13 September 2018

Ben Hawkins
Structure Planning Manager
Victorian Planning Authority
Level 25, 35 Collins Street
MELBOURNE VIC 3000

Dear Ben

RE: Infrastructure Contributions Plan (ICP)
Planning Scheme Amendment C201 to the Melton Planning Scheme

We thank the VPA for the opportunity to make a submission on the exhibited C201 Melton City Council Planning Scheme Amendment 'Mt Atkinson and Tarneit Plains Infrastructure Contribution Plan (August 2018)'.

We have completed an initial review of the exhibited document and note that while we have not had sufficient opportunity to test whether all of the benchmark costs and designs are sufficiently accurate and robust, costings we have reviewed for other projects suggest disparities exist between the benchmarks and actual costs. We would therefore request that the benchmarks reflect the most up-to-date construction rates rather than a predetermined hypothetical benchmark. This is especially important noting that it is likely that in the process of implementation of the PSP, developers including us will be asked or directed as part of planning permit conditions to undertake particular projects in return for a credit against development levies. It is our experience that those credits are limited to predetermined assessments of costs rather than actual costs. Therefore, it is important that the costs used for the purpose of the analysis at this stage, closely reflect anticipated construction costs. Similarly, we would expect the design shown to accurately reflect the scope of works or that that the benchmarks are formally recognised as high level estimates only and that specific designs and associated costings would need to be prepared to inform the actual costs of works to be funded under the ICP. In this regard it is especially important to ensure that VicRoads commit to the designs so that they do not at a later stage seek higher specifications or a further extent of roadworks that need to be undertaken. This often has implications for landowners/developers and the council.

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We have also noted specific items in which we believe there may be errors in formulas and overestimates of construction costs. For example, with respect to the costings shown for the Supplementary Levy Items, the culvert crossing (CU-01) for Riding Boundary Road does not include a plan, however includes a cost breakdown in appendix 5. The total cost identified for 'Stripping of Topsoil' (m2) appears to be extremely high at $750,000 which suggests the rate adopted ($3,000/sq.m) is incorrect. Similarly, total amount shown in the Line Item 'Foundation Slab 3000 x 3000 (200mm) appear to be extremely high and we believe the rate shown ($1,299/m2) to be incorrect. Additionally, there is an allowance for $88,145 for traffic management allowed on a road, which does not currently exist and which we believe will not require traffic management to construct.

We also note there is a lack of detail / clarity concerning other costs identified. For instance, for Item BR-03 referenced in Appendix 5, there is a Lump Sum cost of $500,000 shown for 'Crossing Construction / Materials'. Whilst we do not have any detail surrounding how this amount was arrived at, it appears expensive, even considering an allowance for boring works under the rail lines.

Based on the above, we propose to undertake a more detailed analysis of the costings provided for ICP items and as part of that would like to progress discussions with the VPA to better understand the basis for such costs.

Having regard to the above, at this stage we still wish to make a submission to a panel on the matters set out above. We also reserve our rights to expand on the issues pending the completion of more detailed assessment of the amendment.
Please notify us of the next steps in relation to the progression of this amendment.

Should you have any further queries relating to any of the above, please do not hesitate to contact [redacted]

Yours Sincerely

[redacted]

[redacted]

Mount Atkinson & Tarneit Plains PSP

Infrastructure Contributions Plan (ICP) Assessment - Civil Construction Items
See Plan 2 - Monetory Component Transport Projects

BPD Estimate / Comparison 23.10.2018

Item	Location	TYPE	BPD Estimate	ICP cost August 2018	Diff	Note
Roads						
RD01	New Greigs Rd - OMR to IT05 (Franklin)	2L	$2,065,139	$1,047,490	$1,017,649	2
RD02	New Greigs Rd - IT05 - IT06	2L	$4,026,278	$3,348,589	$677,689	2
RD03	New Greigs Rd - IT06 - IT07	2L	$791,141	$520,366	$270,775	2
RD04	New Greigs Rd - IT07 - IT08	2L	$824,570	$429,133	$395,437	2
RD05	New Greigs Rd - IT08 - IT03	2L	$553,427	$351,416	$202,011	2
RD06	Mt Atkinson Rd - IT06 - IT09	2L	$4,330,849	$4,156,170	$174,679	2
RD07	Mt Atkinson Rd - IT09 - IT10	2L	$2,811,709	$2,311,236	$500,473	2
RD08	Mt Atkinson Rd - IT10 - IT12	2L	$742,856	$412,238	$330,618	2
RD09	Riding Boundary Rd - IT11 - IT12	2L	$1,619,425	$1,142,102	$477,323	2
RD10	Riding Boundary Rd - IT12 - IT13	2L	$2,306,567	$1,784,112	$522,455	2
RD11	Riding Boundary Rd - IT13 - IT14	2L	$2,399,424	$1,422,559	$976,865	2
RD12	Mt Atkinson Rd - IT12 - IT15	2L	$3,357,708	$2,855,255	$502,453	2
Item	**Location**	**TYPE**	**BPD Estimate**	**ICP cost**		
Intersections						
IT01	Hopkins Rd (Nth of rail)	ex - 4W	$6,684,000	$6,684,000	$0	1
IT02	Hopkins Rd (Nth of rail)	ex - 4W	$4,925,000	$4,925,000	$0	1
IT03	Hopkins Rd / Greigs Rd	ex - 3W	$4,215,481	$3,940,000	$275,481	
IT04	Hopkins Rd / E/W Arterial	ex - 3W	$3,852,539	$3,663,000	$189,539	
IT05	Greigs Rd / NS Art (Arterial / Connector)	ex - 4W	$3,788,520	$4,384,260	-$595,740	3
IT06	Greigs Rd / Mt Atkinson Rd	4W	$4,699,746	$5,146,000	-$446,254	
IT07	Greigs Rd / NS Connector	4W	$3,675,663	$4,384,260	-$708,597	
IT08	Greigs Rd / NS Connector	4W	$3,749,949	$4,384,260	-$634,311	
IT09	Mt Atkinson Rd & EW Connector	4W	$3,963,520	$4,384,260	-$420,740	
IT10	Mt Atkinson Rd & EW Connector	4W	$4,195,662	$4,384,260	-$188,598	
IT11	Riding Boundary Rd and Western N/S Connector	4W	$5,103,803	$4,384,260	$719,543	3
IT12	Mt Atkinson Rd & Riding Boundary Rd	4W	$5,538,115	$5,146,000	$392,115	
IT13	Riding Boundary Rd and Eastern N/S Connector	4W	$4,955,232	$4,384,260	$570,972	
IT14	Hopkins Rd / Riding Boundary Rd	ex - 4W	$4,365,864	$3,710,000	$655,864	
IT15	Mt Atkinson Rd / Sthn Industrial EW Rd	3W	$3,825,079	$4,384,260	-$559,181	
IT16	Hopkins Rd / Sthn Industrial EW Rd	ex - 4W	$4,262,922	$3,930,000	$332,922	
Bridge & Culvert Projects						
BR01	Ped & Cycle bridge over Western Fwy to Kororoit PSP		$7,678,564	$7,678,564	$0	1
BR02	Pedestrian & Cycle bridge over rail line		$6,128,000	$6,128,000	$0	1
BR03	Hopkins Rd level crossing upgrade		$938,000	$938,000	$0	1
CU01	Culvert over Skeleton Ck on Riding Boundary Rd		$2,491,000	$2,491,000	$0	1
Pedestrian Crossing Projects						
PS01	Pedestrian signals on Mt Atkinson Rd		$300,000	$276,614	$23,386	
PS02	Pedestrian signals on EW Connector		$300,000	$276,614	$23,386	
	Total		$115,465,750	$109,787,538	$5,678,212	

