Firstly, apologies for the error in the link to Mike Lee's article in the last email – this one will work:

https://www.nzherald.co.nz/nz/news/article.cfm?c id=1&objectid=12159819

His article points out the basic flaw of trying to combine two issues ie Airport and local LR routes. That mirrors one of our key concerns as well.

We see several high level risks and issues:

- Trying to do a LR route for both Airport passengers with luggage and local commuters has risks.
- But also, as a local route, it is being done without any overall LR plan for Auckland. It is putting in an end to
 end route, without seeing how later routes will interact. And without broad consultation and support. It will
 utilise one of the most crucial corridors of any future city wide LR combination of routes ie Queen St and
 Customs/Fanshawe. With high frequencies this may be prevent other routes using these key areas.
 Where will the later LR routes feed such as North-Western, Tamaki Drive, Eastern suburbs/Remuera Rd,
 Ponsonby, North shore busway when it becomes LR?
- Will LR to the Airport work or even be supported by passengers? Where would that leave LR for Auckland and our area? We have to wonder why Melbourne, as a leading LR city has consistently chosen rapid (heavy) rail for its airport connection? Why would we expect these recent Auckland decisions to pass business case scrutiny when Melbourne leads the world in this area?
- The other high-level driver is removing buses from congested city streets primarily Symonds St, but as we mentioned that is uncertain given the proposed stop distances, which may make it easier to walk to Sandringham Rd or Mt Eden Road, and bus from there. Also there are very simple re-routing options (Grafton Rd) while overall LR plans are developed. Also work is being done on bus terminal options for that area.
- The LR route section from Eden Valley to Britomart also duplicates the coming CRL route, which in fact also has a better connection to the Mt Eden rail station. This duplication in a city struggling to plan and fund public transport seems wasteful.

We have raised our more detailed concerns and questions directly with Minister Twyford, and were told that these detailed type of issues would be worked through. Our view is that those key "showstopper" issues need to be addressed quickly at an engineering/detailed level – that was the flaw in the previous 1999 plan. And it is a flawed process to currently be consulting on a 10 year AT Public Transport Plan while a reasonable level of details isn't known.

If this isn't a plan/design that can work, the government and AT/Council need to move quickly to plan B – and not lose 20 years as we have from the last Dominion Rd plan.

Detailed information, design sources.

Below are some of the key sources for information and ways to get more detail on what is planned to date – noting that the government/NZTA have taken over the project from March this year.

https://www.nzta.govt.nz/roads-and-rail/rapid-transit/auckland-light-rail/

on that site is an overview, and pdf's of industry/stakeholder briefings.

From there comes the high-level 2 routes – noting that Northwest isn't at an advanced planning stage yet:



City Centre to Mangere

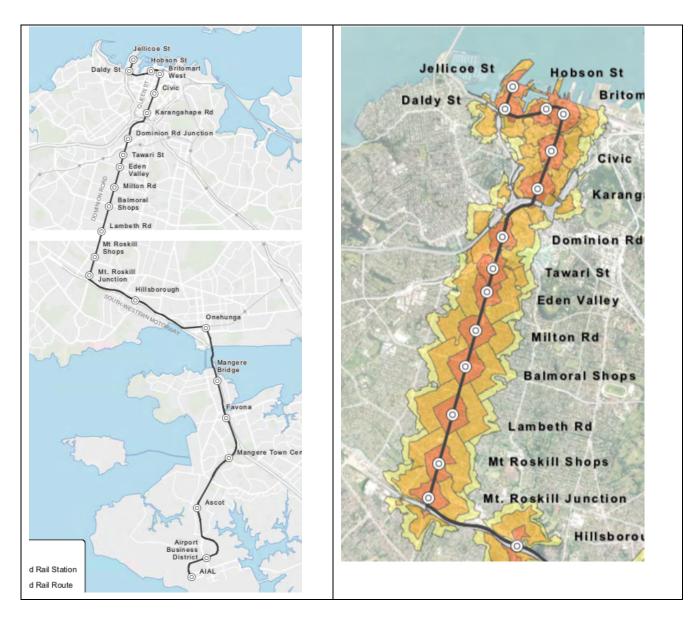
- · Approximately 22km dual light rail line
 - Mostly at grade and on-street running
 - Significant structures likely in certain locations
 - Will run on some of New Zealand's most iconic streets

Timeline / process / details

In mid 2016 the previously agreed rapid (heavy) rail option to the airport was dropped by AT and NZTA, based on a "poor value for money basis" and replaced with LRT. Presumably therefore the rapid rail option still met network and passenger requirements, as the reason for dropping was a cost based evaluation.

In August 2016 the need for LRT to Airport was a 2028-2038 project.

May 2016 route	Map showing in brown the 400m walking distance ie std used for public transport and lighter brown 800m.
	We suspect some walking distances would be greater if using actual streets walked to get to the stop. But does show worse access than current bus stops.



Then just a year later it was brought forward to 2018-2028.

