

# **GUNDAGAI SHIRE COUNCIL**

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## **Contributions Plan**

in accordance with Section 94 of the *Environmental Planning & Assessment Act 1979*

### **Development generating heavy vehicle usage of local roads**

**June 2015**

**Date of Adoption: 8 September 2015**

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## 1. Introduction

This document is called the Gundagai Shire Council **Contributions Plan for development generating heavy vehicle usage of local roads** ("the Plan"). The overall intent of the Plan is to require a contribution to Council from future developments that generate heavy vehicle traffic on local roads. The contribution can be financial or other means as detailed in the Plan.

The contribution will offset the cost to Council of the accelerated deterioration of a local road caused by heavy vehicles associated with a particular development. Such developments include extractive industries and transport related industries, but can include any development that generates a high number of heavy vehicle movements on local roads.

The Plan has been prepared pursuant to the provisions of Section 94 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and Part 4 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation). It takes effect from the date on which public notice was published, pursuant to clause 31(4) of the EP&A Regulation.

A development application that has been submitted but not determined by Council prior to the Plan taking effect, shall not be subject to its provisions.

The following reference documents have been utilised in the preparation of the Plan.

- *Gundagai Local Environmental Plan 2011*
- Department of Planning – Development Contributions Practice Notes – July 2005 and subsequent Practice Notes advising of changes.
- *Environmental Planning and Assessment Act 1979*
- *Environmental Planning and Assessment Regulation 2005*

## 2. The purpose of the plan

The specific purposes of the Plan are to:

- (a) provide an administrative framework under which specific local road infrastructure strategies may be implemented and coordinated;
- (b) ensure the standard of local roads is not compromised by any new or expanded development;
- (c) authorise Council to impose conditions relating to contributions under Section 94 of the EP&A Act when granting consent to development on land to which this plan applies;
- (d) provide a comprehensive strategy for the assessment, collection, expenditure accounting and review of contributions on an equitable basis;
- (e) ensure that the existing community is not burdened by the deterioration of local roads as a result of future development; and
- (f) enable Council to be both publicly and financially accountable in its assessment and administration of the Plan.

## 3. The area to which the plan applies

The Plan applies to all land within the local government area of Gundagai and all developments that in the opinion of Council have the potential to accelerate the deterioration of local roads through additional heavy vehicle usage.

## 4. The relationship between development and road infrastructure

For the purposes of this Plan, the relationship between development and local road infrastructure is considered to be that an increase in use of local roads by heavy vehicles resulting from a particular development will accelerate the deterioration of road infrastructure. This additional heavy vehicle traffic comes at an additional cost to Council through shortened maintenance and replacement cycles for the impacted road. To provide a context, the impact on road pavement from one average articulated heavy vehicle is the equivalent of approximately 6,000 cars.

