

DRAFT V2.4

DCP Levy Analysis

DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT
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METHODOLOGY

Urban Enterprise has developed a database of each Development Contributions Plan (DCP) adopted in Melbourne's Growth Areas since 1997. This database includes a breakdown of each DCP item for which the total apportioned cost, demand units and levy amount are listed. Using this database Urban Enterprise has sought to categorise each individual infrastructure item contained within each DCP in terms of what is basic infrastructure that is common to most DCPs.

Using the categorised information contained within the database Urban Enterprise is able to determine by each sub category of infrastructure the following information:

- the number of infrastructure items contained within each DCP;
- the average actual rate of provision by population within each DCP;
- the average cost per item of infrastructure within each DCP;
- the average cost of infrastructure per dwelling for each DCP, and
- the average land take for DCP land items.

The analysis performed focus on those DCPs adopted since 2008, this includes the DCP documents listed in the table below representing 6 different Victorian growth area councils.

Attempts have been made to categorise infrastructure into common categories, in cases where descriptions do not perfectly match categories a 'best fit' category decision has been made.

The analysis of costs excludes the cost of land. Only the cost of works is included.

TABLE 1 INCLUDED DCP DOCUMENTS

Year	Council	DCP Name
2008	Cardinia	Cardinia Road Precinct (All Cells)
2008	Whittlesea	Epping North East LSP
2008	Wyndham	Tarneit West
2010	Casey	Cranbourne West (All Areas)
2010	Casey	Cranbourne East
2010	Melton	Taylor's Hill West
2010	Melton	Melton North
2010	Melton	Toolern (All Areas)
2011	Hume	Craigieburn R2 Precinct
2011	Casey	Clyde North *
2011	Wyndham	Truganina South
2011	Cardinia	Officer *
2011	Hume	Greenvale North (R1) (All Areas)
2011	Hume	Greenvale West (R3)
2011	Casey	Cranbourne North (Stage 2) *

*Exhibited DCP awaiting approval.

COMMUNITY FACILITIES AND OPEN SPACE

APPLICABLE INFRASTRUCTURE

From initial analysis it was determined that there were several categories of infrastructure (as defined by the Growth Areas Authority), for which there was little evidence of use in recent DCPs. These items may have been included once or twice in individual DCP documents under certain circumstances, and it is arguable whether they are basic Community Facility or Open Space infrastructure as specified by the Development Contributions Guidelines. These infrastructure items included:

- Youth Spaces / Facilities
- Landscaping or Rehabilitation of Passive Open Space - typically a developer funded item
- Neighbourhood Houses - these have tended to be subsumed in Multi Purpose Community Centres
- Community Arts Facilities
- Local Indoor Recreation Centres
- Specialist Community Centres
- Libraries / Community Learning Centres
- Youth Centres
- Large Scale Indoor Sports / Aquatic Centres - these serve much wider (regional) catchments
- Regional Sports Facilities (inc. Pavilions) - these serve much wider (regional) catchments
- Regional Tennis Courts - these serve much wider (regional) catchments
- Lawn Bowls / Bocce Facilities - these serve much wider (regional) catchments

The following remaining categories of Community Facilities and Open Space infrastructure had evidence of consistent use and therefore further analysis has been provided:

- Multi Purpose Community Centres (includes Children's Services / Maternal Child Health Care)
- District Sports Facilities
- District Sports Facility Pavilions
- Playgrounds
- District Park Improvements
- Local Tennis Courts - however, these tend to be collocated into District Sports Facilities

DEFINITION OF MULTI PURPOSE COMMUNITY CENTRES

There is disparity in the manner in which different DCPs identify Multi Purpose Community Centre items and their components. Some DCPs provide for broad Multi Purpose Community Centres containing a range of services, whilst others specify specialised facilities for specific children's services such as Kindergartens, Early Learning Centres or Maternal Child Health Centres. For the purpose of this study where a DCP defines specifically the use of Children's Services or Maternal Child Health Centres, these uses have been included with the Multi Purpose Community Centres category of infrastructure for consistency.

RATES OF PROVISION

The average rates of provision, infrastructure item costs, costs per dwelling and land requirements for community infrastructure and open space items are shown in the table below. The results show that on average the applicable infrastructure categories create a per dwelling cost of \$3,090 equating to an approximate per hectare amount of \$46,400 (based upon a density of 15 dwellings per hectare).