Notes:

1 Non standard Items not assessed by BPD, suggest a QS be involved here

2 The ICP rate for 2L Secondary Arterial has been calculated as part of the ICP to be $3,378/Lm (see Item 2 $2,702,456 for 800m) whilst the rates applied to the various sections of road appear to vary between $1,883 - $3,564/Lm. BPD has adopted a calculated rate for this item of $3,714/Lm based on Mt Atkinson tendered rates 2018 and applied to all components of similar road.
All of these road sections appear underfunded.

3 The ICP has grouped what we assume to be similar type intersections and applied a consistent rate to these intersections. For example we fail to see how IT-05 & IT-11 can be considered comparable from a cost persepective, IT-05 has 160m Arterial & 160m Connector compared to IT-11 with 200m Arterial and 365m Connector. BPD calculate a difference of over $1.3M between these intersections.
Based on the above the variance between cost estimate on the intersection components is significant.

4 Contingency Allowance of 15% has been included within the estimates

Plan 2 - Monetary Component Transport Projects

Mt. Atkinson & Tarneit Plains Infrastructure Contributions Plan

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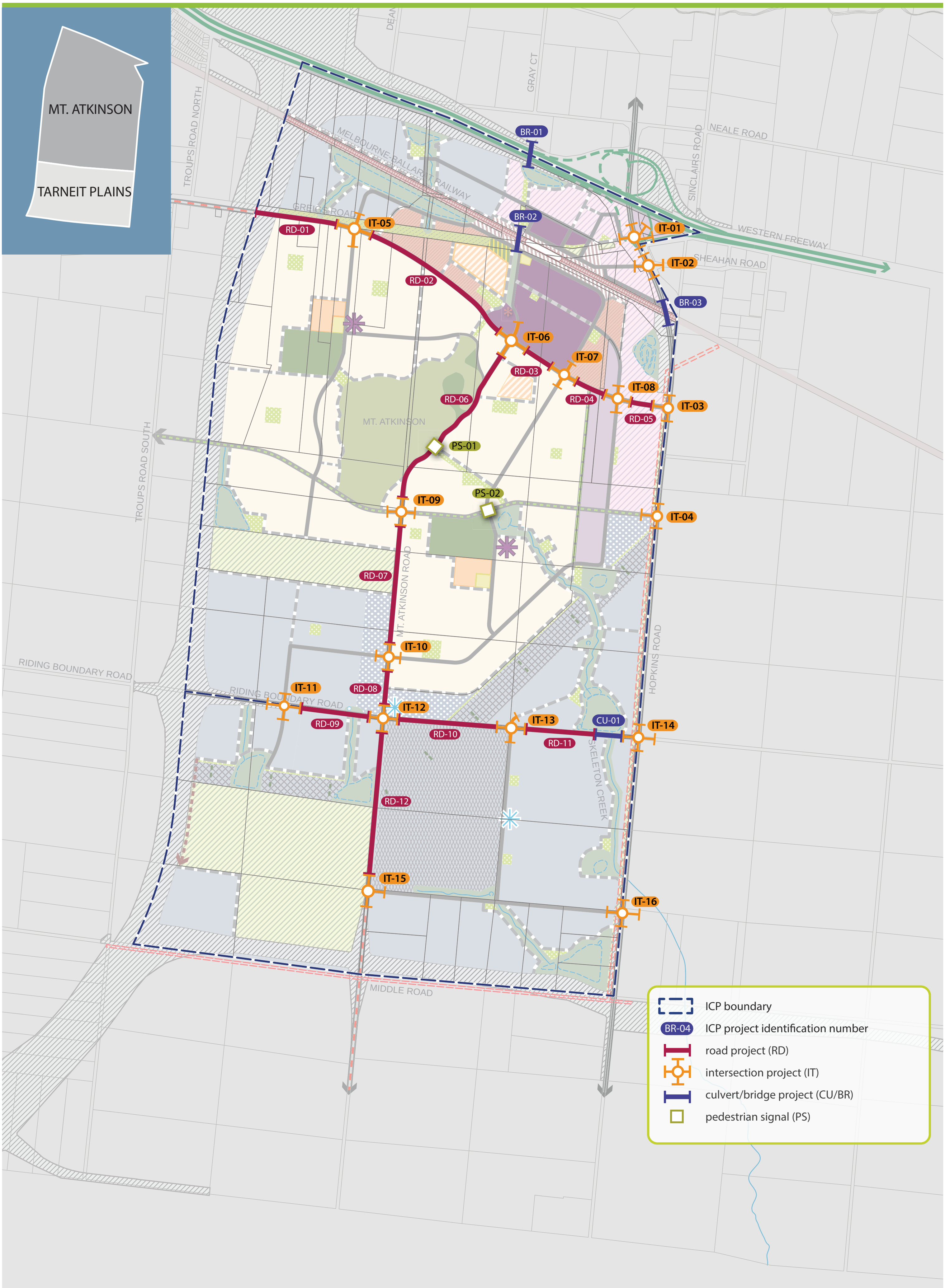


