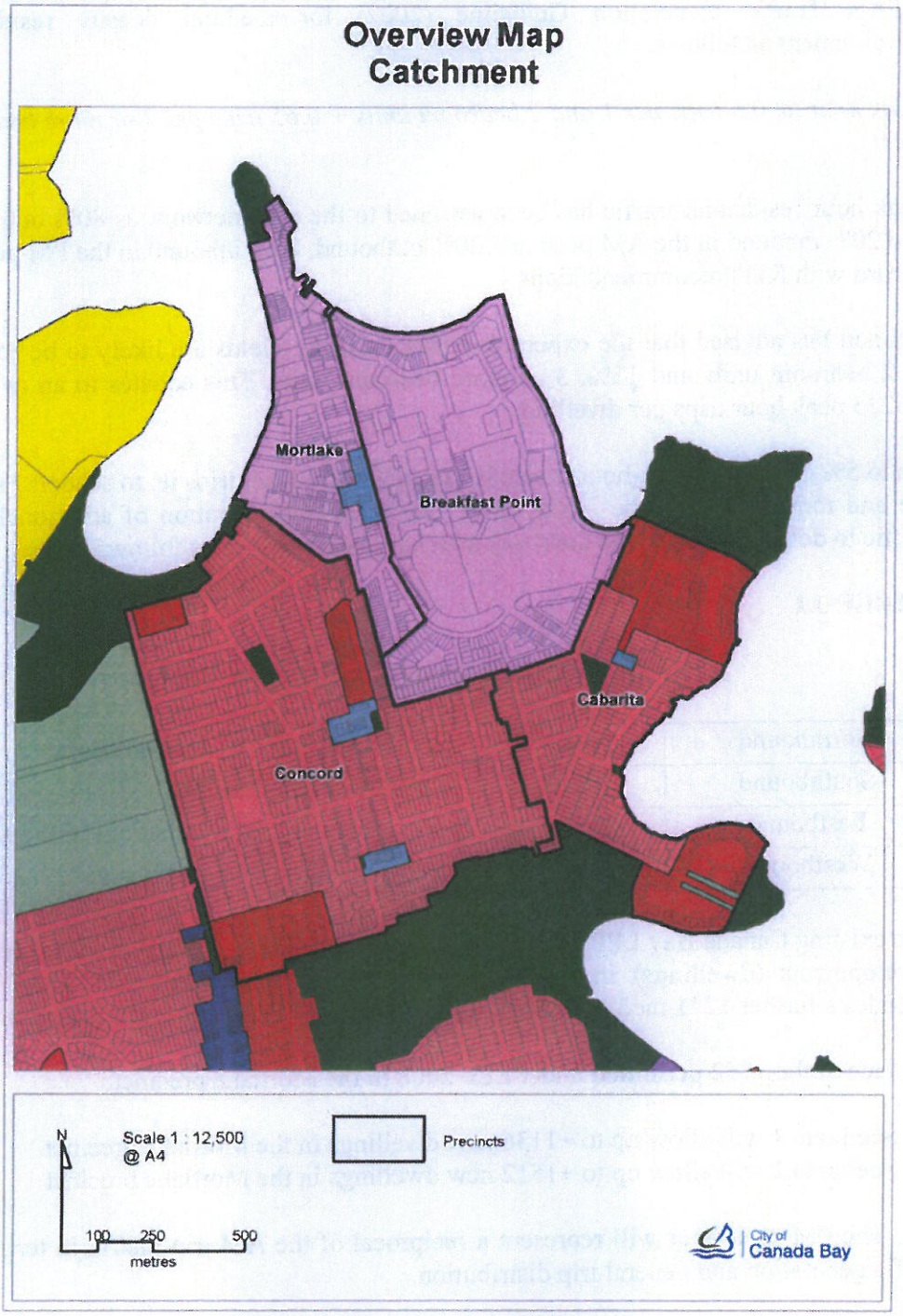
- **Scenario 1** will allow up to +1136 new dwellings in the Mortlake precinct
- **Scenario 2** will allow up to +1512 new dwellings in the Mortlake precinct

NB. The PM peak hour will represent a reciprocal of the AM trip matrix in terms of traffic generation and general trip distribution.