The figures represent the average across all DCPs approved since 2008 (as shown in table 1) with costs indexed to a common 2010 base. The cost of land is excluded from the analysis.

The DCP Provision Rate column in the table below represents the average number of dwellings per infrastructure item when that item has been provided within an existing DCP document. This figure should be interpreted in conjunction with established planning based figures for infrastructure provision rates. It is likely that infrastructure may be slightly overprovided against dwelling levels within DCP areas, therefore it may be beneficial to adjust these rates upwards when supporting evidence suggests that these figures are too low.

TABLE 2 AVERAGE PROVISION RATES BY INFRASTRUCTURE CATEGORY

Category	Sub Category	Average Items Included in DCPs	DCP Provision Rate (Dwellings)	DCP Infrastructure Cost per Item	DCP Costs per Dwelling	DCP Land Requirement (Ha)
Community	Multi-purpose Community Centre	3.73	2,631	\$2,792,814	\$1,061	0.6
Outdoor Active Open Space	District Sports Facility	3.26	2,507	\$2,147,708	\$857	6.6
Outdoor Active Open Space	District Sports Facility Pavilion	2.32	2,838	\$1,417,311	\$499	
Passive Open Space	Playground / Local Park Improvements	4.00	1,744	\$168,673	\$97	1.1
Passive Open Space	District Park Improvements	0.65	5,490	\$1,692,880	\$308	8.1
Outdoor Active Open Space	Local Tennis courts	0.40	3,274	\$876,506	\$268	1.0
Total Contribution per Dwelling					\$3,090	
Total Contribution per Hectare*					\$46,353.33	

* Based on an average density of 15 dwellings per hectare

SCENARIO ANALYSIS

Tables 3 & 4 show a range of cost/levy scenarios based on the data from the approved DCPs. These scenarios are presented because costs vary across DCPs and in particular costs have generally increased over time so that the more recent DCPs (2010-11) have higher costs than earlier DCPs (2008-09). This is demonstrated in Table 6.

The 'maximum' scenario takes the highest cost for that infrastructure item across each of the DCPs.

The 'mean + 1 standard deviation' scenario takes the average cost for that infrastructure item and then factors in cost dispersion amongst different DCPs by adding 1 standard deviation to the cost, in effect this removes the effect of below average cost outliers, while the figure provided takes in 84.1% of expected cost outcomes for the infrastructure item.

The 'mean' scenario takes the average cost for that infrastructure item across all DCPs.

The 'median' scenario takes the cost that sits at the middle of all those measured across DCPs.

The 'minimum' scenario takes the lowest cost for that infrastructure item across each of the DCPs.

TABLE 3 INFRASTRUCTURE COSTS

Category	Sub Category	Maximum	Mean + 1 Standard Deviation (84.1%)	Mean	Median	Minimum
Community	Multi-purpose Community Centre	\$5,573,038	\$4,202,949	\$2,792,814	\$2,398,229	\$383,170
Outdoor Active Open Space	District Sports Facility	\$3,728,955	\$3,006,838	\$2,147,708	\$2,269,799	\$600,000
Outdoor Active Open Space	District Sports Facility Pavilion	\$2,196,157	\$1,864,680	\$1,417,311	\$1,480,204	\$675,000
Passive Open Space	Playground / Local Park Improvements	\$362,686	\$309,895	\$168,673	\$112,711	\$30,623
Passive Open Space	District Park Improvements	\$3,106,940	\$2,598,307	\$1,692,880	\$1,425,832	\$812,919
Outdoor Active Open Space	Local Tennis courts	\$1,729,567	\$1,459,920	\$876,506	\$791,210	\$194,040

TABLE 4 COST PER DWELLING & CONTRIBUTION PER HECTARE

Category	Sub Category	Maximum	Mean + 1 Standard Deviation (84.1%)	Mean	Median	Minimum
Community	Multi-purpose Community Centre	\$2,145	\$1,604	\$1,065	\$923	\$147
Outdoor Active Open Space	District Sports Facility	\$1,489	\$1,250	\$879	\$904	\$239
Outdoor Active Open Space	District Sports Facility Pavilion	\$773	\$634	\$483	\$489	\$237
Passive Open Space	Playground / Local Park Improvements	\$208	\$178	\$97	\$65	\$18
Passive Open Space	District Park Improvements	\$566	\$473	\$308	\$260	\$148
Outdoor Active Open Space	Local Tennis courts	\$528	\$446	\$268	\$242	\$59
Total Contribution per Dwelling		\$5,709	\$4,585	\$3,100	\$2,883	\$849
Total Contribution per Hectare *		\$85,629	\$68,774	\$46,495	\$43,240	\$12,734