Table 5 Monetary Component Standard Levy Transport Projects

ICP Project ID	Project Title & Description	Staging	Internal Apportionment	Apportionment Funding Source	Estimated Cost	Cost Apportioned to ICP	Cost per Hectare (NDA)
Road Projects							
RD-01	**Greigs Road: Outer Metropolitan Ring Road (OMR) to north-south connector Road (IT-05).** Construction of an arterial road (4 lanes) comprising 2 lane carriageway, excluding intersections (interim treatment) within the existing Greigs Road reserve	L	100%	N/A	$1,047,490	$1,047,490	$1,155
RD-02	**Greigs Road: North-south connector road (IT-05) to Mt Atkinson Road (IT-06)**. construction of an arterial road (4 lanes) comprising 2 lane carriageway, excluding intersections (interim treatment)	L	100%	N/A	$3,348,589	$3,348,589	$3,693
RD-03	**Greigs Road: Mt Atkinson Road (IT-06) to north-south connector Road (IT-07).** Construction of an arterial road (4 lanes) comprising 2 lane carriageway, excluding intersections (interim treatment)	M	100%	N/A	$520,366	$520,366	$574
RD-04	**Greigs Road: North-south connector road (IT-07) to north-south connector road (IT-08).** Construction of an arterial road (4 lanes) comprising 2 lane carriageway, excluding intersections (interim treatment)	S-M	100%	N/A	$429,133	$429,133	$473
RD-05	**Greigs Road: North-south connector road (IT-08) to Hopkins Road (IT-03).** Construction of an arterial road (4 lanes) comprising 2 lane carriageway, excluding intersections (interim treatment)	S-M	100%	N/A	$351,416	$351,416	$388
RD-06	**Mt Atkinson Road: Greigs Road (IT-06) to east-west connector boulevard (IT-09).** Construction of an arterial road (4 lanes) comprising 2 lane carriageway, excluding intersections (interim treatment)	M	100%	N/A	$4,156,170	$4,156,170	$4,584

ICP Project ID	Project Title & Description	Staging	Internal Apportionment	Apportionment Funding Source	Estimated Cost	Cost Apportioned to ICP	Cost per Hectare (NDA)
RD-07	**Mt Atkinson Road: East-west connector boulevard (IT-09) to east-west connector road (IT-10).** Construction of an arterial road (4 lanes) comprising 2 lane carriageway, excluding intersections (interim treatment)	M	100%	N/A	$2,311,236	$2,311,236	$2,549
RD-08	**Mt Atkinson Road: East-west connector road (IT-10) to Riding Boundary Road (IT-12).** Construction of an arterial road (4 lanes) comprising 2 lane carriageway, excluding intersections (interim treatment)	M	100%	N/A	$412,238	$412,238	$455
RD-09	**Riding Boundary Road: North-south connector road (IT-11)to Mt Atkinson Road (IT-12).** Construction of an arterial road (4 lanes) comprising 2 lane carriageway, excluding intersections (interim treatment)	L	100%	N/A	$1,142,102	$1,142,102	$1,260
RD-10	**Riding Boundary Road: Mt Atkinson Road(IT-12) north-south connector road (IT-13).** Construction of an arterial road (4 lanes) comprising 2 lane carriageway, excluding intersections (interim treatment)	L	100%	N/A	$1,784,112	$1,784,112	$1,968
RD-11	**Riding Boundary Road: North-south connector road (IT-13) to Hopkins Road (IT-14).** Construction of an arterial road (4 lanes) comprising 2 lane carriageway, excluding intersections (interim treatment)	L	100%	N/A	$1,422,559	$1,422,559	$1,569
RD-12	**Mt Atkinson Road: Riding Boundary Road (IT-12) to east-west connector (IT-15).** Construction of an arterial road (4 lanes) comprising 2 lane carriageway, excluding intersections (interim treatment)	M	100%	N/A	$2,855,255	$2,855,255	$3,149
Intersection Projects							
IT-01	**Signalised intersection - Hopkins Road / east-west connector road**- Construction of primary arterial to connector road 3-way signalised intersection and	M	100%	N/A	$6,684,000	$6,684,000	$7,372

ICP Project ID	Project Title & Description	Staging	Internal Apportionment	Apportionment Funding Source	Estimated Cost	Cost Apportioned to ICP	Cost per Hectare (NDA)
	roundabout (interim treatment) within declared arterial road reserve						
IT-02	**Signalised intersection- Hopkins Road / east-west connector road**- Construction of primary arterial to connector road 3-way signalised intersection (interim treatment)	S-M	100%	N/A	$4,925,000	$4,925,000	$5,432
IT-03	**Signalised intersection - Hopkins Road / Greigs Road**- Construction of primary arterial to secondary arterial 3-way signalised intersection (interim treatment).To include appropriate protection of high pressure gas transmission pipelines.	S-M	100%	N/A	$3,940,000	$3,940,000	$4,346
IT-04	**Signalised intersection - Hopkins Road / east-west boulevard connector road.** Construction of primary arterial to boulevard connector road 3-way signalised intersection (interim treatment). To include appropriate protection of high pressure gas transmission pipelines.	M	100%	N/A	$3,663,000	$3,663,000	$4,040
IT-05	**Signalised intersection - Greigs Road / north-south connector road.** Construction of secondary arterial to connector road 4-way signalised intersection (interim treatment)	L	100%	N/A	$4,384,260	$4,384,260	$4,836
IT-06	**Signalised intersection- Greigs Road / Mt Atkinson Road-** Construction of secondary arterial and connector road to secondary arterial 4-way signalised intersection (interim treatment)	S-M	100%	N/A	$5,146,000	$5,146,000	$5,676
IT-07	**Signalised intersection - Greigs Road / north-south connector road**- Construction of primary arterial to connector road 4-way signalised intersection (interim treatment)	M	100%	N/A	$4,384,260	$4,384,260	$4,836
IT-08	**Signalised intersection - Greigs Road / north-south connector road**- Construction of secondary arterial to	M	100%	N/A	$4,384,260	$4,384,260	$4,836