In March 2017, the previous government agreed a staged bus to LRT process "based on demand and capacity" and that a business case for route protection be undertaken.

On Oct 1 2017 AT reported back to Mayor Goff on options to accelerate the LR project due to the America's Cup and APEC in 2021. This is a very interesting report and gets into more design, and confirms some elements pre the final business case – such as some infrastructure, such as removal of Dominion rd flyover:

B Civic Stop to Dominion Rd Junction

2.2km Includes K' Rd underpass, new CMJ bridge and at-grading of Dominion/New North Road junction

It also had images that detailed the type of raised track we may expect, and subsequent crossing issues.



And has a good analysis of various risks – which in our view are very relevant whether accelerated or not.

The report can be found here: https://ourauckland.aucklandcouncil.govt.nz/media/18258/light-rail-acceleration-strategy-report.pdf

On 24 Oct 2017, the Labour/Green party coalition agreement chose to specifically detail this link as an agreed goal: 2(d) "Work will begin on light rail from the city to the airport in Auckland."

On 28 Nov 2017, AT prepared a briefing note to NZTA/Govt on the project and progress to date. It started its history from 2012, and not the previous LR proposal.

On 26 April 2018 Minister Twyford took a paper to cabinet endorsing and accelerating LR to Airport

City-to-airport light rail transit corridor

- 19 I endorse the findings of the revised ATAP indicative package and propose that the city-to-airport light rail transit corridor be prioritised and delivered on an accelerated schedule (referred to as the "city-to-airport link"). Detailed design of corridor is yet to be undertaken.
- 20 The city-to-airport light rail transit corridor could run from the airport through Mangere, Onehunga and Mount Roskill, then along Dominion Road through to Queen Street in Auckland's city centre before terminating in the Wynyard Quarter waterfront urban regeneration development area. This alignment could add potentially fifteen new stations between the airport and Wynyard Quarter.
- 21 Overall, the light rail transit corridor is expected to greatly increase the transport accessibility for communities along the route and provide urban development opportunities.

And outlining the indicative route

22 The following figure illustrates the indicative city-to-airport light rail transit and the other RTN corridors which are described in further detail below.

Northern Line RTN

Dispate

Albury

Cornelfalian

Dispate

Average

Lipself Ed

North West Line RTN

Average

Airport to Botany Line RTN

One bungs

Airport to Botany Line RTN

One bungs

Airport to City Line LRT

First decode (2018-28)

Auckland Alport

Auckla

Figure 1: City-to-airport link and indicative RTN programme

So while public comments have now been about an LR route to Mangere, Cabinet approval would appear to clarify that this is in fact for the airport. It also appears to support various rumours that there will likely be fewer stops on the route.

In July 2018, NZTA held industry briefings and outlined scope of work

We know from the last attempt at an LR route on Dominion Rd that the challenges are substantial.

The road widths at heritage town centres are as little as 15m between curbs – allowing LR and only one vehicle lane. These widths also limit possible positions for stops.

Local road flows

With a narrow Dominion Rd at town centres, and the impacts of one lane of traffic, there will be many traffic issues to consider. Below for example the issues of how Dominion/Valley road could work



We'd have one vehicle lane each way but needing to go both straight and allow left and right turns. Crucial given other options to turn across LR tracks may have been stopped. And of course cross flow would need to carry on ie Walters / valley across and into Dominion Rd. These cross flows would increase due to people avoiding parts of Dominion Rd – either by choice or due to LR restrictions.

The above would also have LR units going both north and south with signal prioritization. And of course pedestrians would still need to cross. We'd assume some "barn dance" type crossing. And it would also need to cope with Eden Park event day/night pedestrians.

It's hard to see how each north or south bound lane would have more than a couple minutes of a green light. Which in our view would generate more avoidance of the area and "rat runs" through neighbouring streets.

We also know from the previous plan that further land may be needed to widen parts of Dominion Rd – this excludes the stops that may now be planned on Dominion Rd itself ie where vehicles will need to bend around the stops.

The blue parts below were for land needed in the original proposal. Of concern at the time was whether this meant heritage blocks such as by Prospect Tce would be demolished.



Overview

Looking firstly at the overall plan, we agree with Mike Lee that it has two aims and achieves poorly for both.

As an airport route it is too long and has too many local stops – likely to put passengers off. While fare costs haven't been determined, they are unlikely to be less than an Uber ride for 2 or more people. So any issue for travelers or unfavourable TripAdvisor reviews could undermine a major passenger component, and the financial viability, and increase rates or fuel tax subsidies.

The type of LR units will also be impacted by the route itself, and especially the tight radius turn from Queen St to Customs St. The flexible/bend parts in LR Units impact on seating/racks etc, and from our research may limit manufacturers that can provide suitable units. Again these detailed issues could be quickly addressed.

The type of units, numbers of seats/luggage racks is crucial, as it flows to other issues. For example AT's plan is to stop current bus routes from Lynfield and Mt Roskill and presumably make them switch onto LR at an interchange. Will those commuters do that to stand all the way into town? or will they insist AT continue their direct bus services by switching to Sandringham Rd?