* Based on an average density of 15 dwellings per hectare

Table 4 shows that the scenarios produce a range of \$12,734 per hectare to \$85,629 per hectare. The 'minimum' and 'maximum' scenarios can be discounted because they represent extreme outlying values which give little indication of constancy across DCPs. The most reasonable scenario to adopt would appear

to be the 'mean + 1 standard deviation' scenario which takes into account the average amount plus an expected level of upward variation in costs which would allow for the cost of most current existing DCP infrastructure projects to be achieved. This scenario equates to a levy amount of \$68,774 per hectare for Community Facilities and Open Space infrastructure.

COMPARISON WITH RECENT LEVY AMOUNTS

A sample of recent DCP costs for Community Facility, Open Space infrastructure as well as respective Community Infrastructure Levy (CIL) amounts are given in the Table 5 below. Also listed in Table 6 are the average amounts for DCPs across three timeframes since 2008 which indicates that levy amounts have trended upwards over this time. It can be seen that these amounts are higher than the mean/median figures listed above for total contribution per hectare. This disparity occurs as a result of stripping superfluous infrastructure categories from these amounts. It can be seen that the actual amounts compare most closely to the calculated 'mean plus one standard deviation' figure which removes the impact of lower cost items from the average figure.

TABLE 5 DCP LEVY AMOUNTS BY CATEGORY PER HECTARE (PER DWELLING AMOUNTS IN BRACKETS)

DCP	Comm. Facilities	Open Space	CIL Amount Capped	CIL Amount Uncapped	Total (CIL Capped)	Total (CIL Uncapped)	Construction Cost
Cardinia Road Precinct (All Cells)	\$17,956	\$36,002	\$12,744 (\$900)	\$18,945 (\$1,338)	\$66,702 (\$4,711)	\$72,903 (\$5,149)	\$7,821,042
Epping North East LSP	\$52,280	\$2,081	\$0 (\$0)	\$0 (\$0)	\$54,360 (\$3,624)	\$54,360 (\$3,624)	\$19,037,047
Tarneit West	\$7,033	\$8,242	\$12,748 (\$850)	\$12,748 (\$850)	\$28,022 (\$1,868)	\$28,022 (\$1,868)	\$2,422,200
Cranbourne West (All Areas)	\$15,750	\$50,064	\$15,494 (\$859)	\$15,494 (\$859)	\$81,308 (\$4,508)	\$81,308 (\$4,508)	\$10,326,902
Cranbourne East	\$16,415	\$17,458	\$11,213 (\$736)	\$11,213 (\$736)	\$45,086 (\$2,958)	\$45,086 (\$2,958)	\$19,550,177
Taylors Hill West	\$17,139	\$22,325	\$13,995 (\$900)	\$25,543 (\$1,643)	\$53,460 (\$3,438)	\$65,008 (\$4,181)	\$10,161,367
Melton North	\$15,157	\$11,205	\$13,500 (\$900)	\$37,837 (\$2,522)	\$39,862 (\$2,657)	\$64,199 (\$4,280)	\$5,718,166
Toolern (All Areas)	\$17,486	\$17,190	\$11,931 (\$795)	\$11,931 (\$795)	\$46,608 (\$3,107)	\$46,608 (\$3,107)	\$18,489,873
Craigieburn R2 Precinct	\$32,093	\$27,159	\$9,754 (\$664)	\$9,754 (\$664)	\$69,006 (\$4,694)	\$69,006 (\$4,694)	\$24,924,920
Clyde North	\$23,910	\$25,214	\$13,950 (\$900)	\$20,002 (\$1,290)	\$63,074 (\$4,069)	\$69,126 (\$4,460)	\$29,471,278
Truganina South	\$7,880	\$38,140	\$13,500 (\$900)	\$25,047 (\$1,670)	\$59,520 (\$3,968)	\$71,068 (\$4,738)	\$11,939,365
Officer	\$35,380	\$30,892	\$14,769 (\$900)	\$17,344 (\$1,057)	\$81,041 (\$4,939)	\$83,616 (\$5,095)	\$52,963,310
Greenvale North (R1) (All Areas)	\$11,117	\$21,385	\$12,240 (\$900)	\$25,102 (\$1,846)	\$44,742 (\$3,290)	\$57,604 (\$4,236)	\$2,655,849
Greenvale West (R3)	\$26,163	\$24,310	\$14,200 (\$900)	\$31,126 (\$1,973)	\$64,673 (\$4,099)	\$81,598 (\$5,172)	\$6,842,023
Cranbourne North (Stage 2)	\$11,391	\$37,157	\$14,040 (\$900)	\$14,061 (\$901)	\$62,588 (\$4,012)	\$62,609 (\$4,013)	\$21,800,531