MORTLAKE TRAFFIC STUDY AREA

OVERVIEW MAP

Land use zoning maps for Mortlake, Breakfast Point, Cabarita and part of Concord.



MORTLAKE PRECINCT

MORTLAKE PRECINCT MAP
EXISTING DWELLINGS AND OPPORTUNITY SITES

3.1 Existing Canada Bay LEP 2008

The existing CB LEP 2008 provisions with 752 new dwellings in the Mortlake precinct equating to 393 peak hour trips and 1271 new dwellings within the Breakfast Point precinct equating to 665 peak hour trips i.e. totals 1058 AM peak hour trips including 846 outbound and 212 inbound trips.

Allowing 5% of all trips to be local trips the 95% of traffic exiting the study area are:

Destination	Out	In	Total Trips
Eastbound	522	131	**653**
Northbound	80	20	**100**
Southbound	80	20	**100**
Westbound	122	30	**152**
Total Trips (veh)	**804**	**201**	**1005**

All new traffic exiting the Mortlake / Breakfast Point precincts is expected to utilise Gale Street to Brays Road thence Majors Bay Road, Correy's Avenue or Wellbank Street for traffic travelling north, south or west. Traffic travelling east (and limited Burwood bound traffic) is expected to utilise Ian Parade and Broughton Street or Majors Bay Road to pick up Crane Street, Gipps Street or Parramatta Road.

The post development peak hour impacts of this additional LEP 2008 traffic on the existing key intersections is summarised as follows:

TABLE 3.2

LEP 2008
POST DEVELOPMENT TRAFFIC
SERVICE LEVELS AND DELAY

LOCATION	EXISTING CONTROLS	AM PEAK				PM PEAK				COMMENT
		LS	DS	AVD	HMD	LS	DS	AVD	HMD	
Concord Rd / Hospital Road	Signals[1]	A	0.63	10.3	48.9	A	0.78	14.1	57.4	Average side street queue on RT = 13 vehicles
Concord Rd / Correys Ave	Signals[1]	C	0.82	29.7	83.9	B	0.74	24.3	64.7	Average side street queue on RT = 12 vehicles
Concord Rd / Wellbank St	Signals[1]	B	0.57	19.2	77.8	B	0.65	18.4	68.1	Average side street queue on RT = 10 vehicles
Wellbank St / Majors Bay Rd	Signals	B	0.57	17.5	31.6	B	0.62	17.9	33.5	Minimal delays and spare capacity
Broughton St / Crane St	Signals	F*	0.98	76.2	147.9	D	0.90	50.5	112.7	*No spare capacity in AM peak
Broughton St / Gipps St	Signals	B	0.83	28.0	63.4	C	0.87	31.6	96.6	Limited spare capacity
Broughton St / Parramatta Rd	Signals[1]	B	0.86	18.1	91.2	C	0.98	41.2	63.7	Average 1 cycle side street delay
Burwood Rd/ Crane St	Signals	D	0.94	53.2	105.1	F*	0.99	71.2	125.4	*No spare capacity in PM peak
Burwood Rd / Gipps St	Signals	B	0.92	23.4	79.7	C	0.89	28.9	86.0	Limited spare capacity
Burwood Rd / Burton St	Roundabout	B	0.37	22.7	71.3	B	0.43	24.6	78.7	[2]
Burwood Rd / Parramatta Rd	Signals[1]	C	0.95	39.7	69.9	D	0.98	45.2	83.6	Average 2 cycle side street delay
Gale St / Brays Rd / Mortlake St	Roundabout	A	0.54	7.6	14.2	B	0.48	10.2	18.3	Increased delays and reduced capacity

Where: *LS – Level of Service*
DS – Degree of Saturation
AVD – Average Vehicle Delay (sec/veh)
HMD – Highest Side Street Movement Delay (sec/veh)
**Indicates over saturated, more capacity required*

[1] *Peak Hour Side Street delays at intersection on Main Roads are normally higher and side street queue lengths longer due to Arterial Road co-ordination i.e. higher cycle lengths to benefit two way linear co-ordination on the Main Road disadvantages side street traffic.*

[2] *Southbound Peak Hour delays and queue length in Burwood Road continues to north of the Burton Street roundabout thereby impeding the operation of the roundabout.*

Summary

The post development modelling for LEP 2008 future traffic impacts at the key intersections indicates that the Broughton Street / Crane Street intersection will not adequately cater for the increased eastbound demands in the AM peak and conversely the Burwood Road / Crane Street intersection will suffer in the PM peak.