ICP Project ID	Project Title & Description	Staging	Internal Apportionment	Apportionment Funding Source	Estimated Cost	Cost Apportioned to ICP	Cost per Hectare (NDA)
	connector road 4-way signalised intersection (interim treatment)						
IT-09	**Signalised intersection - Mt Atkinson Road / east-west connector boulevard**- Construction of secondary arterial to boulevard connector road 4-way signalised intersection (interim treatment)	M	100%	N/A	$4,384,260	$4,384,260	$4,836
IT-10	**Signalised intersection - Mt Atkinson Road / east-west connector road-** Construction of secondary arterial to connector road 4-way signalised intersection (interim treatment)	M	100%	N/A	$4,384,260	$4,384,260	$4,836
IT-11	**Signalised intersection - Riding Boundary Road / north-south connector road**- Construction of secondary arterial to connector road 3-way signalised intersection (interim treatment)	L	100%	N/A	$4,384,260	$4,384,260	$4,836
IT-12	**Signalised intersection - Riding Boundary Road / Mt Atkinson Road**- Construction of a secondary arterial to secondary arterial 4-way signalised intersection (interim treatment)	L	100%	N/A	$5,146,000	$5,146,000	$5,676
IT-13	**Signalised intersection - Riding Boundary Road / north-south connector road and local access road-** Construction of secondary arterial to connector road/local access road 4-way signalised intersection (interim treatment)	L	100%	N/A	$4,384,260	$4,384,260	$4,836
IT-14	**Signalised intersection - Riding Boundary Road / Hopkins Road.** Construction of primary arterial to secondary arterial 3-way signalised intersection (interim treatment). To include appropriate protection of high pressure gas transmission pipelines.	M	100%	N/A	$3,710,000	$3,710,000	$4,092

ICP Project ID	Project Title & Description	Staging	Internal Apportionment	Apportionment Funding Source	Estimated Cost	Cost Apportioned to ICP	Cost per Hectare (NDA)
IT-15	**Signalised intersection- Mt Atkinson Road / east west connector road**- Construction of secondary arterial to connector road 3-way signalised intersection (interim treatment)	L	100%	N/A	$4,384,260	$4,384,260	$4,836
IT-16	**Signalised intersection - east west connector road / Hopkins Road**- Construction of primary arterial to connector road 3-way signalised intersection (interim treatment). To include appropriate protection of high pressure gas transmission pipelines.	L	100%	N/A	$3,930,000	$3,930,000	$4,335
Bridge Projects							
BR-01	**Pedestrian and cyclist bridge.** Construction of pedestrian and cycle bridge across the Western Freeway to the future Kororoit Precinct*	L	50%	Plumpton & Kororoit ICP	$7,678,564	$3,839,282	$4,235
BR-02	**Pedestrian and cyclist bridge**- Construction of pedestrian and cycle bridge (ultimate treatment) across the Melbourne-Ballarat rail corridor **	L	100%	Mt Atkinson Supplementary ICP	$6,128,000	$6,128,000	$6,759
CU-01	**Construction of a major culvert across Riding Boundary Road** to cater for a new drainage infrastructure associated with the Truganina Drainage Services Scheme.	M	36%	Na	$2,491,000	$893,023.50	$985
Pedestrian Crossing Projects							
PS-01	**Pedestrian signals - Construction of pedestrian signals on Mt Atkinson Road**	M	100%	N/A	$276,614	$276,614	$305
PS-02	**Pedestrian signals- Construction of pedestrian signals on Mt Atkinson Road** Construction of pedestrian signals on connector road/ boulevard connector road north of Mt Atkinson East Community Hub	M	100%	N/A	$276,614	$276,614	$305
Total					**$108,849,538**	**$103,412,279**	**$114,062**

*Project to be delivered in consultation with relevant road authority
**Project to be delivered in consultation with relevant rail authority
***Project to be delivered in consultation with relevant road and rail authority

The following table describes the infrastructure items that are to be collected for by the supplementary monetary component in this ICP, the expected staging, the apportionment to this ICP, any external funding source(s) for items not fully apportioned to this ICP, the total estimated cost and the estimated cost per hectare.