TABLE 6 CHANGE IN AVERAGE LEVY AMOUNTS OVER TIME PER HECTARE

DCP	Comm. Facilities	Open Space	CIL Amount Capped	CIL Amount Uncapped	Total (CIL Capped)	Total (CIL Uncapped)	Construction Cost
2008 - 2011	\$20,477	\$24,588	\$12,272	\$18,410	\$57,337	\$63,475	\$16,274,937
2010 - 2011	\$19,157	\$26,875	\$13,215	\$20,371	\$59,247	\$66,403	\$17,903,647
2011	\$21,133	\$29,180	\$13,208	\$20,348	\$63,521	\$70,661	\$21,513,896

LAND AREA REQUIREMENTS

The following table has been compiled from Urban Enterprise's DCP database, indicating the average land area acquisitions that are associated with the provision of one item for each category of Community Facilities and Open Space.

Note that in recent times there has been a move towards the acquisition of land under Clause 52.01 of the Victorian planning scheme for passive open space. These items have been excluded from Table 7.

TABLE 7 LAND AREA REQUIRMENTS (HECTARES)

Category	Sub Category	Maximum (Ha)	Mean + 1 Standard Deviation (84.1%) (Ha)	Mean (Ha)	Minimum (Ha)	Suggested Area per Item (Ha)
Community	Multi-purpose Community Centre	0.80	0.75	0.61	0.35	0.8
Outdoor Active Open Space	District Sports Facility	8.91	8.74	6.65	1.50	9
Outdoor Active Open Space	Local Tennis courts	0.95	0.95	0.95	0.95	1

ROADS & TRAFFIC MANAGEMENT

APPLICABLE INFRASTRUCTURE

Evidence shows that the following categories of road and traffic management infrastructure should generally be considered a basic infrastructure and be provided for under a DCP:

- Arterial Roads (Future VicRoads) - Interim (1st Carriageway) Construction Works
- Intersections of Connector / Local Roads to Arterial Roads (Controlled - Signalised or Roundabouts)
- Intersection of Council Arterial to VicRoads Arterial - Interim Treatment
- Intersection of VicRoads Arterial to VicRoads Arterial - Interim Treatment

Additionally, there is evidence to support provision of the following infrastructure through a DCP under certain circumstances, these items are not typically provided in all DCPs:

- Connector Roads / Collector Boulevards which form 'Sub Arterial' Roads - when an agreed higher standard of construction is required above those usually provided as subdivision works by developers the difference may be provided under a DCP
- Local Connector Roads Traversing Fragmented Properties - when a high degree of fragmented ownership will mitigate against direct providers.
- Sealing, Upgrades or Realignment of Connector Roads - when an agreed higher standard of construction is required above those usually provided as subdivision works by developers the difference may be provided under a DCP
- Intersections of Connector / Local Roads to Connector / Local Roads (Fragmented Ownership Situations) - when a high degree of fragmented ownership will mitigate against direct providers.
- Road Bridges - for river, creek and drainage reserve crossings
- Culverts - for crossing of smaller watercourse

INCONSISTENCY OF ROADS PROVISION BY DCP

A full breakdown of the level of provision of roads by DCP is given in Appendix A of this report. It can be seen that there is a very high level of inconsistency between DCPs in terms of how many road projects need to be funded. For example the Toolern area includes the need for construction of 16 sections of future arterial road, while some DCPs such as those in the city of Hume contain a very limited number of road and traffic infrastructure items.

Additionally, the length each section of road will be inherently different which makes comparative analysis difficult. There are only a limited number of DCPs which actually indicate road lengths, where this is the case a per-metre rate is indicated in the breakdown provided in Appendix A.