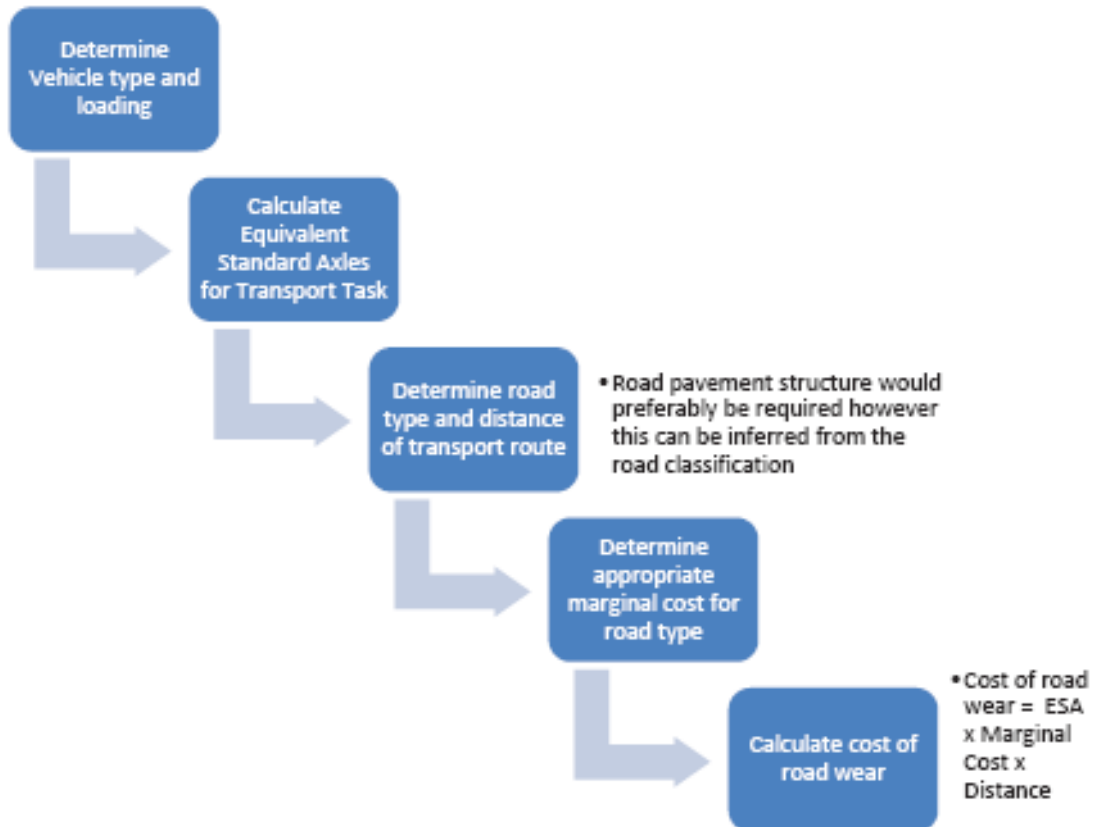
Consequently a contribution under Section 94 of the EP&A Act towards the future maintenance and replacement of local roads by development generating heavy vehicle movements is justified.

This Plan will identify the proportion of the additional costs associated with a particular road created by heavy vehicle traffic generated by a development. The cost and proportion to be allocated to a particular development will be determined by accepted methodologies and formulae.

## 5. Calculating impact on road infrastructure

There are several methods for calculating the impact of vehicles on road pavement. For the purposes of this Plan, a method based on an article titled *Calculating the Cost of Road Wear on Local Roads*<sup>1</sup>. A flow chart of this methodology is shown in Figure 1

**FIGURE 1:** Calculation process to determine cost of road wear (Source: Bondiotti & Burger)



To make a calculation using this method, it is necessary to firstly ascertain the type of industry generating the heavy vehicle movements, the type of heavy vehicles to be utilised, how the vehicle is to be loaded and the quantity of its load. It is assumed that all vehicles are fully loaded and do not exceed their permissible maximum capacity.

The next step is to calculate the quantity of Equivalent Standard Axles (ESA's) for the transport regime proposed by the development. An ESA is effectively the load placed on road surfaces and varies depending on the axle and tyre configuration of the vehicle.

An ESA is calculated using the formula:

$$ESA = \left( \frac{\text{Load on Axle Group}}{\text{Standard load}} \right)^m$$

<sup>1</sup> Mark Bondiotti, Policy Manager Transport and Roads, WALGA & Riaan Burger, Principal Engineer, ARRB Group - *Calculating the Cost of Road Wear on Local Roads*

Where:

'm' represents the damage exponent for granular pavements with thin bituminous surfacing and is equal to '4' based on field studies of pavement performance<sup>2</sup>. Higher exponents can be relevant for other types of pavements.

'standard load' is the load (tonnes) that is equivalent to a single ESA for different axle configurations as shown in Table 1 below.

'load on axle group' is the mass limit (tonnes) for different axle configurations. An example of this is shown in Table 2 below.