3.2 Scenario 1

Scenario 1 allows for a 50% increase in FSR for new developments within the Mortlake precinct to a projected total of 1136 dwellings (i.e. + 383 units above LEP 2008) together with the LEP permitted Breakfast Point 1271 dwellings. A total of 2407 new dwellings may be realised resulting in up to 1265 peak hour trips with 1012 vehicles per hour outbound and 253 vehicles per hour inbound in the AM peak.

Allowing 5% of all trips to be local trips the 95% of traffic exiting the study area are:

Destination	Out	In	Total Trips
Eastbound	620	156	**776**
Northbound	96	24	**120**
Southbound	96	24	**120**
Westbound	149	36	**185**
Total Trips (veh)	**961**	**240**	**1201**

All new traffic exiting the Mortlake / Breakfast Point precincts is expected to utilise Gale Street to Brays Road thence Majors Bay Road, Correy's Avenue or Wellbank Street for traffic travelling north, south or west. Traffic travelling east (and limited Burwood bound traffic) is expected to utilise Ian Parade and Broughton Street or Majors Bay Road to pick up Crane Street, Gipps Street or Parramatta Road.

The post development peak hour impacts of this additional (Scenario1) traffic on the existing key intersections is summarised as follows:

TABLE 3.3

SCENARIO 1
POST DEVELOPMENT TRAFFIC
SERVICE LEVELS AND DELAY

LOCATION	EXISTING CONTROLS	AM PEAK				PM PEAK				COMMENT
		LS	DS	AVD	HMD	LS	DS	AVD	HMD	
Concord Rd / Hospital Road	Signals[1]	A	0.68	11.9	51.0	A	0.81	13.7	48.9	Average side street queue on RT = 14 vehicles
Concord Rd / Correys Ave	Signals[1]	C	0.83	37.6	93.3	B	0.78	24.4	67.4	Average side street queue on RT = 14 vehicles
Concord Rd / Wellbank St	Signals[1]	B	0.84	23.0	104.5	B	0.87	20.8	95.1	Average side street queue on RT = 12 vehicles
Wellbank St / Majors Bay Rd	Signals	B	0.73	19.3	37.1	B	0.66	18.1	34.7	Minimal delays and spare capacity
Broughton St / Crane St	Signals	F*	1.01	79.9	213.9	F*	1.04	100.8	165.3	*No spare capacity in peaks
Broughton St / Gipps St	Signals	C	0.89	39.3	105.2	F*	0.96	49.9	155.2	No spare capacity in PM peak
Broughton St / Parramatta Rd	Signals[1]	B	0.88	19.7	92.7	C	0.98	44.6	64.8	Average 2 cycle side street delay in PM peak
Burwood Rd/ Crane St	Signals	E*	0.97	61.7	120.5	F*	1.03	99.0	192.7	*No spare capacity in peaks
Burwood Rd / Gipps St	Signals	B	0.90	27.8	97.9	C	0.92	39.0	118.7	Limited spare capacity in PM peak
Burwood Rd / Burton St	Roundabout	B	0.39	24.3	73.1	B	0.44	25.6	80.1	[2]
Burwood Rd / Parramatta Rd	Signals[1]	C	0.96	40.1	70.9	D	0.98	46.2	85.1	Average 2 cycle side street delay
Gale St / Brays Rd / Mortlake St	Roundabout	B	0.66	11.6	17.2	B	0.65	13.4	22.7	Increased delays and reduced capacity

Where: *LS – Level of Service*
DS – Degree of Saturation
AVD – Average Vehicle Delay (sec/veh)
HMD – Highest Side Street Movement Delay (sec/veh)
**Indicates over saturated, more capacity required*