This suggests that a 'catch all' model for measuring costs for road and traffic infrastructure as given below may need to be treated with some caution as an understanding of how this variability affects results is necessary.

RATES OF PROVISION

The average rates of provision, infrastructure item costs, costs per dwelling and land requirements for road and traffic management items are shown in the table below. The DCP Provision Rate column in the table below represents the average number of dwellings per infrastructure item when that item has been provided within an existing DCP document. This figure should be interpreted in conjunction with established planning based figures for infrastructure provision rates. It is likely that infrastructure may be slightly overprovided against dwelling levels within DCP areas, therefore it may be beneficial to adjust these rates upwards when supporting evidence suggests that these figures are too low.

TABLE 8 BASIC ITEMS – AVERAGE PROVISION INFORMATION BY INFRASTRUCTURE ITEM TYPE

Category	Average Items Included in DCPs	DCP Provision Rate	Average DCP Infrastructure Cost per Item	Average DCP Costs per Dwelling	DCP Land Requirement (Ha)
Arterial Road, Council (Future VicRoads) - 1st Carriageway (interim) Construction	2.80	3,676	\$3,072,278	\$836	
Intersection, Connector/Local Road to Council or VicRoads Arterial Road (controlled i.e. signalised intersection or roundabout)	2.37	2,650	\$1,814,690	\$685	0.07
Intersection, Council Arterial / VicRoads Arterial - Interim	0.85	2,497	\$3,005,817	\$1,204	
Intersection, VicRoads Arterial to VicRoads Arterial - Interim	1.83	3,343	\$2,909,173	\$870	0.28
Total per Dwelling				\$3,594	
Total per Hectare *				\$53,916.70	

* Based on an average density of 15 dwellings per hectare

TABLE 9 ADDITIONAL ITEMS – AVERAGE PROVISION INFORMATION BY INFRASTRUCTURE ITEM TYPE

Category	Average Items Included in DCPs	DCP Provision Rate	Average DCP Infrastructure Cost per Item	Average DCP Costs per Dwelling	DCP Land Requirement (Ha)
Connector Road, Access/Local Roads (Land and Construction)	2.21	4,327	\$2,475,870	\$572	0.66
Local Road, Traversing Fragmented Properties	1.27	1,425	\$1,920,641	\$1,348	0.71
Local Road - New or Upgrade (Sealing, Upgrade, Realignment etc)	0.46	3,934	\$3,608,953	\$917	0.16
Intersection, Connector/Local Road to connector/local road	1.40	6,344	\$1,311,070	\$207	0.75
Road Bridges	0.71	6,033	\$1,772,233	\$294	0.24
Culverts	0.20	2,268	\$241,000	\$106	
Total per Dwelling				\$3,444	
Total per Hectare *				\$51,657.97	

* Based on an average density of 15 dwellings per hectare

SCENARIO ANALYSIS

Tables 10, 11 & 12 show a range of cost/levy scenarios based on the data from the approved DCPs. These scenarios are presented because costs vary across DCPs and in particular costs have generally increased over time so that the more recent DCPs (2010-11) have higher costs than earlier DCPs (2008-09). This is demonstrated in Table 14.

The 'maximum' scenario tables the highest cost for that infrastructure item across each of the DCPs.

The 'mean + 1 standard deviation' scenario takes the average cost for that infrastructure item and then factors in cost dispersion amongst different DCPs by adding 1 standard deviation to the cost, in effect this removes the effect of below average cost outliers, while the figure provided takes in 84.1% of expected cost outcomes for the infrastructure item.

The 'mean' scenario tables the average cost for that infrastructure item across all DCPs.

The 'median' scenario tables the cost that sits at the middle of all those measured across DCPs.

The 'minimum' scenario tables the lowest cost for that infrastructure item across each of the DCPs.