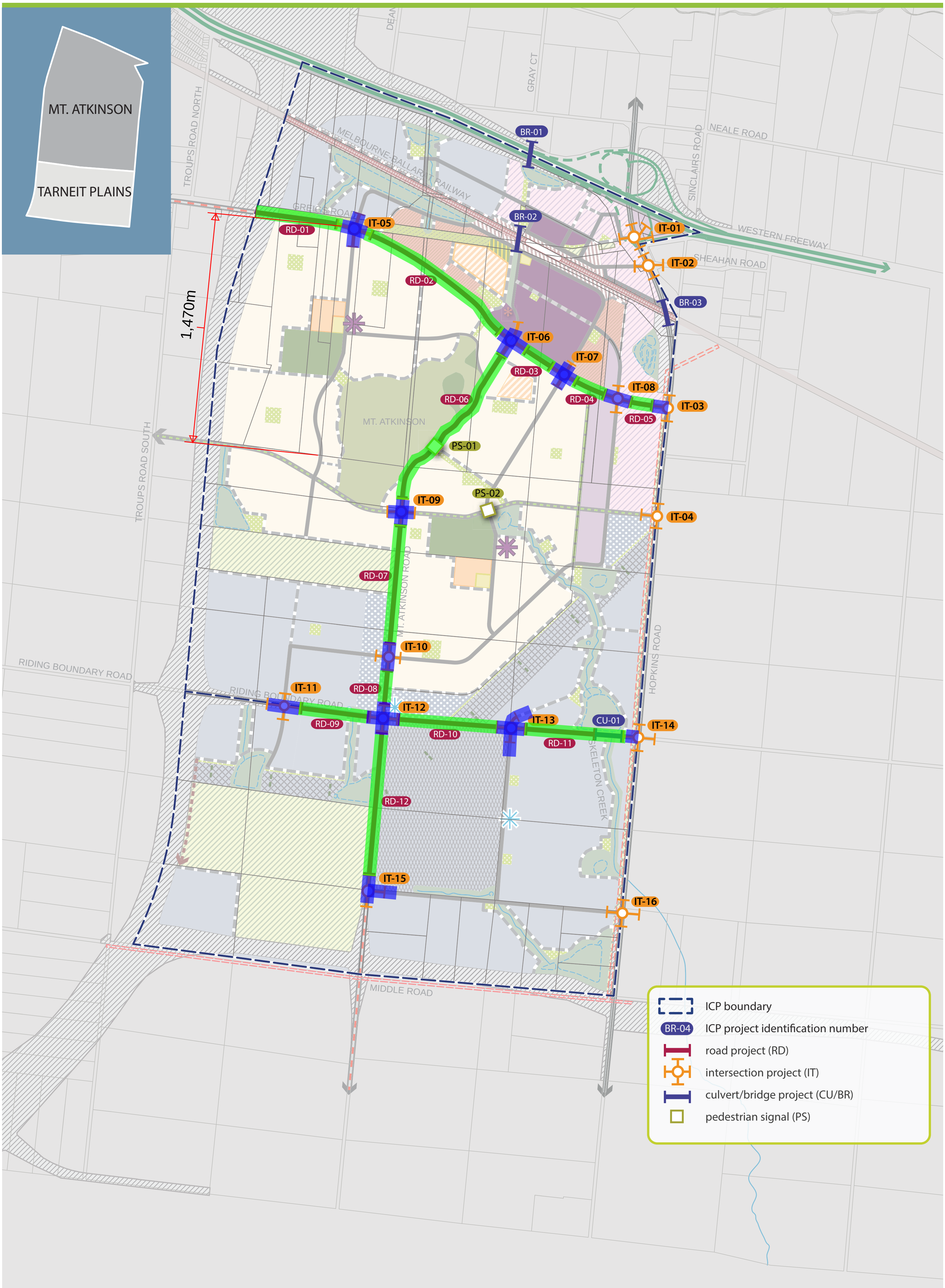
Table 6 Monetary Component Supplementary Levy Transport Projects

ICP Project ID	Project Title & Description	Staging	Internal Apportionment	Apportionment Funding Source	Estimated Cost	Cost Apportioned to ICP	Cost per Hectare (NDA)
Bridge & Culvert Projects							
BR-03	**Hopkins Road level crossing upgrade**- Construction of an upgrade to the level crossing at the intersection Hopkins Road and the Melbourne-Ballarat rail corridor, including automatic gates and pedestrian crossing***	M	100%	N/A	$938,000	$938,000	$1,035
CU-01	**Construction of a major culvert across Riding Boundary Road** to cater for a new drainage infrastructure associated with the Truganina Drainage Services Scheme.	M	64%	N/A	$2,491,000	$1,597,976.50	$1,763
					$3,429,000	$2,535,976	$2,797