**TABLE 1:** Axle group loads that cause the same damage as a standard axle (Source: Bondiotti & Burger)

Axle Group Type	Standard Load (kN)	Standard Load (t)
Single axle with single tyres (SAST)	53	5.40
Single axle with dual tyres (SADT)	80	8.15
Tandem axle with single tyres (TAST)	90	9.17
Tandem axle with dual tyres (TADT)	135	13.76
Tri-axle with dual tyres (TRDT)	181	18.45
Quad-axle with dual tyres (QADT)	221	22.53

An example of how an ESA is calculated is shown below in Table 2 for a fully laden Pocket Road Train with the axle configuration shown in Figure 2.

**FIGURE 2:** Axle configuration for Pocket Road Train (Source: Bondiotti & Burger)

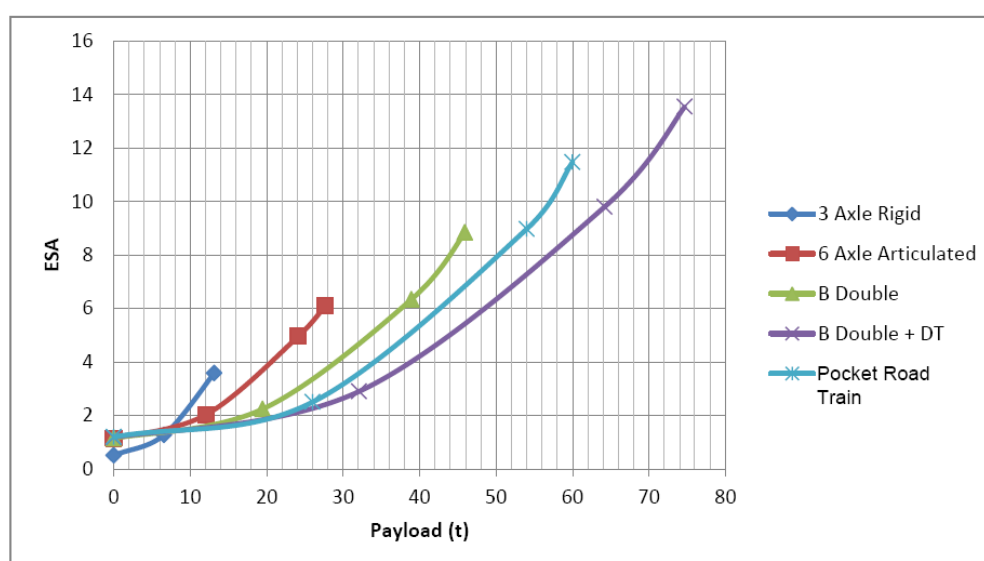


<sup>2</sup> Austroads (2010), *Guide to Pavement Technology, Part 2: Pavement Structural Design*, Austroads, Sydney, New South Wales.

**TABLE 2:** ESA calculation for fully laden Pocket Road Train (Source: Bondiotti & Burger)

Axle Group	Mass limit on Axle Group (t)	Standard Load for Axle Group (t)	ESA
1: TAST	11.0	9.17	2.07
2: TADT	16.5	13.76	2.07
3: TRDT	20.0	18.45	1.38
4: TADT	16.5	13.76	2.07
5: TRDT	20.0	18.45	1.38
<b>Total</b>	<b>84.0</b>		<b>8.97</b>

Based on the ESA formula, the ESA per payload tonne for a range of heavy vehicle types is expressed in the graph at Figure 3. The four values plotted for each type of vehicle are for zero load, 50% of maximum load, maximum legal load and concessional load (authorised to exceed a load limit).

**FIGURE 3:** ESA as a function of payload for different vehicle types (Source: Bondiotti & Burger)

## 6. Calculating marginal road wear and repair costs

The marginal cost of road wear is defined as the impact of an additional trip made by a heavy vehicle on road wear and repair costs. Due to the exponential relationship between pavement strength and load, the marginal cost will increase rapidly as the road structure decreases in strength.

