

**BEFORE THE ENVIRONMENT COURT  
AT AUCKLAND**

**I TE KŌTI TAIAO O AOTEAROA  
KI TĀMAKI MAKĀURAU**

**IN THE** of appeals under Clause 14 of  
**MATTER** Schedule 1 of the Resource  
Management Act 1991

**BETWEEN** **BOONHAM**  
**(ENV-2021-AKL-000061)**

**MANGAWHAI MATTERS**  
**INCORPORATED & OTHERS**  
**(ENV-2021-AKL-000062)**

**Appellants**

**AND** **KAIPARA DISTRICT COUNCIL**  
**Respondent**

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**STATEMENT OF EVIDENCE OF LEO DONALD HILLS ON BEHALF OF  
MANGAWHAI CENTRAL LIMITED**

**(TRANSPORT)**

**17 December 2021**

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## INTRODUCTION

### Qualifications and experience

1. My name is Leo Donald Hills.
2. I hold a Master of Civil Engineering (2000) and a Bachelor of Engineering with Honours (1996), both from the University of Auckland. I am a Chartered Professional Engineer (CPEng) and a Chartered Member of Engineering New Zealand (CMEngNZ).
3. I am a director of Commute Transportation Limited (Commute) and have over 23 years' experience as a specialist traffic and transportation engineer. During that time, I have been engaged by local authorities and private companies/individuals to advise on traffic and development issues covering safety, management and planning matters of many kinds.
4. I have been engaged by Mangawhai Central Limited to advise on the traffic aspects of Proposed Plan Change 78 (PC78) relating to the Mangawhai Central development (known as Estuary Estates in the Operative District Plan) in Mangawhai (the "Proposal"). Details of the Proposal are set out in the evidence of Mr Mark Tollemache.
5. Commute prepared the Integrated Transport Report for PC78 dated November 2019. Commute have also prepared a number of related reports including:
  - (a) Commute Transportation, August 2019. Transport Assessment of Proposed Intersections.
  - (b) Commute Transportation, September 2019. Molesworth Drive, Transport Review Response.
  - (c) Commute Transportation, September 2019. Local Service Zone Subdivision Transport Assessment.
  - (d) Commute Transportation, October 2019. Supermarket and main street development transport assessment.
6. I am familiar with the application site and the surrounding locality.

## **Code of Conduct**

7. I confirm that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note (2014) and I agree to comply with it. In that regard, I confirm that this evidence is written within my expertise, except where I state that I am relying on the evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

## **SCOPE OF EVIDENCE**

8. In my evidence, I:
  - (a) provide an executive summary of my key conclusions;
  - (b) summarise the relevant aspects of PC78 with respect to transport;
  - (c) set out an assessment of PC78 with respect to anticipated transport effects; and
  - (d) address relevant appeal points.

## **EXECUTIVE SUMMARY**

9. The Proposal can be accommodated by the surrounding road network while maintaining acceptable levels of safety and performance. The Proposal is to accommodate approximately 500 additional dwellings beyond that which is already provided for by Operative Chapter 16 of the District Plan ("District Plan"). PC78 also provides for non-residential activities (including in the Business 1 and Service 7 Sub-Zones) in a manner that is different to the Operative Plan. The trip generation associated with PC78 can be accommodated within the road network.
10. The previously consented roading environment, including two dual-lane roundabouts and Molesworth Drive upgrade (including cyclist / pedestrian upgrades) which are currently under construction, is appropriate to cater for the traffic expected by the Proposal.

11. Operative Chapter 16 of the District Plan addresses transportation matters in Rule 16.9. The operative parking,<sup>1</sup> access<sup>2</sup> and loading<sup>3</sup> provisions, which are retained in PC78, remain appropriate to manage the effects of activities enabled by PC78.
12. PC78's deletion of the bespoke roading cross sections and roading design performance standards from Chapter 16 is appropriate, as these standards do not reflect the Council's code of practice in terms of engineering design, current engineering best practice, or the most recent resource consents associated with the upgrade of Molesworth Drive, the Ring Road, the Collector Road and main-street.<sup>4</sup>
13. I consider that the traffic / transport issues raised by the appeals and s274 notices have already been addressed in the Proposal and / or can be appropriately managed through future conditions of consent.
14. Overall, I consider there are no traffic engineering or transportation planning reasons that preclude PC78 as proposed.

#### **PLAN CHANGE 78: SUMMARY**

15. Below I summarise key aspects of PC78 relating to transport.
16. The PC78 land is primarily situated within the Estuary Estates Structure Plan (EESP) area associated with Chapter 16 of the Operative District Plan. Among other things, PC78 seeks to alter the existing EESP and to add two additional sites (on Old Waipu Road) through rezoning into the Estuary Estates Zone.
17. The site is currently a predominantly undeveloped block of land (130 ha) to the northwest of Molesworth Drive, located between Mangawhai and Mangawhai Heads. The PC78 area will utilise two new dual-laned roundabouts and an associated upgrade to Molesworth Drive adjacent to the site (recently consented and currently under construction) to gain access to the wider roading network.

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<sup>1</sup> 16.9.4.3.