[1] *Peak Hour Side Street delays at intersection on Main Roads are normally higher and side street queue lengths longer due to Arterial Road co-ordination i.e. higher cycle lengths to benefit two way linear co-ordination on the Main Road disadvantages side street traffic.*

[2] *Southbound Peak Hour delays and queue length in Burwood Road continues to north of the Burton Street roundabout thereby impeding the operation of the roundabout.*

Summary

Post development traffic modelling for Scenario 1 indicates that Crane Street and Gipps Street intersections (with Broughton and Burwood Road) will not operate within acceptable parameters in AM / PM peak times without increased capacity. In reality peak hour traffic wishing to utilize either Crane or Gipps Street will divert to Parramatta Road thereby causing major capacity and operational problems along Parramatta Road at Broughton Street and Burwood Road. It is in our view, unlikely that either Crane or Gipps Street will be upgraded to six lanes in the near future (to accommodate increased traffic demands) and given that much of the existing east / west parallel through traffic on Gipps Street is by-passing Parramatta Road (due to existing delays and poor service levels on the Arterial route) the most practical road network improvements to afford longer term benefits to Parramatta Road, Gipps Street and Crane Street would be the extension of the M4 Motorway to east of Fivedock (ie. City West Link) thereby reducing existing peak hour demands on this east / west route.

3.3 Scenario 2

Scenario 2 allows for a 100% increase in FSR for new developments within the Mortlake precinct to a projected total of 1512 dwellings (i.e. + 759 units above LEP 2008) together with the LEP permitted Breakfast Point 1271 dwellings to a total of 2783 new dwellings. This scenario results in up to 1454 peak hour trips with 1163 vehicles per hour outbound and 291 vehicles per hour inbound in the AM peak.

Allowing 5% of all trips to be local trips the 95% of traffic exiting the study area are:

Destination	Out	In	Total Trips
Eastbound	718	180	**898**
Northbound	110	27	**137**
Southbound	110	27	**137**
Westbound	167	42	**209**
Total Trips (veh)	**1105**	**276**	**1381**

All new traffic exiting the Mortlake / Breakfast Point precincts is expected to utilise Gale Street to Brays Road thence Majors Bay Road, Correy's Avenue or Wellbank Street for traffic travelling north, south or west. Traffic travelling east (and limited Burwood bound traffic) is expected to utilise Ian Parade and Broughton Street or Majors Bay Road to pick up Crane Street, Gipps Street or Parramatta Road.

The post development peak hour impacts of this additional (Scenario 2) traffic on the existing key intersections is summarised as follows:

TABLE 3.4

SCENARIO 2
POST DEVELOPMENT TRAFFIC
SERVICE LEVELS AND DELAY

LOCATION	EXISTING CONTROLS	AM PEAK				PM PEAK				COMMENT
		LS	DS	AVD	HMD	LS	DS	AVD	HMD	
Concord Rd / Hospital Road	Signals[1]	A	0.69	13.2	53.3	A	0.86	14.5	50.2	Average side street delay 1 cycle = 15 vehicles
Concord Rd / Correys Ave	Signals[1]	C	0.88	39.3	94.7	B	0.81	26.1	69.7	1 cycle delay and 15 vehicle queue
Concord Rd / Wellbank St	Signals[1]	B	0.89	25.2	105.6	B	0.89	21.7	97.2	1 cycle delay and 15 vehicle queue
Wellbank St / Majors Bay Rd	Signals	C	0.81	28.2	81.6	C	0.84	24.7	98.8	Limited capacity
Broughton St / Crane St	Signals	F*	1.06	106.8	288.2	F*	1.06	104.8	235.5	* No capacity
Broughton St / Gipps St	Signals	D	0.96	47.1	115.8	F*	0.98	52.5	162.3	* No capacity PM peak
Broughton St / Parramatta Rd	Signals[1]	C	0.91	44.2	102.1	C	0.98	45.2	71.7	Long side street delays to 2 cycles
Burwood Rd/ Crane St	Signals	F*	1.03	71.1	134.7	F*	1.08	149.3	184.6	* No capacity
Burwood Rd / Gipps St	Signals	B	0.91	27.6	99.9	C	0.92	39.5	120.2	Limited spare capacity
Burwood Rd / Burton St	Roundabout	B	0.44	26.4	79.3	C	0.83	26.8	82.7	[2]
Burwood Rd / Parramatta Rd	Signals[1]	D	0.98	46.3	84.7	D	0.99	47.3	86.3	At capacity
Gale St / Brays Rd / Mortlake St	Roundabout	B	0.75	12.4	16.2	E	0.78	28.7	64.6	At capacity in PM peak