For the purposes of this Plan, the three types of road pavement proposed by Bondiotti & Burger to calculate a marginal cost are adopted. These are:

### Rural access road:

Sprayed seal, 150 natural gravel base.

### Rural collector road:

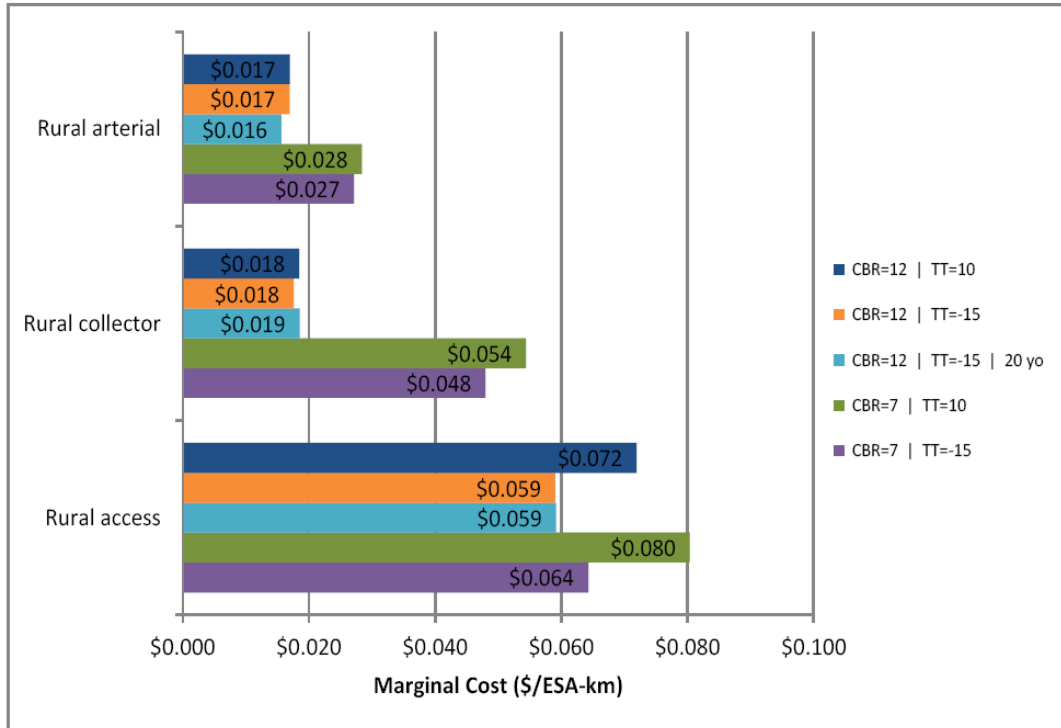
Sprayed seal, 150 natural gravel base, 150 natural gravel sub-base.

### Rural arterial road:

Sprayed seal, 150 crushed/natural gravel base, 150 natural gravel sub-base, using higher quality pavement materials than the collector.

A range of California bearing ratios<sup>3</sup> (CBR), climatic values based on the Thornthwaite Moisture Index (TT) and pavement ages were applied to each of these road types to derive a marginal cost per ESA per kilometre (see Figure 4).

**FIGURE 4:** Range of marginal costs (Source: Bondiotti & Burger)



**7. Formula for calculating contributions**

Based on a calculation of the load imposed on roads from heavy vehicles and the resulting increased cost of repair, the formula for deriving a contribution from development that will result in an impact on local roads is as follows:

$$Contribution\ per\ vehicle\ trip(\$) = ESA \times Marginal\ Cost \times distance\ (km)$$

**8. Contribution amount**

For Council to derive a total contribution amount for all heavy vehicle movements, the following information needs to be provided by the applicant:

- The type of heavy vehicles to be used.
- The mass limits for axle configuration of vehicles to be used.
- The frequency of vehicle movements by type of vehicle.
- The anticipated loads for each vehicle type.