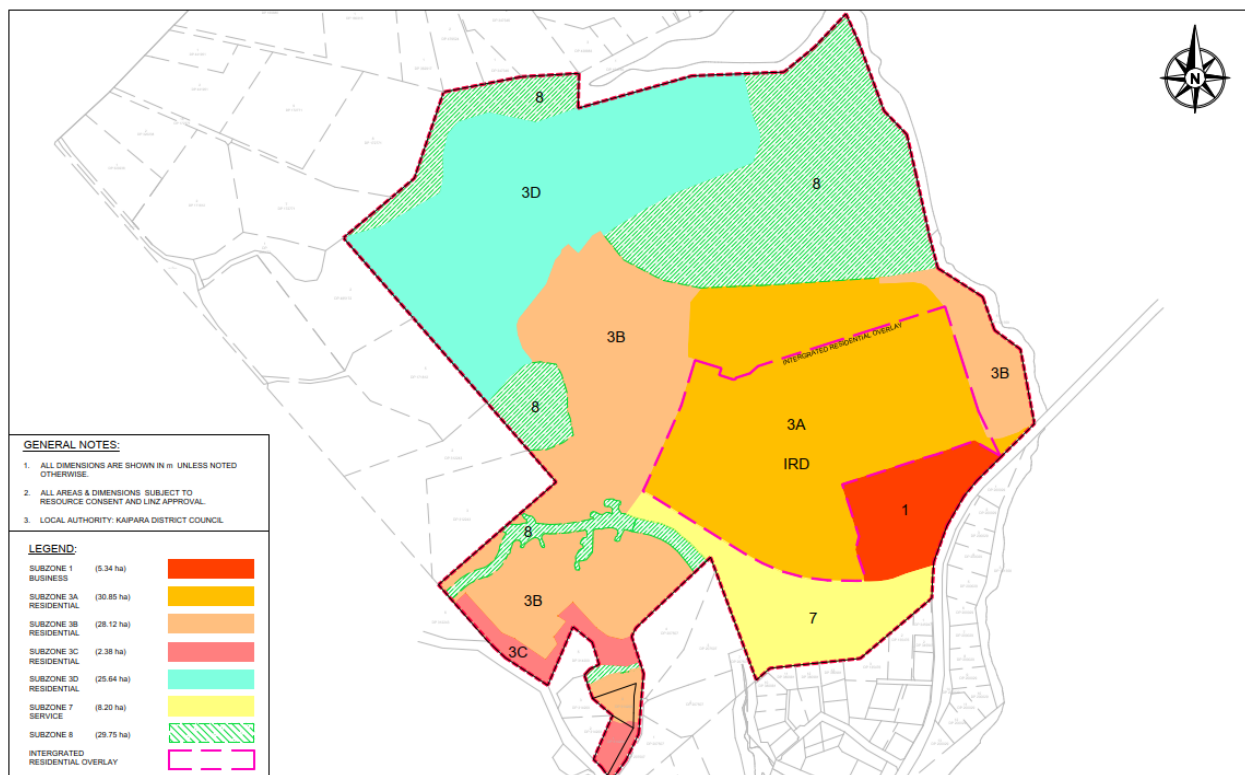
<sup>2</sup> 16.9.4.2.

<sup>3</sup> 16.9.4.4.

<sup>4</sup> These standards relate to the Operative Estuary Estates Structure Plan and specific cross sections.

18. From a transport perspective, PC78 makes the following key changes to the EESP:
- (a) Reduction to the Business 1 sub-zone from 7.5 ha to 5.34 ha.
  - (b) Changes to zoning which result in increased housing yield (creation of new Residential sub-zones 3A, 3B, 3C and 3D replacing existing sub-zones 2, 3, 4, 5 and 6). The most significant change from a traffic perspective is these amendments to the residential sub-zones that would enable approximately 500 additional dwellings beyond the 500 already provided for by Chapter 16 (which is inclusive of a retirement facility).
  - (c) Changes in the transport network within the PC78 area, along with the deletion of the roading cross sections and associated rules (although many of these changes are already consented).
19. The PC78 zoning map (Figure 1) shows the overall layout and proposed zoning of the PC78 area.

**Figure 1: PC78 proposed zoning map**



## Local transport environment

20. The site is located north-west of Molesworth Drive between Mangawhai and Mangawhai Heads, south-west of Tara Creek. Figure 2 shows the location of the site in relation to the surrounding road network.

**Figure 2: Site Location**



21. Molesworth Drive runs along a north-south alignment connecting to the intersection of Mangawhai Heads Road / Cullen Street in the north and Molesworth Drive / Old Waipua Road in the south.
22. The speed limit on Molesworth Drive in this location is 80km/h. I understand that the speed limit on Molesworth Drive will be reduced to 50km/h as part of a wider programme of speed reductions by Kaipara District Council.<sup>5</sup>

<sup>5</sup> Northland Transportation Alliance, 2021. Regional Speed Limit Review Mangawhai and Kaiwaka (including Oneriri and Oruawharo Road) – Recommendations Report.

### **Consented Roding environment**

23. As I have noted previously, the Proposal site will utilise two new dual-laned roundabouts and an associated upgrade to Molesworth Drive (recently consented and currently under construction) to gain access to the wider roading network.
24. I was heavily involved in the consenting and design of these two roundabouts and the associated upgrade to Molesworth Drive which included:
- (a) Traffic modelling and assessment of the entire anticipated Mangawhai Central site as a whole for both existing and future background traffic volumes (including holiday periods).
  - (b) A number of meetings with Council officers and consultants over a 6-month period relating to the overall form of the upgrade.
  - (c) Production of an October 2019 report “Transport Assessment of Proposed Intersections” as well as a further September 2019 report “Molesworth Drive, Transport Review Response” relating to matters raised by Council reviewers.
  - (d) Working closely with Council officers and Council reviewers over a two-month period (September – October 2019) to detail and finalise the design of the two roundabouts and Molesworth Drive upgrade.
25. Subsequently, the resource consents for the roundabouts and upgrade were approved in November 2019. Since then, consents have been granted for the Service Sub Zone 7 Subdivision, the supermarket/main street (Business Sub Zone 1) and a Bunnings store; and consents have been lodged for a service station. Figure 3 sets out the consented roading upgrades which are currently under construction providing access to the Mangawhai Central development area.