Where: *LS – Level of Service*
DS – Degree of Saturation
AVD – Average Vehicle Delay (sec/veh)
HMD – Highest Side Street Movement Delay (sec/veh)
**Indicates over saturated, more capacity required*

[1] Peak Hour Side Street delays at intersection on Main Roads are normally higher and side street queue lengths longer due to Arterial Road co-ordination i.e. higher cycle lengths to benefit two way linear co-ordination on the Main Road disadvantages side street traffic.

[2] Southbound Peak Hour delays and queue length in Burwood Road continues to north of the Burton Street roundabout thereby impeding the operation of the roundabout.

Summary

The three intersections of Crane Street with Broughton Street and Burwood Road and Gipps Street and Broughton Street will need to be upgraded ie. additional lanes and intersection capacity to accommodate peak hour east / west traffic demands.

3.4 Traffic Impacts

As a guide Austroads and the RTA Guidelines suggest urban peak hourly, single lane traffic flows of up to 900 vehicles per hour (ie. Level of Service D when interpreted by parking / unparking, pedestrians etc) as a maximum before additional lane capacity is required.

Conversely the maximum one lane traffic flow is 1400 vehicles per hour at Level of Service E. Existing mid block traffic volumes are shown in **Figures 4A** and **4B**.

The projected AM peak hour vehicle trips in/out of the Mortlake and Breakfast Point precinct at Gale Street for the existing and future scenarios are:

TABLE 3.5

EXISTING AND PROJECTED DEVELOPMENT TRAFFIC

Existing Traffic	With LEP 2008 Development	With Scenario 1 Development	With Scenario 2 Development
640 veh/hr	1058 veh/hr	1265 veh/hr	1454 veh/hr
+0%	**+65%**	**+98%**	**+127%**

The existing and projected AM peak traffic flows upon the key (local) access roads to/from the study area are shown below:

TABLE 3.6

EXISTING AND PROJECTED AM PEAK HOURLY VOLUMES (VEHICLES PER HOUR)

On Route		Existing	LEP 2008	Scenario 1	Scenario 2
Gale Street	Northbound	246	325	365	435
	Southbound	346	660	820	945
Mortlake Street	Northbound	181	185	195	120
	Southbound	173	575	675	740
Ian Parade	Northbound	504	570	580	600
	Southbound	664	1065	1165	1230
Brays Street	Eastbound	145	290*	320*	370*
	Westbound	388	790*	890*	955*
Majors Bay Road	Northbound	577	650	670	705
	Southbound	415	535	600	645
Crane Street	Eastbound	1005	1325	1375	1425
	Westbound	836	925	835	945
Gipps Street	Eastbound	843	1045	1095	1145
	Westbound	719	765	775	790

NB: LEP 2008, Scenario 1 and Scenario 2 includes projected eastbound traffic only.

- *Also included projected north/south/west exiting peak hour traffic.*

Summary

The development traffic (for the approved LEP 2008 and additional development scenarios 1 and 2) was assigned to the road network using directional distribution shown in Table 3.1. The resultant intersection outputs are presented in Tables 3.2 to 3.4 for the approved and extra additional unit scenarios respectively.

AM peak mid block traffic volumes for LEP 2008 and Scenario 1 and 2 are shown in Table 3.6.

- Excluding Crane and Gipps Streets which are four lane roads from Broughton Road to Burwood Road, all of the above roads (which function as collector roads) are 50km/h two lane undivided roads with kerbside parking, landscape kerb blisters, roundabouts, speed platforms and other traffic calming devices. Effectively only one traffic lane in each direction is provided.