TABLE 10 AVERAGE CONSTRUCTION COSTS

Category	Maximum	Mean + 1 Standard Deviation (84.1%)	Mean	Median	Minimum
Arterial Road, Council (Future VicRoads) - 1st Carriageway (interim) Construction	\$11,272,258	\$5,990,622	\$3,072,278	\$2,245,685	\$791,546
Intersection, Connector/Local Road to Council or VicRoads Arterial Road (controlled i.e. signalised intersection or roundabout)	\$3,554,341	\$3,016,856	\$1,814,690	\$1,505,000	\$433,333
Intersection, Council Arterial / VicRoads Arterial - Interim	\$4,656,328	\$4,001,574	\$3,005,817	\$2,691,346	\$1,984,247
Intersection, VicRoads Arterial to VicRoads Arterial - Interim	\$7,786,511	\$5,299,645	\$2,909,173	\$1,860,579	\$947,800
Connector Road, Access/Local Roads (Land and Construction)	\$9,064,232	\$4,987,237	\$2,475,870	\$1,509,389	\$1,171,894
Local Road, Traversing Fragmented Properties	\$2,810,500	\$2,810,500	\$1,920,641	\$1,920,641	\$1,030,781
Local Road - New or Upgrade (Sealing, Upgrade, Realignment etc)	\$12,867,024	\$8,277,468	\$3,608,953	\$1,674,677	\$150,000
Intersection, Connector/Local Road to connector/local road	\$3,000,000	\$2,390,670	\$1,311,070	\$916,902	\$49,271
Road Bridges	\$4,720,333	\$3,131,659	\$1,772,233	\$1,239,922	\$700,000
Culverts	\$241,000	\$241,000	\$241,000	\$241,000	\$241,000

TABLE 11 BASIC INFRASTRUCTURE – COST PER DWELLING AND CONTRIBUTION PER HECTARE

Category	Maximum	Mean + 1 Standard Deviation (84.1%)	Mean	Median	Minimum
Arterial Road, Council (Future VicRoads) - 1st Carriageway (interim) Construction	\$3,067	\$1,630	\$836	\$611	\$215.33
Intersection, Connector/Local Road to Council or VicRoads Arterial Road (controlled i.e. signalised intersection or roundabout)	\$1,341	\$1,138	\$685	\$568	\$163.51
Intersection, Council Arterial / VicRoads Arterial - Interim	\$1,865	\$1,603	\$1,204	\$1,078	\$794.69
Intersection, VicRoads Arterial to VicRoads Arterial - Interim	\$2,329	\$1,585	\$870	\$556	\$283.48
Total per Dwelling	\$8,601	\$5,956	\$3,594	\$2,813	\$1,457
Total per Hectare	\$129,020.73	\$89,335.98	\$53,916.70	\$42,197.34	\$21,855.07

TABLE 12 ADDITION ITEMS – COST PER DWELLING AND CONTRIBUTION PER HECTARE

Category	Maximum	Mean + 1 Standard Deviation (84.1%)	Mean	Median	Minimum
Connector Road, Access/Local Roads (Land and Construction)	\$2,095	\$1,153	\$572	\$349	\$270.85
Local Road, Traversing Fragmented Properties	\$1,972	\$1,972	\$1,348	\$1,348	\$723.20
Local Road - New or Upgrade (Sealing, Upgrade, Realignment etc)	\$3,271	\$2,104	\$917	\$426	\$38.13
Intersection, Connector/Local Road to connector/local road	\$473	\$377	\$207	\$145	\$7.77
Road Bridges	\$782	\$519	\$294	\$206	\$116.02
Culverts	\$106	\$106	\$106	\$106	\$106.26
Total per Dwelling	\$8,699	\$6,231	\$3,444	\$2,578	\$1,262
Total per Hectare *	\$130,489.36	\$93,463.85	\$51,657.97	\$38,676.13	\$18,933.39

* Based on an average density of 15 dwellings per hectare

COMPARISON WITH RECENT LEVY AMOUNTS

A sample of recent DCP costs for Roads and Traffic Management infrastructure is given in Table 13. Also listed are the average amounts for DCPs across three timeframes since 2008.

Of the DCPs approved in 2001 it can be seen that there is a high level of inconsistency between amounts especially for road projects. It can be seen that the average amount allocated to roads projects per hectare has remained relatively stable across the three timeframes, while there is a large upwards growth in the cost of traffic management infrastructure.

Tables 13 & 14 show that an approach based on the 'mean' would appear to be the most consistent with recent DCPs. However, the actual charge for roads and intersections for any given DCP area will depend on

the extent (length) of roads required, the number of intersections required and the need to include 'additional' road and traffic management items based on local conditions.