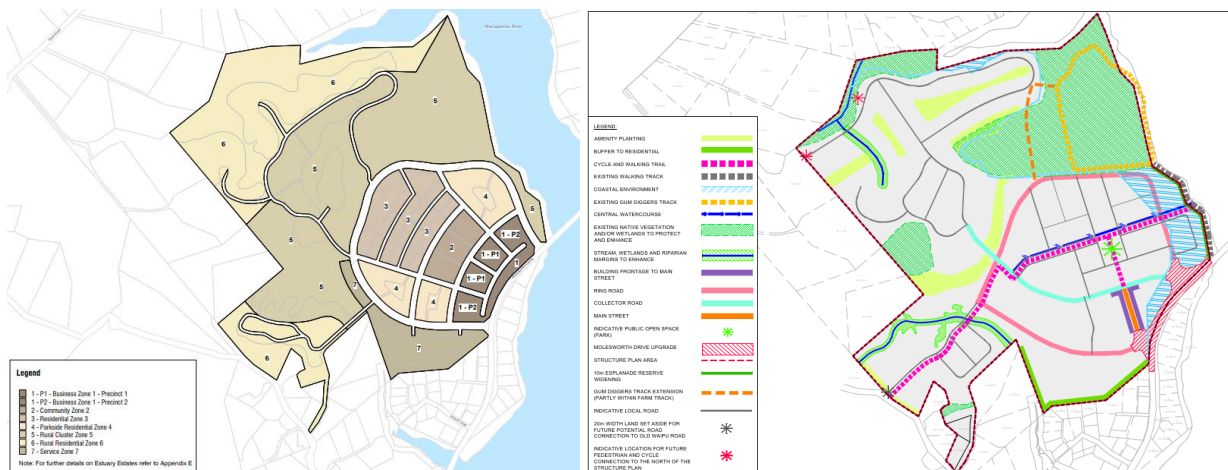
**Figure 3: Roading upgrades under construction**



## Operative District Plan

26. Map 56a of the District Plan provides a layout of the site known as Estuary Estates. Figure 4 provides a comparison between the Operative EESP and the PC78 layout.

**Figure 4: District Plan Map 56a (left) and PC78 Structure Plan Map (right)**



27. As outlined in Figure 4, the Operative Chapter 16 of the District Plan identifies two connection points between the Estuary Estates area and Molesworth Drive. PC78 provides two connection points (as consented



and under construction) albeit in a slightly different position with a different internal road layout.

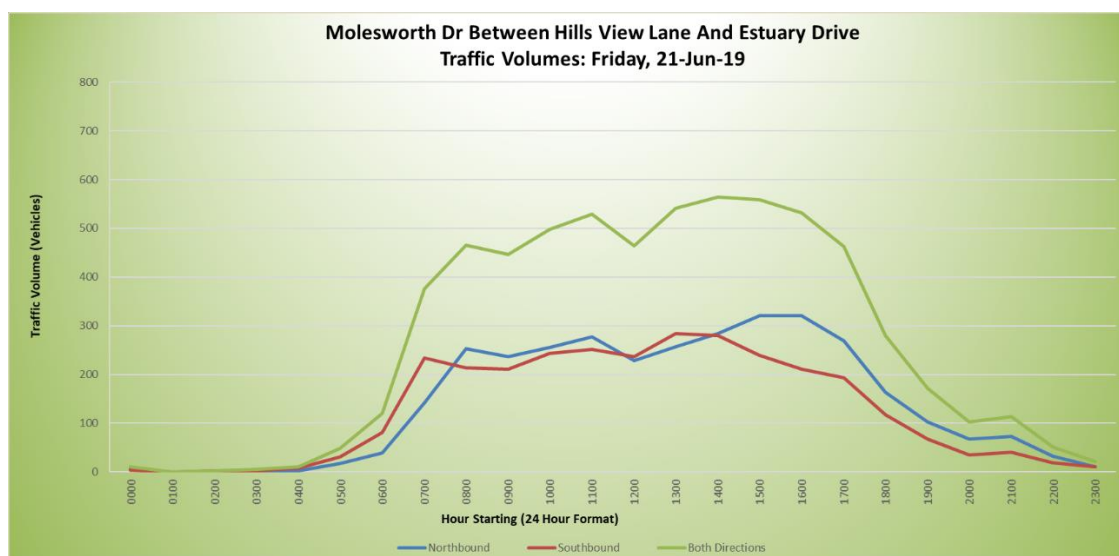
### **Traffic volumes**

28. Throughout much of the year, the transport network in the Mangawhai area currently performs at acceptable levels with little to no congestion in the local area. During the summertime, there is a substantial increase in the population and therefore a higher demand of use of the road network.
29. Traffic survey information (tube counts) has been obtained from Kaipara District Council for two locations on Molesworth Drive<sup>6</sup>. This was further supplemented by a tube count commissioned by Commute in June 2019 for a week, located directly outside the PC78 site. Through analysis of the available count information, three peak periods have been identified for the purpose of assessment:
  - (a) **Weekday PM peak period** – Typically a Friday afternoon between 3-6pm is the peak volume for a weekday.
  - (b) **Weekend peak period** – Typically a Saturday afternoon between 10-12pm is the peak volume for a weekend.
  - (c) **Holiday weekend peak period** – Typically a Saturday afternoon between 10-12pm is the peak volume for a holiday weekend.
30. For the June 2019 tube count, the daily traffic profile for a weekday and Saturday have been included in Figure 5 and Figure 6.