- Gale Street, Ian Parade, Brays Street and Majors Bay Road exceed environmental capacity thresholds already (i.e. 500 vehicle per hour), based on our existing (year 2010) traffic counts.

- It is our experience that when single lane volumes on residential roads exceed 700 vehicles per hour (LOS C) through traffic will start to seek alternate parallel (by-pass) routes. All key access roads into the Mortlake and Breakfast Point will start to exceed the Austroad / RTA mid block road capacity threshold from Scenario 1 and onwards.

- Conversely, the RTA Guidelines also suggest that the maximum flows on collector roads in residential area for amenity and environmental capacity considerations should not exceed 500 vehicles per hour (two way).

- Peak hourly traffic volumes on some key access roads (within Concord) and to/from the Mortlake and Breakfast Point precincts are approaching and/or already exceeding the above 500 vehicle peak hour residential amenity threshold limits.

3.5 Recommended Traffic Improvement Works

The existing signalised intersection of Crane and Broughton Street and Crane Street and Burwood Road will need to be upgraded prior to the imposition of LEP 2008 peak hour traffic volumes. Whilst the intersection of Gipps and Broughton Street will need to be upgraded prior to the adoption of Scenario 1. The existing single lane roundabout at Gale Street / Mortlake Street and Brays Road will need to be upgraded prior to the adoption of Scenario 2.

Other ancillary improvement works include but are not limited to:

- Provide new bus route through the development precincts

- Implement a restrictive parking policy on collector roads in the study area

- Provide and enhance pedestrian / cyclist routes around the development area and to / from public transport nodes

4.0 CONCLUSIONS

Additional development under Scenario 1 or 2 should only occur in conjunction with road and intersection infrastructure upgrades and increased public transport services (buses and ferries) commensurate with the anticipated level of additional AM and PM peak hour traffic flows and public transport demand.

Notwithstanding some conventional traffic amenity levels on major access routes to / from the Mortlake precinct particularly those accommodating new AM eastbound and PM westbound traffic flows will be compromised beyond acceptable limits regardless of these upgrades.

The conclusions arising from our traffic data collection and analysis together with our traffic assignments and traffic modelling for LEP 2008 Scenario 1 and 2 are:

- **LEP 2008** will realise approximately (+753 new dwellings) and Breakfast Point (+1271 new dwellings) = total 2023 dwellings equating to 1058 peak hour trips;

- **Scenario 1** - with 50% increases in F.S.R = will realise approximately 1136 new dwellings + Breakfast Point = total 2407 dwellings or 1265 peak hour trips;

- **Scenario 2** – with 100% increase in F.S.R. = will realise approximately 1512 new dwellings + Breakfast Point = total 2783 dwellings or 1454 peak hour trips.

Deducting 5% as local trips within the study from the totals taken, the remaining 65% of eastbound trips are:

EASTBOUND ONLY TRIPS

	AM PEAK (VEH/HR)			PM PEAK (VEH/HR)		
	Out	In	**Total**	Out	In	**Total**
LEP 2008	522	131	**653**	131	522	**653**
SCENARIO 1	620	156	**776**	156	620	**776**
SCENARIO 2	718	180	**898**	180	718	**898**

Assuming all eastbound traffic utilises Mortlake Street/Ian Parade/Broughton Street or Brays Road/Majors Bay Road to access Crane Street, Gipps Street or Parramatta Road.

NB: Currently about 60% of traffic exiting the precinct uses Brays Road but this also includes north and westbound traffic. For comparison proposed, below are the existing and proposed peak hour directional volumes at selected locations. Refer figures 4A/4B

EXISTING AND PROJECTED AM PEAK HOURLY VOLUMES (VEHICLES PER HOUR)

On Route		Existing	LEP 2008	Scenario 1	Scenario 2
Gale Street	Northbound	246	350	400	450
	Southbound	346	540	945	1085
Mortlake Street	Northbound	181	235	250	270
	Southbound	173	385	500	575
Ian Parade	Northbound	504	560	575	595
	Southbound	664	880	990	1065
Brays Street	Eastbound	145	225*	245*	285*
	Westbound	388	710*	750*	825*
Majors Bay Road	Northbound	577	645	660	680
	Southbound	415	590	640	685
Crane Street	Eastbound	1005	1180	1230	1275
	Westbound	836	880	900	920
Gipps Street	Eastbound	843	1017	1070	1120
	Westbound	719	755	780	800