***Project to be delivered in consultation with relevant road and rail authority

Plan 2 - Monetary Component Transport Projects

Mt. Atkinson & Tarneit Plains Infrastructure Contributions Plan



Mount Atkinson & Tarneit Plains PSP

Infrastructure Contributions Plan (ICP) Assessment - Civil Construction Items

See Plan 2 - Monetory Component Transport Projects

BPD Estimate / Comparison 23.10.2018

Item	Location	TYPE				Thru Rd Qty			Unit	Rate	BPD Estimate	ICP cost August 2018	Diff	Note
Roads														
RD01	New Greigs Rd - OMR to IT05 (Franklin)	2L				556.00			lin.m	3,714	$2,065,139	$1,047,490	$1,017,649	2
RD02	New Greigs Rd - IT05 - IT06	2L				1,084.00			lin.m	3,714	$4,026,278	$3,348,589	$677,689	2
RD03	New Greigs Rd - IT06 - IT07	2L				213.00			lin.m	3,714	$791,141	$520,366	$270,775	2
RD04	New Greigs Rd - IT07 - IT08	2L				222.00			lin.m	3,714	$824,570	$429,133	$395,437	2
RD05	New Greigs Rd - IT08 - IT03	2L				149.00			lin.m	3,714	$553,427	$351,416	$202,011	2
RD06	Mt Atkinson Rd - IT06 - IT09	2L				1,166.00			lin.m	3,714	$4,330,849	$4,156,170	$174,679	2
RD07	Mt Atkinson Rd - IT09 - IT10	2L				757.00			lin.m	3,714	$2,811,709	$2,311,236	$500,473	2
RD08	Mt Atkinson Rd - IT10 - IT12	2L				200.00			lin.m	3,714	$742,856	$412,238	$330,618	2
RD09	Riding Boundary Rd - IT11 - IT12	2L				436.00			lin.m	3,714	$1,619,425	$1,142,102	$477,323	2
RD10	Riding Boundary Rd - IT12 - IT13	2L				621.00			lin.m	3,714	$2,306,567	$1,784,112	$522,455	2
RD11	Riding Boundary Rd - IT13 - IT14	2L				646.00			lin.m	3,714	$2,399,424	$1,422,559	$976,865	2
RD12	Mt Atkinson Rd - IT12 - IT15	2L				904.00			lin.m	3,714	$3,357,708	$2,855,255	$502,453	2
Item	**Location**	**TYPE**	**TM e/o allowance**	**Other e/o**	**Intersection e/o cost**	**Thru Rd Qty (A)**	**Thru Rd Qty (B)**	**Tapers (no.)**	**Unit**	**Rate**	**BPD Estimate**	**ICP cost**		
Intersections														
IT01	Hopkins Rd (Nth of rail)	ex - 4W	300,000.00		1,293,212.06						$6,684,000	$6,684,000	$0	1
IT02	Hopkins Rd (Nth of rail)	ex - 4W	300,000.00		1,293,212.06						$4,925,000	$4,925,000	$0	1
IT03	Hopkins Rd / Greigs Rd	ex - 3W	300,000.00	300,000.00	994,258.24	100.00	430.00	1.00	lin.m	3,714	$4,215,481	$3,940,000	$275,481	
IT04	Hopkins Rd / E/W Arterial	ex - 3W	300,000.00	300,000.00	994,258.24	160.00	400.00	-	lin.m	3,714	$3,852,539	$3,663,000	$189,539	
IT05	Greigs Rd / NS Art (Arterial / Connector)	ex - 4W	150,000.00		1,293,212.06	160.00	160.00	2.00	lin.m	3,714	$3,788,520	$4,384,260	-$595,740	3
IT06	Greigs Rd / Mt Atkinson Rd	4W			1,293,212.06	185.00	320.00	3.00	lin.m	3,714	$4,699,746	$5,146,000	-$446,254	
IT07	Greigs Rd / NS Connector	4W			1,293,212.06	160.00	170.00	2.00	lin.m	3,714	$3,675,663	$4,384,260	-$708,597	
IT08	Greigs Rd / NS Connector	4W			1,293,212.06	165.00	180.00	2.00	lin.m	3,714	$3,749,949	$4,384,260	-$634,311	
IT09	Mt Atkinson Rd & EW Connector	4W			1,293,212.06	160.00	247.50	2.00	lin.m	3,714	$3,963,520	$4,384,260	-$420,740	
IT10	Mt Atkinson Rd & EW Connector	4W			1,293,212.06	185.00	260.00	2.00	lin.m	3,714	$4,195,662	$4,384,260	-$188,598	
IT11	Riding Boundary Rd and Western N/S Connector	4W			1,293,212.06	200.00	474.50	2.00	lin.m	3,714	$5,103,803	$4,384,260	$719,543	3
IT12	Mt Atkinson Rd & Riding Boundary Rd	4W			1,293,212.06	210.00	420.00	4.00	lin.m	3,714	$5,538,115	$5,146,000	$392,115	
IT13	Riding Boundary Rd and Eastern N/S Connector	4W			1,293,212.06	180.00	474.50	2.00	lin.m	3,714	$4,955,232	$4,384,260	$570,972	
IT14	Hopkins Rd / Riding Boundary Rd	ex - 4W	300,000.00	300,000.00	1,293,212.06	80.00	430.00	1.00	lin.m	3,714	$4,365,864	$3,710,000	$655,864	
IT15	Mt Atkinson Rd / Sthn Industrial EW Rd	3W			994,258.24	175.00	185.00	3.00	lin.m	3,714	$3,825,079	$4,384,260	-$559,181	
IT16	Hopkins Rd / Sthn Industrial EW Rd	ex - 4W	300,000.00	300,000.00	1,293,212.06	160.00	430.00	-	lin.m	3,714	$4,262,922	$3,930,000	$332,922	
Bridge & Culvert Projects														
BR01	Ped & Cycle bridge over Western Fwy to Kororoit PSP										$7,678,564	$7,678,564	$0	1
BR02	Pedestrian & Cycle bridge over rail line										$6,128,000	$6,128,000	$0	1
BR03	Hopkins Rd level crossing upgrade										$938,000	$938,000	$0	1
CU01	Culvert over Skeleton Ck on Riding Boundary Rd										$2,491,000	$2,491,000	$0	1
Pedestrian Crossing Projects														
PS01	Pedestrian signals on Mt Atkinson Rd					1.00	1.00	1.00	No.	300,000	$300,000	$276,614	$23,386	
PS02	Pedestrian signals on EW Connector					1.00	1.00	1.00	No.	300,000	$300,000	$276,614	$23,386	
	Total										$115,465,750	$109,787,538	$5,678,212	

Notes:

1 Non standard Items not assessed by BPD, suggest a QS be involved here

2 The ICP rate for 2L Secondary Arterial has been calculated as part of the ICP to be $3,378/Lm (see Item 2 $2,702,456 for 800m) whilst the rates applied to the various sections of road appear to vary between $1,883 - $3,564/Lm. BPD has adopted a calculated rate for this item of $3,714/Lm based on Mt Atkinson tendered rates 2018 and applied to all components of similar road.
All of these road sections appear underfunded.

3 The ICP has grouped what we assume to be similar type intersections and applied a consistent rate to these intersections. For example we fail to see how IT-05 & IT-11 can be considered comparable from a cost persepective, IT-05 has 160m Arterial & 160m Connector compared to IT-11 with 200m Arterial and 365m Connector. BPD calculate a difference of over $1.3M between these intersections.
Based on the above the variance between cost estimate on the intersection components is significant.