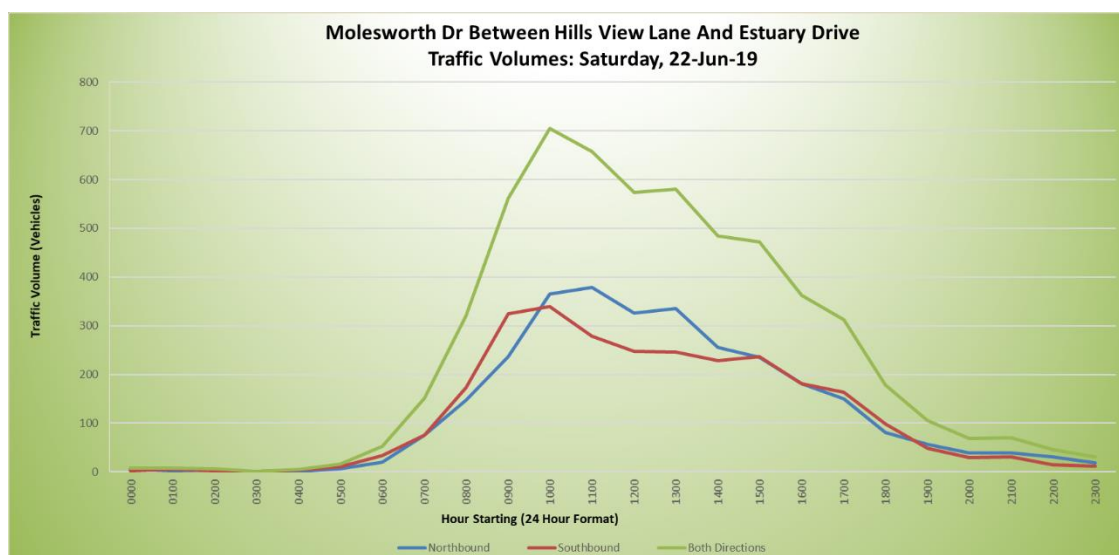
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<sup>6</sup> Recorded 20 June 2019 – 26 June 2019.

**Figure 5: Traffic profile for a weekday**



**Figure 6: Traffic profile for a Saturday**



31. Based on historic data from Kaipara District Council tube counts, traffic volumes in the holiday period can be observed to be around 10-15% more on a daily basis, while during the peak hour, these could be as much as 30-34% higher than a typical summer weekday / weekend.

## ASSESSMENT OF PLAN CHANGE 78

### Road safety

32. I have undertaken an assessment of the surrounding area's safety record using Waka Kotahi NZ Transport Agency's CAS database for crashes within the site's vicinity over the ten-year period 2011-2020,

including all available data for 2021.<sup>7</sup> The study area included Molesworth Drive between Old Waipu Road and Thelma Road.

33. Seventeen crashes have been reported, two of which resulted in serious injuries while seven were minor injury crashes and the remaining non injury accidents.
34. One of the serious injury crashes involved a southbound vehicle on Molesworth Drive hitting another vehicle manoeuvring from a driveway. The other serious injury occurred as a result of a vehicle on Molesworth hitting a pedestrian crossing the road.
35. The intersection between Molesworth Drive and Old Waipu Road has two recorded crashes in the past 10 years. One of the crashes involved a northbound vehicle on Molesworth Drive losing control while passing through the intersection. As such, the crash was related to the corner as opposed to conflicting movements at the intersection itself. The second crash involved a vehicle sideswiping a cyclist.
36. The crash history on Molesworth Drive indicates some speed and cornering issues around the development site.
37. Overall, I do not consider the Proposal will create or contribute to any road safety issues on the surrounding road network. I consider the proposed development will help to address minor existing safety issues through:
  - (a) Reducing the speed environment on Molesworth Drive by adding intersections to service the development and urbanising a section of Molesworth Drive.
  - (b) Provision of pedestrian and cycling<sup>8</sup> facilities including crossing provision and a section of separated path on Molesworth Drive.

### **Traffic generation**

38. The performance of the consented dual-laned roundabouts (currently under construction) within Molesworth Drive were assessed in detail as part of the Commute report '*Transport assessment of proposed*

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<sup>7</sup> Latest crash data from July 2021.

<sup>8</sup> When I refer to cycling in my evidence, I am referring to both manual and electric bicycles.

*intersections'* and subsequent response to Council peer review entitled '*Molesworth Drive, Transport review – response*'.<sup>9</sup>

39. The following provides a brief summary of this assessment.
40. Traffic generation was considered as part of an assessment of the wider Mangawhai Central development in order to assess the intersection performance for both the proposed roundabouts within Molesworth Drive.
41. In order to calculate trip rates from the Proposal, I compared published trip rates from a number of sources and the previous Integrated Transport Assessment prepared as part of PC78. The Assumed GFA / Number of dwellings and assumed trip rates (for various time periods including holiday peaks) is outlined for each activity in Table 1.

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<sup>9</sup> Refer paragraph 5 above for further citation details for these reports.

**Table 1: Trip rate comparison and assumption**

Activity	GFA <sup>10</sup> / Number of dwellings	RTA <sup>11</sup> trip rate		NZTA 453 <sup>12</sup> report		TDB trip rates		Previous assessment from the Estuary Estate application Kea Integrated Transport	Assumed rate Weekday	Assumed rate weekend	Assumed rate Holiday peak
<b>Residential</b>	850	0.85	0.85 trips per dwelling in peak hour	1.3	1.3 trips per dwelling in peak hour	0.94	0.94 trips per dwelling in peak hour	0.6 trips per dwelling	0.5 (trip rate of 1 assumed with 50% occupancy)	0.75 (trip rate of 1 assumed with 75% occupancy)	1
<b>Retirement home - units</b>	150	0.3	0.3 trips per 100 sqm in the peak hour	0.3	0.3 trips per bed in peak hour	0.31	0.31 trips per bed in peak hour	0.1 trips per unit in weekday peak 0.4 trips per unit in Weekend peak	0.3	0.3	0.3
<b>Industrial</b>	10000	1	1 trip per 100 sqm in the peak hour	2.7	2.7 trips per 100 sqm in the peak hour	1.53	1.53 trips per 100 sqm in the peak hour (excludes storage)	0.4 trips per 100 sqm in the PM peak hour 0.2 trips per 100 sqm in the Saturday peak hour	2.7	1.5	0
<b>Warehousing</b>	10000	0.5	0.5 trips per 100 sqm in the peak hour	1	1 trip per 100 sqm	1	1.0 trips per 100 sqm in the peak hour		1	0	0
<b>Trade retail</b>	10000	4	4 trips per 100 sqm in weekday peak 6 trips per 100 sqm in weekend peak	5.6	5.6 trips per 100 sqm in weekend peak	4.9	trips per 100 sqm in the peak hour (sat)	(Bulk retail) 4.1 trips per 100sqm in weekday peak hour, 4.6 trips per 100sqm in weekend peak hour	4	6	6
<b>Retail (non-supermarket)</b>	5000	16	16 trips per 100 sqm in peak hour	19	18.9 trips per 100 sqm in peak hour	15.5	15.5 trips per 100 sqm in peak hour (average of all excluding service station)	Broken into a number of activities: Average of 16.1 trips per 100sqm in weekday peak hour, Average of 14.4 trips per 100sqm in weekend peak hour	16.3	16.3	16.3
<b>Commercial</b>	3000	2	2 trips per 100 sqm in peak hour	2.5	2.5 trips per 100 sqm in peak hour	1.6	1.6 trips per 100 sqm in peak hour (excluding banks)	1.8 trips per 100 sqm in the PM peak hour 0 trips per 100 sqm in the Saturday peak hour	2	1	1
<b>Medical</b>	2000	15	15 trips per 100 sqm in peak hour	14	14.2 trips per 100 sqm in peak hour	9.3	9.3 trips per 100 sqm in peak hour	N/a	14.2	14.2	7.1