TABLE 13 DCPS APPROVED IN 2011

DCP	Roads	Traffic Management	Total
Cardinia Road Precinct (All Cells)	\$26,616	\$9,662	\$36,278
Epping North East LSP	\$27,418	\$32,897	\$60,314
Tarneit West	\$68,410	\$8,278	\$76,689
Ctanbourne West (All Areas)	\$9,739	\$4,672	\$14,411
Cranbourne East	\$25,021	\$54,558	\$79,579
Taylor's Hill West	\$68,173	\$11,219	\$79,392
Melton North	\$81,934	\$8,858	\$90,792
Toolern (All Areas)	\$58,018	\$14,109	\$72,126
Craigieburn R2 Precinct	\$2,769	\$11,545	\$14,313
Clyde North	\$29,705	\$37,824	\$67,529
Truganina South	\$78,174	\$28,658	\$106,833
Officer	\$74,516	\$59,009	\$133,524
Greenvale North (R1) (All Areas)	\$2,739	\$15,769	\$18,508
Greenvale West (R3)	\$0	\$34,421	\$34,421
Cranbourne North (Stage 2)	\$11,353	\$46,154	\$57,507

TABLE 14 CHANGE IN AVERAGE LEVY AMOUNTS OVER TIME

Period	DCPs Included	Roads	Traffic Management	Total
2008 - 2011	15	\$45,874	\$23,441	\$69,315
2010 - 2011	12	\$47,561	\$25,606	\$73,167
2011	7	\$46,291	\$34,259	\$80,550

CONCLUSIONS

Results show that there are a limited number of Community Facilities and Open Space infrastructure items that compose basic infrastructure for a DCP area. Fixed levy amounts can be estimated for these basic infrastructure items (excluding the cost of land).

Results show that there are several basic road and traffic management items which are funded by DCPs. Additionally there is additional road and traffic management infrastructure that may be required within specific DCP areas depending on factors such as the pattern of land ownership and the need to traverse watercourses. Road costs are also contingent on the required length of roads and are most fairly costed on a per metre basis. Because of variability in the need and nexus for these items across different DCP areas, it is likely that roads and traffic items would be best levied by determining provision standards and rates which could be adapted to individual DCPs. This suggests that a 'menu driven' approach could be suitable with a fixed charge for each menu option. The charge for each menu option selected is then totalled to obtain the Transport Levy for the DCP.

Other items not included in this analysis include public transport, trail networks and planning costs. These items represent only a small part of DCP levies.

APPLICATION OF RESULTS TO DIFFERENT SETTINGS

The above data has been derived exclusively from DCPs formed by councils located in the Urban Growth Areas of Melbourne.

The following commentary assesses the ability to apply this information to different types of regional settings within Victoria.

REGIONAL GREENFIELD GROWTH AREAS

Regional Greenfield Growth Areas such as Armstrong Creek in Geelong and Ballarat West are similar in nature to metropolitan Greenfield Growth Areas and therefore the results for metropolitan Greenfield growth areas are considered to be directly transferable.

It is possible that growth rates in new regional development areas may be lower than those in metropolitan Melbourne areas and therefore infrastructure provision plans may need to be adjusted from a delivery point of view. It is also possible in a regional Greenfield development that some services could be delivered from an expansion or upgrading of existing facilities particularly where catchments for new development are relatively small. This does not affect the rates of provision on the rates of contribution for these infrastructure items.

REGIONAL INFILL / SMALL SCALE DEVELOPMENT

It is likely that the scale of infill development within established regional settings will be quite small and any direct DCP investment into local facilities will be difficult to justify. It may be more beneficial to pool funds from infill development across an entire regional city or township area to improve and upgrade existing facilities with the expectation that the new residents occupying the infill development will be located within a reasonable proximity to have access to those facilities.

REGIONAL DISPERSED TOWNSHIPS

A wider catchment may need to be developed, perhaps at the municipal level, at which a series of towns generates the need for facilities which may be dispersed amongst those towns or centralised in specific towns. With an expanded catchment area the same rates of provision can be applied across a wider regional area for which DCP funds could be collected. In dispersed population situations it is generally accepted that some travel may be required between townships in order to have access to the types of community facility and open space infrastructure typically provided by a DCP.