4 Contingency Allowance of 15% has been included within the estimates

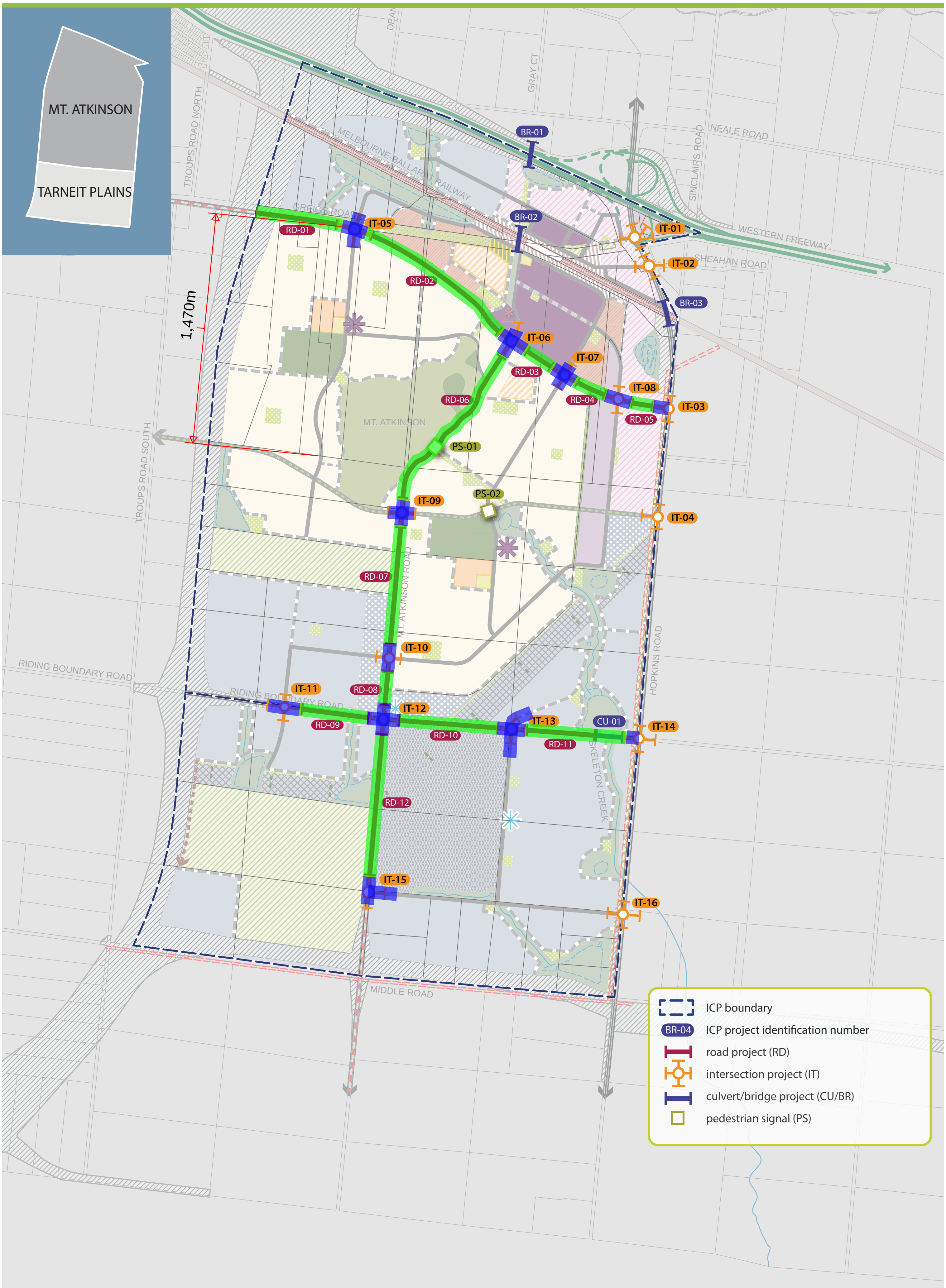
Plan 2 - Monetary Component Transport Projects

Mt. Atkinson & Tarneit Plains Infrastructure Contributions Plan

1:30,000 @ A4

0 300 600 900 1,200 1,500

N



Single Carriageway Blvd Estimates - 9m pavement

component	length	width	quantity	Unit	unit rate	cost
Earthworks						
excavation and boxing (600mm)	1	12.2	9.76	cumec	$33.00	$ 322.08
Trim and prepare subgrade to receive sub-base	1	12.2	12.2	sqm	$3.00	$ 36.60
Pavement						
lay 40mm Type H/V asphalt	1	9	9	sqm	$16.15	$ 145.35
lay 75mm Type SI asphalt	1	9	9	sqm	$28.45	$ 256.05
lay 75mm Type SF asphalt	1	9	9	sqm	$29.90	$ 269.10
prime	1	9	9	sqm	$0.00	$ -
145mm Cl2 CTCR subbase	1	9	9	sqm	$16.80	$ 151.20
100mm Cl4 FCR subbase	1	9	9	sqm	$7.75	$ 69.75
290mm capping layer	1	9	9	sqm	$15.15	$ 136.35
Concrete works						
kerb & channel (pavement)	1		2	m	$80.40	$ 160.80
125mm thick concrete foot path	1	3	3	sqm	$51.55	$ 154.65
Drainage						
drainage pipe + CR backfill (say 450mm dia)	1		1.00	m	$350.35	$ 350.35
drainage road x-ing + CR backfill (say 300mm dia)	1		0.20	m	$219.15	$ 43.83
drainage pits @ 50m spacing on both sides	1		0.040	m	$2,879.75	$ 115.19
AG drain	1		2	m	$19.70	$ 39.40
Sign and linemarking						
linemarking	1		2	m	$10.00	$ 20.00
Public lighting						
street light poles @ 50m spacings	1		0.02	m	$6,000.00	$ 120.00
street light cables	1		1	m	$100.00	$ 100.00
Landscaping						
Street Trees (2 every 15m)	1		0.133333333	m	$300.00	$ 40.00
Seeding	1		3	m	$8.00	$ 24.00

subtotal	$ 2,554.70
TMP and site est 9%	$ 229.92
Contingency 15%	$ 383.21
Total Estimated Construction Cost (excl. GST)	**$ 3,167.83**
Council checking & supervision 3.25%	$ 102.95
Consultant Fees 14%	$ 443.50
Total Estimated Cost (excl. GST)	**$ 3,714.28**