<sup>10</sup> Gross floor area.

<sup>11</sup> Roads and Transport Authority of New South Wales.

<sup>12</sup> NZTA, 2011. Research report 453: Trips and parking related to land use.

<b>Supermarket</b>	2500	16.3	16.3 trips per 100 sqm in peak hour	18	17.9 trips per 100 sqm in peak hour	14.6	14.6 trips per 100 sqm in peak hour	18.2 trips per 100 sqm in the PM peak hour 11.9 trips per 100 sqm in the Saturday peak hour	18	18	18
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42. Of note, residential development is not assumed to have full occupancy in the Weekday and Weekend periods with 50% and 75% occupancy assumed respectively. This is based on current occupancy rates of around 50% on a typical weekday.<sup>13</sup> A conservative approach has been taken to holiday peaks with full occupancy assumed while the weekend period has been assumed at 75%, midway between the weekday and holiday assumptions.
43. No trips have been assumed for the warehousing and industrial activities in the Holiday peak period as these periods are typically public holidays and weekends with these types of activity unlikely to be operating.
44. The GFA assumed for each activity and number of dwellings may not reflect the actual GFA / unit numbers constructed but is an estimate for the purposes of modelling of what is likely under the proposed PC78 provisions. Table 2 sets out the expected final trips on the surrounding road network. Reductions for internal trips (5% reduction) and multipurpose trips (20%) have been applied. An allowance for pass by trips (20%) has also been applied to the overall network.

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<sup>13</sup> Based on 2018 Census data as set out in Section 5.2 of the ITA.

**Table 2: Trips by activity**

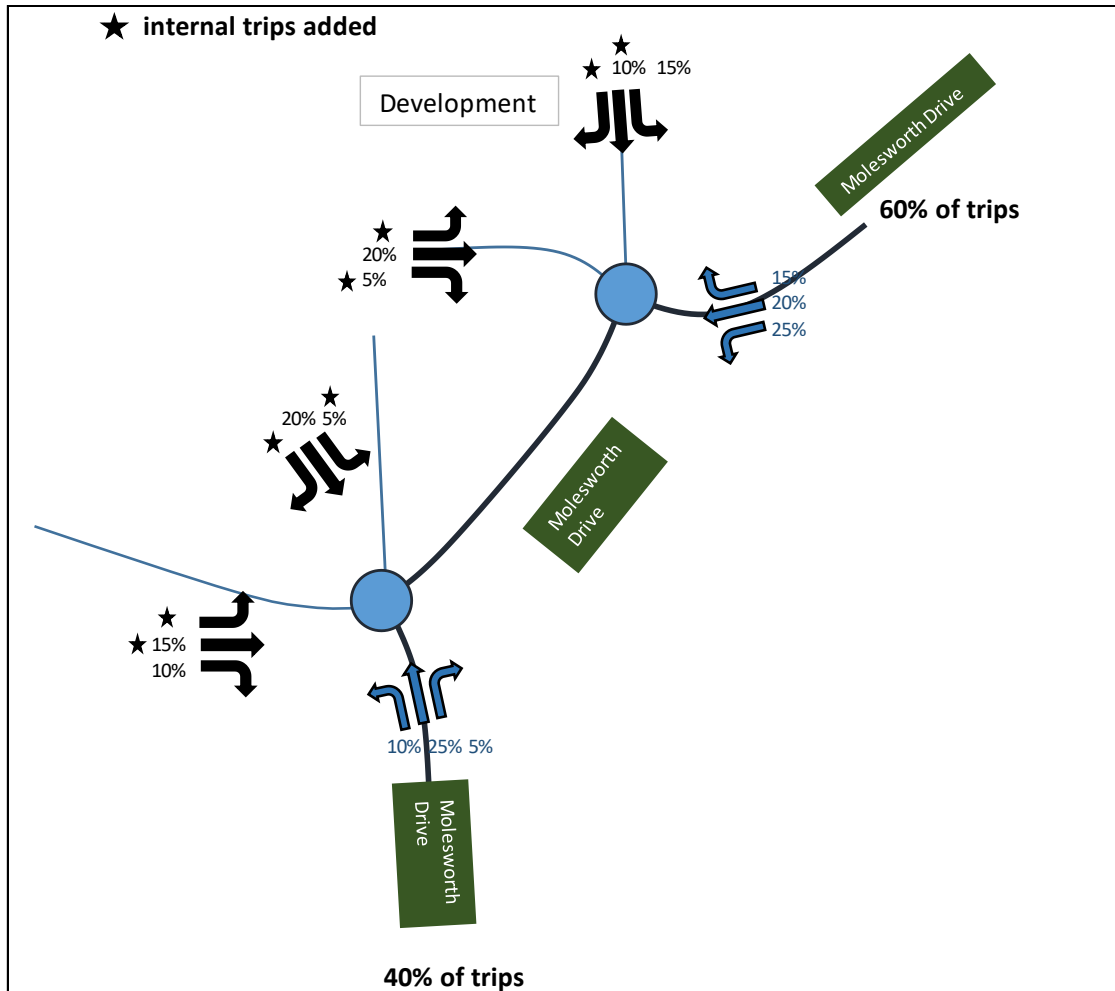
Activity	GFA / Number of dwellings	Weekday peak hour trips	Weekend peak hour trips	Holiday peak hour trips
<b>Residential</b>	850	425	638	850
<b>Residential - Retirement village</b>	150	45	45	45
<b>Industrial</b>	10000	270	150	0
<b>Warehousing</b>	10000	100	0	0
<b>Trade retail</b>	10000	400	600	600
<b>Retail</b>	5000	815	815	815
<b>Commercial</b>	3000	60	30	30
<b>Medical</b>	2000	284	284	142
<b>Supermarket</b>	2500	450	450	450
<b>Full buildout</b>		<b>2849</b>	<b>3012</b>	<b>2932</b>