An Airport LR unit needs specific configuration – luggage racks etc – in conflict with a commuter unit. This may lead to very few seats, which are occupied firstly by airport passengers and outer stops.

The absolute necessity of a city's airport link to be completely reliable, will drive design features such as raised tracks to avoid at all costs any accident that would stop all units. The designers can't afford to have a route which would completely stop feeding the airport, due to a local accident. Again, airport links must be reliable. Check in times/security times etc drive passengers and they will not take undue risk with an unreliable service.

It is interesting to consider the criteria used by Melbourne for an Airport link, which led them to a rapid/heavy rail decision:

Preferred characteristics of a future airport rail service include: > a target travel time of 30 minutes to compete with other travel modes > 10 minute service frequency > express operations where possible and cost-effective > around the clock services to match Melbourne Airport's 24 hour operations > integration with other services to provide direct trips and minimise the need for transfers catering for people travelling with luggage including possible check-in and luggage drop minimising impacts on other rail services and the road network

It highlights that the original pre 2016 rapid (heavy) rail plans of a stage 1 via Puhinui followed by stage 2 loop back through Onehunga could meet what Melbourne considered was needed.

It also covers areas such as luggage check in/luggage drop, which couldn't be accommodated on an LR platform in Queen St, but could be in a Britomart or CRL station.

As a commuter route it looks to extend the stops to well beyond any reasonable walking distance and reduces the numbers of people who easily access bus stops currently. As we see in the map above there will be areas between stops that lose walkability to LR. While the inconvenience to existing bus users may be offset with numbers of new residents in apartments, they are more likely to travel to destinations other than the CBD or Airport warehouse areas at any rate, given only 11% work in the CBD.

The other complication is that alternative bus routes that match existing destinations are readily available on Sandringham Rd and Mt Eden Rd. Also from Eden Valley to Britomart, the LR route largely just provides a duplication of the CRL route – stops such as K rd/ Aotea and Britomart are close to the new LR stops. So for those that can walk to Kingsland they will have a faster alternate route at any rate, and can change to a Wynyard section if need be.

The NZTA CEO felt driven to try and defend the plan in a recent Herald article and attempted to shift away from the flaws in the airport focus and more to activating a corridor and future development.

This angle is easily able to be checked. Firstly the government housing developments in Mt Roskill, are outside the 400 m walking distance to a possible LR station/interchange (unless they intend to build on the golf course).

His figures of population alongside the route were extremely high, along with those for possible growth through intensification – when we check actual census data, we can only assume maybe the CBD population was included. And that is a population which for the vast majority will circulate within the CBD.

Also, as only 11% work in the CBD, and this route really only connects 2 job areas, in all likelihood 90% of any new population would travel elsewhere.

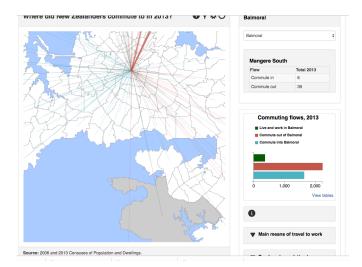
The employment area around the airport is already largely developed and given size of premises/warehouses and shift work it is difficult to connect LR to work locations/times. Also current figures show most Airport area workers travel from the south and east to the airport.

The only proper data available is the 2013 census – the good news is that this is in a very usable and checkable format. We'd encourage you to go to the link below and check travel patterns – it's very interesting and easy to use:

http://archive.stats.govt.nz/datavisualisation/commuterview/index.html

To use the tool – per below – you click on the source area eg Balmoral here. That highlights lines of commuters out and into that block (red out and light blue into the area).

You then move your mouse to the destination area, to show movement between the two – here we see on the right only 6 commuters out of Balmoral to airport area, and 39 into the area from Mangere.



It's a very interesting (and fun) tool and you can click on other source blocks within Mt Eden to see travel patterns.

And we can then check where the Airport/Mangere workers actually come from – the light blue lines in, with thickness indication volumes



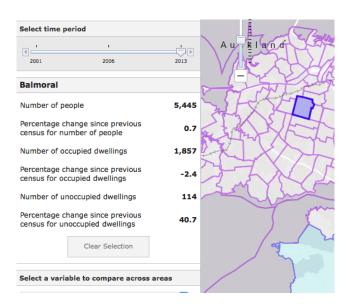
We can then make our own informed decisions on likely LR route use.

You can also get a feel for the actual population along the route, vs NZTA's numbers.

http://archive.stats.govt.nz/StatsMaps/Home/People%20and%20households/2013-census-population-dwellingmap.aspx

keep clicking on the map in the link to drill down to our area. Below shows 5445 in Balmoral.

You can click lower to "meshblocks" which will show real numbers within 400m walking distance.



We realise this has been a long and detailed email but would encourage you to delve into the info and make your own decisions on how this project may work, and local impacts.

In the next email, we'll explore some alternatives and the current consultation which closes on Dec 14.