Council will nominate:

- The ESA (based on the chart at Figure 3).
- The Marginal Cost (based on the chart at Figure 4).
- The type of road(s) to which the contribution applies.
- The distance of road(s) to which the contribution applies.

<sup>3</sup> The California bearing ratio (CBR) is a penetration test for evaluation of the mechanical strength of road subgrades and base courses. It was developed by the California Department of Transportation before World War II.

## 9. Payment of contributions

A contribution must be paid to Council at the time specified in the condition on the development consent that imposes the contribution. If no such time is specified, the contribution must be paid prior to commencing the activity approved by the consent.

### Deferred or periodic payments

Where the applicant can demonstrate that the timing of settlement of the contribution is unreasonable in the circumstances of the case, the Council may accept a deferred or periodic settlement.

The applicant needs to make a written request and satisfy the Council that:

- (a) there are valid reasons for deferral or periodic payment;
- (b) deferred or periodic payment of the contribution will not prejudice the timing or the manner of required works to road infrastructure;
- (c) no prejudice will be caused to the efficacy and operation of the Plan; and
- (d) where the applicant intends to make a contribution by way of a planning agreement or works-in-kind in lieu of a cash contribution, the applicant and Council have a legally binding agreement for the provision of the works.

The conditions under which the Council may accept deferred or periodic settlement by way of instalments is that the first instalment be paid before any activity associated with the development consent is commenced and the amount is calculated on a pro-rata basis determined by Council in proportion to the overall development.

The conditions under which the Council may accept deferred or periodic settlement by way of a bank guarantee is that:

- (a) the bank guarantee be by an Australian bank for the amount of the total contribution or the amount of the outstanding contribution;
- (b) the bank unconditionally pays the guarantee sum to the Council if the Council so demands in writing not earlier than six months from the provision of the guarantee or completion of work, whichever occurs first;
- (c) the bank must pay the guarantee sum without reference to the applicant or landowner or other person who provided the guarantee, and without regard to any dispute, controversy, issue or other matter relating to the development consent or the carrying out of development in accordance with the development consent; and
- (d) the bank's obligations are discharged when payment to the Council is made in accordance with this guarantee or when Council notifies the bank in writing that the guarantee is no longer required.

Any outstanding component of the contribution shall be indexed, at the date of payment, in accordance with the indicative Borrowing Rate for NSW Local Government Authorities, as published weekly.

Indexing will be calculated from the date the contribution was due until the date of payment. The applicant will be required to pay the contribution, the accrued interest and any charges associated with establishing or operating the bank security. Where a bank guarantee has been deposited with Council, the guarantee shall not be cancelled until such time as the original contribution and accrued interest are paid.

### Alternative means of contributing

The Council may accept an offer by the applicant to provide an 'in-kind' contribution (i.e. the applicant undertakes part or all of the required road works) or through provision of another material public benefit in lieu of the applicant satisfying its obligations under this Plan.

Council may accept such alternatives if:

- (a) the value of the works to be undertaken is at least equal to the value of the contribution that would otherwise be required under this Plan;
- (b) the standard of the works is to Council's full satisfaction; and
- (c) the provision of the material public benefit will not prejudice the timing or the manner of the provision of public facilities included in the works program.

Details and the value of the works to be substituted must be provided by the applicant at the time of the request and certified by a party qualified to make such a calculation.

Council will require the applicant to enter into a written agreement for the provision of the works.



Acceptance of any such alternative is at the sole discretion of Council. Council may review the valuation of works or land to be dedicated, and may seek the services of an independent person to verify their value. In these cases, all costs and expenses borne by the Council in determining the value of the works or land will be paid for by the applicant.

#### **Procedures for alternative payment**

If an applicant for development consent seeks to make a contribution towards the provision of public facilities to meet development other than by payment of a development contribution, the applicant may adopt one of the following procedures.