45. The GFA and number of dwellings used in this assessment have been provided by Mr Tollemache, which I understand to represent an approximate likely development yield. With regard to residential units, I note that residential dwellings above 850 require a restricted discretionary consent and the transportation effects will be considered through this process.

### **Trip distribution**

46. A 50 / 50 directional split has been assumed based on the mix of uses and typical trip patterns expected in the various time periods. For example, residential uses typically result in higher proportions of people leaving an area in the AM peak and returning in the PM peak, whereas people going to places of employment are typically the inverse of this.
47. Development traffic for the various peak periods has been distributed across the two proposed roundabouts. The main distribution assumptions are summarised in Figure 7.

Figure 7: Molesworth Drive trip distribution



48. SIDRA models were developed for each roundabout and expected traffic for each of the peak periods was tested. Background traffic growth was also assumed in the traffic models with 4.1% in weekday and weekend peaks and 2.0% in the holiday peak. The SIDRA results for each of the identified scenarios (as provided in the ITA) indicate both dual lane roundabouts operating well below capacity. Further sensitivity testing on trip rates and background traffic assumptions was undertaken and shows a small increase in average delay and queuing, however the intersections continue to operate well within capacity.

#### Access for Walking and cycling

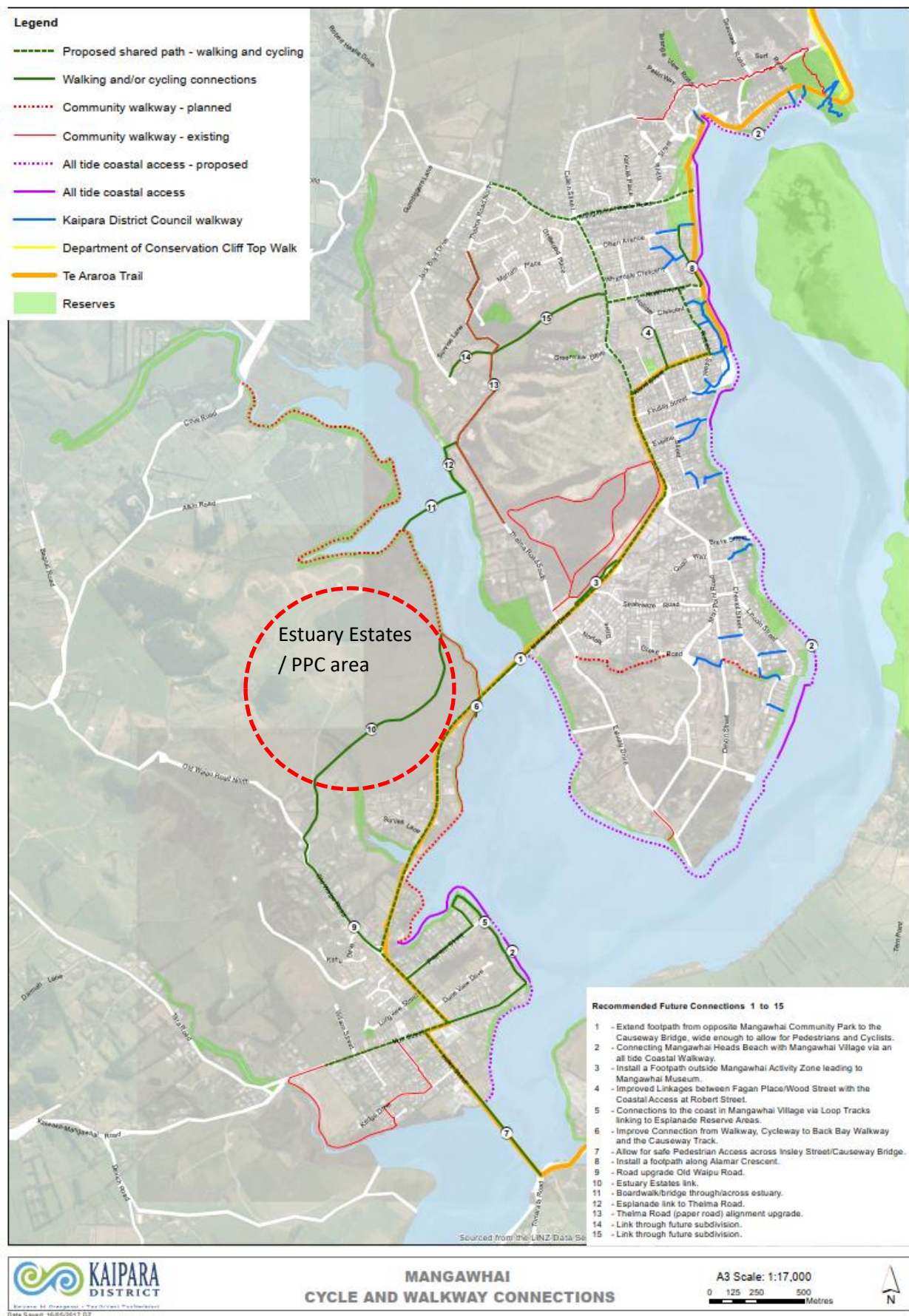
49. The Kaipara District Council (“KDC”) walking and cycling strategy 2017 outlines the existing and future walking and cycling network in the Mangawhai area (as shown in Figure 8). As these projects are implemented, further connectivity to the wider residential catchment will be possible and will, in time, further promote alternative travel