Intersection 3W - Duplicated / signalised

component	length	area	quantity	Unit	unit rate	cost
Earthworks						
excavation and boxing (600mm)	1	1220	732	cumec	$33.00	$ 24,156.00
Trim and prepare subgrade to receive sub-base	1	1220	1220	sqm	$3.00	$ 3,660.00
Pavement						
lay 40mm Type H/V asphalt	1	1220	1220	sqm	$16.15	$ 19,703.00
lay 80mm Type SI asphalt	1	1220	1220	sqm	$28.45	$ 34,709.00
lay 75mm Type SF asphalt	1	1220	1220	sqm	$29.90	$ 36,478.00
prime	1	1220	1220	sqm	$0.00	$ -
180mm CT	1	1220	1220	sqm	$16.80	$ 20,496.00
150mm Cl3 FCR subbase	1	1220	1220	sqm	$7.75	$ 9,455.00
250mm capping layer	1	1220	1220	sqm	$15.15	$ 18,483.00
Concrete works						
kerb & channel (pavement)	in through Road costs		100	m	$80.40	$ 8,040.00
125mm thick concrete foot path			0	sqm	$51.55	$ -
Traffic Signals						
Signals			3	Item	$95,000.00	$ 285,000.00
Lighting / JUP			9	No.	$6,000.00	$ 54,000.00
Vicroads Fees			1	No.	$120,000.00	$ 120,000.00
Drainage						
drainage pipe + CR backfill (say 450mm dia)	Incl in through Road costs		0.00	m	$350.35	$ -
drainage road x-ing + CR backfill (say 375mm dia)			60.00	m	$219.15	$ 13,149.00
drainage pits @ intersection			12.000	m	$2,879.75	$ 34,557.00
AG drain			100	m	$19.70	$ 1,970.00

subtotal	$ 683,856.00
TMP and site est 9%	$ 61,547.04
Contingency 15%	$ 102,578.40
Total Estimated Cost (excl. GST)	**$ 847,981.44**
Council checking & supervision 3.25%	$ 27,559.40
Consultant Fees 14%	$ 118,717.40
Total Estimated Cost (excl. GST)	**$ 994,258.24**

Note : Turn Lane length assumed (Lm) 80

Intersection 4W - Duplicated / signalised

component	length	area	quantity	Unit	unit rate	cost
Earthworks						
excavation and boxing (600mm)	1	1780	1068	cumec	$33.00	$ 35,244.00
Trim and prepare subgrade to receive sub-base	1	1780	1780	sqm	$3.00	$ 5,340.00
Pavement						
lay 40mm Type H/V asphalt	1	1780	1780	sqm	$16.15	$ 28,747.00
lay 80mm Type SI asphalt	1	1780	1780	sqm	$28.45	$ 50,641.00
lay 75mm Type SF asphalt	1	1780	1780	sqm	$29.90	$ 53,222.00
prime	1	1780	1780	sqm	$0.00	$ -
180mm CT	1	1780	1780	sqm	$16.80	$ 29,904.00
150mm Cl3 FCR subbase	1	1780	1780	sqm	$7.75	$ 13,795.00
250mm capping layer	1	1780	1780	sqm	$15.15	$ 26,967.00
Concrete works						
kerb & channel (pavement)	in through Road costs		100	m	$80.40	$ 8,040.00
125mm thick concrete foot path			0	sqm	$51.55	$ -
Traffic Signals						
Signals			4	Item	$95,000.00	$ 380,000.00
Lighting / JUP			12	No.	$6,000.00	$ 72,000.00
Vicroads Fees			1	No.	$120,000.00	$ 120,000.00
Drainage						
drainage pipe + CR backfill (say 450mm dia)	Incl in through Road costs		0.00	m	$350.35	$ -
drainage road x-ing + CR backfill (say 375mm dia)			80.00	m	$219.15	$ 17,532.00
drainage pits @ intersection			16.000	m	$2,879.75	$ 46,076.00
AG drain			100	m	$19.70	$ 1,970.00
					subtotal	$ 889,478.00
					TMP and site est 9%	$ 80,053.02
					Contingency 15%	$ 133,421.70
					Total Estimated Cost (excl. GST)	**$ 1,102,952.72**
					Council checking & supervision 3.25%	$ 35,845.96
					Consultant Fees 14%	$ 154,413.38
					Total Estimated Cost (excl. GST)	**$ 1,293,212.06**

Note : Turn Lane length assumed (Lm) 80

Tapers

component	length	area	quantity	Unit	unit rate	cost
Earthworks						
excavation and boxing (600mm)	1	1482	889.2	cumec	$33.00	$ 29,343.60
Trim and prepare subgrade to receive sub-base	1	1482	1482	sqm	$3.00	$ 4,446.00
Pavement						
lay 40mm Type H/V asphalt	1	1170	1170	sqm	$16.15	$ 18,895.50
lay 80mm Type SI asphalt	1	1170	1170	sqm	$28.45	$ 33,286.50
lay 75mm Type SF asphalt	1	1170	1170	sqm	$29.90	$ 34,983.00
prime	1	1170	1170	sqm	$0.00	$ -
180mm CT	1	1170	1170	sqm	$16.80	$ 19,656.00
150mm Cl3 FCR subbase	1	1170	1170	sqm	$7.75	$ 9,067.50
250mm capping layer	1	1170	1170	sqm	$15.15	$ 17,725.50
Concrete works						
kerb & channel (pavement)	in through Road costs		260	m	$80.40	$ 20,904.00
125mm thick concrete foot path			0	sqm	$51.55	$ -
AG drain			260	m	$19.70	$ 5,122.00
					subtotal	$ 193,429.60
					TMP and site est 9%	$ 17,408.66
					Contingency 15%	$ 29,014.44
					Total Estimated Cost (excl. GST)	**$ 239,852.70**

Note : Taper length assumed (Lm) 130

Council checking & supervision 3.25%	$ 7,795.21
Consultant Fees 14%	$ 33,579.38
Total Estimated Cost (excl. GST)	**$ 281,227.30**