NB: LEP 2008, Scenario 1 and Scenario 2 includes projected eastbound traffic only.
** Also included projected north/south/west exiting peak hour traffic.*

Excluding Crane and Gipps Streets which are four lane road from Broughton Road to Burwood Road, all of the above roads (which function as collector roads) are 50km/hr 2 lane undivided roads with kerbside parking, landscape kerb blisters roundabouts, speed platforms and other traffic calming devices. Effectively only 1 traffic lane in each direction is provided.

As a guide, Austroads and the RTA Guidelines suggest urban peak hourly, single lane traffic flows of up to 900 vehicles per hour (i.e. Level of Service (LOS) D when interrupted by parking/unparking, pedestrians etc.) as a maximum before additional lane capacity is required.

The above guidelines also indicate the maximum one lane traffic flow is 1400 vehicles per hour at Level of Service E.

Conversely, the RTA Guidelines also suggest that the maximum flows on collector road in residential area for amenity and environmental capacity considerations should not exceed 500 vehicle per hour (two way). Refer Section 2.4

Gale Street, Ian Parade, Brays Street and Majors Bay Road exceed these environmental capacity threshold already, based on our existing (year 2010) traffic counts.

However, southbound single lane capacity threshold (Level of Service E) will be exceeded on Gale Street with Scenario 1 onwards and on Ian Parade with LEP 2008 and onwards.

It is our experience that when single lane volumes on residential roads exceed (about) 700 vehicles per hour (LOS C) through traffic will start to seek alternate parallel (by-pass) routes.

In addition, our intersection modelling (completed for all 12 key sites) for existing intersections (and calibrated) and for LEP 2008, Scenario 1 and Scenario 2 options indicates the following intersections will have capacity and operation difficulties i.e. Level of Service E or lower.

- Crane and Broughton Streets – LOS F AM Peak with LEP 2008
- Crane and Burwood Road – LOS F PM Peak with LEP 2008
- Crane and Broughton Streets – LOS F AM/PM Peaks with Scenario 1
- Gipps and Broughton Streets – LOS F PM peak with Scenario 1
- Crane and Burwood Road – LOS F AM/PM peak with Scenario 1

EXISTING AND POST DEVELOPMENT TRAFFIC SERVICE LEVELS AND DELAY

Location	Existing Controls	Existing (Year 2010) Traffic		LEP 2008 Traffic		Scenario 1 Traffic		Scenario 2 Traffic	
		AM LOS	PM LOS	AM LOS	PM LOS	AM LOS	PM LOS	AM LOS	PM LOS
Concord Rd / Hospital Road	Signals [1]	A	A	A	A	A	A	A	A
Concord Rd / Correys Ave	Signals [1]	C	B	C	B	C	B	C	B
Concord Rd / Wellbank St	Signals [1]	B	B	B	B	B	B	B	B
Wellbank St / Majors Bay Rd	Signals [1]	B	B	B	B	B	B	C	C
Broughton St / Crane St	Signals [1]	C	C	F	D	F	F	F	F
Broughton St / Gipps St	Signals [1]	B	B	B	C	C	F	D	F
Broughton St / Parramatta Rd	Signals [1]	B	B	B	C	B	C	C	C
Burwood Rd/ Crane St	Signals [1]	C	C	D	F	E	F	F	F
Burwood Rd / Gipps St	Signals [1]	B	B	B	C	B	C	B	C
Burwood Rd / Burton St	Roundabout	B	B	B	B	B	B	B	C
Burwood Rd / Parramatta Rd	Signals [1]	C	D	C	D	C	D	D	D
Gale St / Brays Rd / Mortlake St	Roundabout	A	A	A	B	B	B	B	E

Level of Service A to C indicates acceptable traffic service levels, delay times and queuing lengths for existing traffic controls and intersection/layout.

Level of Service D operation i.e. minimum LOS before intersection traffic oversaturation occurs.