modes to and from the PC78 site. A comprehensive cycle network would encourage travel via alternative modes. This means that in the future a smaller proportion of car-based journeys to the PC78 site is expected. Within the Mangawhai Central study area, a number of key infrastructure connections are made and/or proposed through and past the site. These include:

- (a) Walking and cycling facilities along Molesworth Drive connecting between Mangawhai Village and Mangawhai Heads.
- (b) A connection through the Mangawhai Central area (formally Estuary Estate link).
- (c) A community walkway along the estuary to the north of the site with a proposal to extend this to connect to Cove Road.

Figure 8: KDC Walking and cycling network in Mangawhai



50. The PC78 Structure Plan Map (refer Figure 2 above) sets out the proposed layout of walking and cycling facilities within the PC78 area and connections to the external network (refer the “cycle and walking trail”, “existing walking track”, and “existing gum digger’s track” on the Structure Plan Map). The PC78 network provides a connection through the site and facilities along Molesworth Drive (Item (a) and (b) above). Item (c), a pathway along the estuary, is not generally within the PC78 land and thus not provided for or excluded from occurring in the future.
51. With respect to the PC78 internal road network and walking and cycling provision internal to the site, I consider PC78 to provide a high level of walking and cycling provision which will contribute to providing for facilities which will be used by the region.

### **Access for vehicles**

52. Vehicle access to the PC78 area is provided via two recently consented roundabouts within Molesworth Drive (refer the “Molesworth Drive Upgrade” on the Structure Plan Map). A potential future additional local access point is also annotated on the Structure Plan Map to connect to Old Waipu Road. A ring road is provided through the PC78 site connecting to each of the roundabouts on either end (refer the “ring road” on the Structure Plan Map). This ring road is of a collector road standard and provides connection to a local road network.
53. KDC has potential future transport plans to ultimately provide a connection between Molesworth Drive to Cove Road via Old Waipu Road and a paper road alignment which is outside of the PC78 site. If this connection is made, I consider the link between the PC78 area and Old Waipu Road (whether or not a subsequent connection is then made to Cove Road) will provide a more permeable transport network, relieve pressure off Molesworth Drive and provide network resilience and route choice. The matter of connections to Cove Road has been signalled as a matter to investigate in the Mangawhai Community Plan and in the Mangawhai Network Operating Framework (NOF) identified by NTA<sup>14</sup>. If such a connection is to be realised, the Council will need to advance this from a concept for discussion through to a more formal

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<sup>14</sup> The Mangawhai Network Operating Framework, March 2021.

design, funding and designation process. The wider issue of connectivity to Cove Road is outside of the ITA / assessment and the requirements to service Mangawhai Central.

54. My assessment of the roundabouts within Molesworth Drive demonstrated the Proposal can occur without a connection to Old Waipu Road and subsequent connection to Cove Road. If a connection was assumed, some additional traffic could be expected to redistribute, removing traffic from the roundabouts. As such I consider the assessment undertaken is conservative.
55. If a connection to Old Waipu Road is delivered in future, I consider the staging of the link to Old Waipu Road an important consideration at the time of resource consent. Currently Old Waipu Road is a narrow rural road with a number of vehicle access points. The southern end of Old Waipu Road provides a dual carriageway with no real shoulder for around 750m. The southernmost 270m has a footpath on the western side of the road. No footpaths are provided past this point. Past the 750m point, the road is unsealed and narrow and suitable for one way traffic only.
56. Council have identified Old Waipu Road as part of its pedestrian and cycle strategy within the NOF, however it is understood that Council have not made progress in the design or funding of the pedestrian and cycle connection between Molesworth Drive and Old Waipu Road. The Mangawhai Community Plan identified that this was a matter to be addressed in future Long-Term Plans. At present, subdivision on Old Waipu Road is upgrading this road frontage in a progressive manner based on the timing for implementing relevant residential subdivision consents on that road, and the improvements to those sites' road frontage to an urban standard.
57. While I support the opportunity of the connection to Old Waipu Road, in my opinion it should remain closed to vehicle traffic at Old Waipu Road until such time that Old Waipu Road is upgraded to an urban standard with a carriageway suitable for two-way traffic and walking and cycling facilities. I have seen examples where subdivisions have provided a road connection and its vesting, while temporary bollards / barriers restrict traffic movements until such time as the wider network

is to an acceptable standard. This does not foreclose the connection and would allow Council and the community to advance the investigations for pedestrian and cycle facility upgrades, along with Old Waipu Road connectivity to Cove Road through the processes outlined in the Mangawhai Community Plan and now signalled in the Mangawhai Spatial Plan. This level of detail is appropriately addressed at the time of any future resource consent.

### **Public Transport**

58. There is no formal public transport in the Mangawhai area. As growth occurs in the area, it is likely that public transport (likely in the form of a loop bus service) will become more viable and could be implemented by KDC. The development of the PC78 Business 1 Sub-Zone will likely be the trigger to provide some form of public transport system, even if the service operates just in peak summer months.
59. While public transport is not considered to be the responsibility of Mangawhai Central Ltd, it is recognised that it is appropriate to future proof the road network within the PC78 area for potential bus services. The ring road and proposed roundabouts are all of sufficient width and appropriate design to accommodate bus services.