APPENDIX A DCP ROADS ANALYSIS

TOOLERN

MELTON 2010

- 17 Land Parcels for Future Arterial Roads- 38m to 45m reservation
- 16 Future Arterial Roads - \$4,592,737 - \$3,510 per metre
- 14 Arterial Road Landscaping Projects (Tree Removal) - \$24,459
- 2 Local Road Upgrades - \$1,674,677 - \$1892 per metre

CARDINIA ROAD

CARDINIA 2008

- 3 (1.7 Funded) VicRoads Arterials (Land and Works) - 40m reservation
- 8 Land Parcels for future Arterial Roads - 33m reservations
- 8 Future Arterial Roads (1st Carriageway) - \$791,546
- 2 Council Arterial Roads (Works and Land) - \$70,416
- 2.5 Road Bridges - 1,213,861
- 0.5 Rail Crossing / Grade Separation (VicRoads Funded) - 7,306,221

OFFICER

CARDINIA 2011

- 2 Land Parcels for Future Arterials - 30m to 40m Road Reserve
- 1 Future Arterial Road (1st Carriageway) - \$938,540
- 1 Council Funded Arterial Road (Land and Works) - \$1,086,792
- 21 Boulevard Collector Road Items (11 Land Items) - \$1,451,662
- 17 Local Roads Traversing Fragmented Properties - \$1,030,781
- 2 Rail Crossings Grade Separations - \$893,750
- 1 Road Bridge - \$1,265,982

CRANBOURNE EAST

CASEY 2010

- 4.4 Land Parcels for future arterials - width 34m
- 2.1 Future Arterial Roads (1st Carriage way) - \$2,281,047
- 2 Land Parcels for Connector Roads - 27 m reservation
- 2 Connector Roads - \$1,614,597
- 1 Local Road Upgrade - \$1,887,490

CRANBOURNE WEST – AREAS 2 / 3

CASEY 2010

- 2 Land parcels for future arterials - width 34m

- 2 Future Arterial Roads (1st Carriage way) - \$2,622,607
- 2 Land Parcels for Connector Roads (Land Only)
- 1 Local Road due to fragmentation (Land and Works)
- 1 Road Bridge / Culvert - \$1,785,020

EPPING NORTH EAST
WHITTLESEA 2008

- 1.7 Land Parcels for Future Arterials - 34m to 42m reserves
- 2.3 Future Arterial Roads (1st Carriageway) - \$1,567,250
- 1.1 Future Arterial Roads (Ultimate Construction) - \$1,375,000
- 0.6 Connector Roads - \$1,189,000
- Road Bridges - \$700,000

CLYDE NORTH
CASEY 2011

- 3 Land parcels for Future Arterials - 41m to 34m reserves
- 3 Future Arterial Roads - 2 Lane Urban - \$3,292,533

TAYLORS HILL WEST
MELTON 2010

- 1.5 Land Parcels for Future Arterials - 35m reservation
- 1.1 Future Arterial Roads (1st Carriageway) - \$2,210,000
- 2 Land parcels for Connector Roads
- 5.5 Connector Roads - \$1,480,000
- 3 Culverts - \$241,000

CRANBOURNE NORTH (STAGE 2)
CASEY 2011

- 2 Land Parcels for Future Arterials - 34m reserve
- 1 Future Arterial Road (1st Carriageway) - \$2,146,078 - \$2,567 per metre
- 1 Connector Road (Land and Works) - \$1,000,000

MELTON NORTH
MELTON 2010

- 1 Land Parcel for Future Arterials - 34m reservation
- 0.6 Future Arterial Roads - \$4,068,544
- 2.8 Local Road Upgrades - \$1,759,292

TRUGUNINA SOUTH
WYNDHAM 2011

(As part of wider Wyndham Collection)

- 0.4 Land Parcels for Future Arterials
- 0.4 Future Arterial Roads (1st Carriageway)
- 0.1 Connector Roads (Land and Works)

Local Contribution

- 1 Land Parcel for Arterial Road

TARNEIT WEST
WYNDHAM 2008

(As part of wider Wyndham Collection)

- 0.4 Land Parcels for Future Arterials
- 0.4 Future Arterial Roads (1st Carriageway)
- 0.1 Connector Roads (Land and Works)

CRAIGIEBURN R2
HUME 2010

1 Council Provided Arterial Road (Works, no Land) - \$1,000,000

GREENVALE NORTH (R1)
HUME 2011

1 Local Road Upgrade - \$300,000

GREENVALE WEST (R3)
HUME 2011

No Roads