### **RESPONSE TO ISSUES RAISED IN NOTICES OF APPEAL AND S274 NOTICES**

60. Below I summarise key points raised in the appeals and s274 notices as they relate to transport and provide my response.
61. The s274 notice of Mr Rothwell raises general transport concerns regarding PC78's effects on the road network, which I have addressed above. The Mangawhai Matters appeal raises several issues related to transport which I summarise as follows:
- (a) The assessment of traffic effects assumes 1,000 dwellings. Mangawhai Matters considers that more than 1,000 homes could be enabled under the PC78 provisions. Mangawhai Matters considers that, in addition to potential for underestimation of household occupancy and holiday occupancy, this means the assessment underestimates traffic

impacts. Mangawhai Matters has requested updated traffic modelling to reflect increased households and people.

- (b) In relation to Old Waipu Road, Mangawhai Matters seeks in its appeal to cap residential development at 850 dwellings (including Integrated Residential Developments) until a connection is provided to Old Waipu Road.
- (c) Mangawhai Matters also seeks that providing for dwellings in excess of 850 (including Integrated Residential Developments) across the PC78 site be a discretionary activity.
- (d) Mangawhai Matters raises the issue of wider transport impacts on the arterial road and local road network from commuting. In addition, Mangawhai Matters raises the need for financial contributions to be made to account for wider network effects.

62. With regards to the transport assessment, I have undertaken sensitivity testing with changes to a number of assumptions. A summary of each sensitivity test is provided below:

- (a) Weekday PM peak
  - Revised traffic distribution based on the full development buildout scenario;
  - Reduction in internal trips (only 75 trips associated with the residential activity);
  - Multipurpose trips reduced (no multipurpose trips assumed for retail and reduction to 10% for Supermarket and trade retail).
- (b) Weekend peak
  - Reduction in internal trips (only 75 trips associated with the residential activity);
  - Increased traffic associated with Industrial and warehouse activities (half of anticipated weekday trips);

- Multipurpose trips reduced (no multipurpose trips assumed for retail and reduction to 10% for Supermarket and trade retail).

(c) Holiday peak

- Reduction in internal trips (only 75 trips associated with the residential activity);
- Increased traffic associated with Industrial and warehouse activities (half of anticipated weekday trips);
- Multipurpose trips reduced (no multipurpose trips assumed for retail and reduction to 10% for Supermarket and trade retail).

63. Full details on the sensitivity testing can be found in Section 9.13 of the Integrated Transport Assessment. This sensitivity testing increases travel to and from the development site and results in the following increases in total trips:

- (a) During Weekday peak – 13% increase over base assessment
- (b) During Weekend peak – 13% increase over base assessment
- (c) During Holiday peak – 23% increase over base assessment

64. The additional sensitivity testing with changes to trips rates, internal trips and multipurpose trips show a small increase in average delay and queuing, however intersections continue to operate within capacity and to LOS A or LOS B.

65. I note Mangawhai Matters has suggested a total of 1,220 households compared to 1,000 in my assessment, representing a 22% increase. The sensitivity testing undertaken in the critical holiday peak period already provides an indication as the effects on the transport network. The sensitivity test shows the connections to the road network to continue to work at a Level of Service (LOS) B and therefore within an acceptable level of operation (LOS ranges from A through to E).

66. In terms of the issue of “caps” or “thresholds” for development, the Commissioners’ decision includes 16.9.3.2e) which provides for any new activity that exceeds a cumulative total of 850 Residential Units (excluding retirement facilities) as a restricted discretionary activity, with a range of matters of discretion.<sup>15</sup> With respect to transport effects, I consider that these provisions enable appropriate assessment of any proposals that would provide for more dwellings than the 1,000 that have formed the basis of the transport effects assessment. Therefore, I do not consider that a “cap” on dwelling numbers is necessary from a transport effects perspective.
67. With regard to a potential future connection to Old Waipu Road, I have addressed this matter in paragraphs 52-57 above.
68. With regard to wider transport effects, I agree with Mangawhai Matters in that a developer should contribute to wider transport effects. The mechanism for this is the development contributions policy of the Council. PC78 will contribute significant development contributions in this regard.
69. I consider that the wider network issues raised relate to broader issues regarding network upgrades and resolving Mangawhai’s broader transport issues, which are not considered to be the responsibility of Mangawhai Central Ltd. This is particularly relevant given the context of this site and the presence of the Operative EESP in the District Plan. Development on the PC78 site has been anticipated for more than a decade and subsequent infrastructure upgrade plans have considered a level of growth at this site.

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<sup>15</sup> Matters of discretion in 16.9.3.2.1(a) are:

- i. Whether the site is adequately accessible from the roading network.*
- ii. Existing and probable future traffic volumes on adjacent roads.*
- iii. The ability of the adjacent existing or planned roading network to absorb increased traffic and the feasibility of improving the roading system to handle any increases.*
- iv. The extent of traffic congestion and pedestrian/vehicle conflict likely to be caused by a proposal.*
- v. Whether vehicle access to and from the site:*
  - Ensures adequate sight distances and prevent congestion caused by ingress and egress of vehicles; and*
  - Is sufficiently separated from pedestrian access to ensure the safety of pedestrians.*

Note there is a referencing error in the Council’s decision version of PC78: the reference in Rule 16.9.3.2.1(a) should be to Rule 16.9.3.2 e) rather than d). I understand this error will be addressed in Mr Tollemache’s evidence.



## **CONCLUSION**

70. In my opinion, any adverse transport effects of the PPC will be minimal and appropriately mitigated by the Proposed PC78 provisions.

**Leo Donald Hills**  
Commute Transportation

17 December 2021