- ***Offer made to the Council as part of a development application***

If the applicant does not wish to pay a development contribution in connection with the carrying out of development, the applicant may include in the relevant development application an offer to carry out works or provide a material public benefit towards which the development contribution is to be applied.

The Council will consider the offer as part of its assessment of the development application. If the Council agrees to the arrangement and grants consent to the application, it will substitute a condition under section 80A of the *EP&A Act* requiring payment of development contributions with a condition requiring the works to be carried out and/ or the material public benefit being provided within a nominated time frame. If the Council does not agree to the alternative arrangement, it may grant consent subject to a condition authorised by this Plan requiring payment of development contributions.

- ***Offer made to Council following the grant of development consent requiring the payment of development contributions***

If development consent has been granted to the carrying out of development subject to a condition authorised by this Plan to pay development contributions, the applicant must comply with the condition unless it is modified under Section 96 of the EP&A Act.

If the applicant does not wish to pay the development contributions, the applicant may make an application to the Council under Section 96 of the EP&A Act to modify the consent by substituting the condition requiring the payment of a development contribution with a condition requiring the carrying out of works or the provision of a material public benefit towards the public purposes to which the development contributions was to be applied.

If the Council approves the application, the applicant will be bound by the substituted condition. If the Council does not approve the application, the applicant will remain bound by the condition authorised by this Plan requiring the payment of the development contributions.

- ***Offer to enter into a voluntary planning agreement***

If an applicant does not wish to pay development contributions in connection with carrying out development, the applicant may offer to enter into a voluntary planning agreement with the Council under Section 93F of the EP&A Act in connection with the making of a development application.

Under the planning agreement, the applicant may offer to pay money, dedicate land, carryout works, or provide other material public benefits for public purposes. Those purposes need not relate to the impacts of the applicant's development.

The applicant's provision under a planning agreement may be additional to or instead of paying development contributions in accordance with a condition of development consent authorised by this plan. This will be a matter for negotiation with Council.

The offer to enter into a planning agreement together with a copy of the draft agreement should accompany the relevant development application. The Council will publicly notify the draft planning agreement and an explanatory note relating to the draft agreement along with the development application and will consider the agreement as part of its assessment of that application.

If Council agrees to enter into the planning agreement, it may impose a condition of development consent under Section 93I(3) of the EP&A Act requiring the agreement to be entered into and performed. If the Council does not agree to enter into the planning agreement, it may grant consent subject to a condition authorised by this plan requiring the payment of development contributions.

Applicant's should refer to the Department of Planning Practice Note – *Planning Agreements* (Issued 19 July 2005) for additional guidance relating to the fundamental principles relating to the use of planning agreements, setting out the broad policy framework, basic statutory procedures for negotiating, entering into and administering planning agreements.

**DRAFT –Contribution Plan for development generating heavy vehicle usage of local roads****Exemptions**

Council may consider exempting developments, or components of developments from the requirement for a contribution in the following circumstances:

- (a) the heavy vehicles will not utilise local roads;
- (b) the existing road infrastructure along the route to be used by heavy vehicles can sustain the additional traffic;
- (c) the type of vehicles to be used by the development can be proven not to have a detrimental impact on road infrastructure; or
- (d) the period of usage of local roads is temporary (e.g. for a construction project).

For such claims to be considered, a development application will need to include a comprehensive submission arguing the case for exemption and including details relating to:

- (a) the full details of the types of vehicles to be used;
- (b) the volume of traffic to be generated;
- (c) the routes to be exclusively used;
- (d) the existing standard of the road infrastructure; and
- (e) any other exceptional circumstances.

**Adjustment of contributions at time of payment**

If the contributions are not paid within the quarter in which consent is granted, the contributions payable under this Plan will be adjusted and the amount payable will be calculated on the basis of the contribution rates that are applicable at time of payment in the following manner:

$$\begin{aligned} \$C_P &= \$C_{DC} + \frac{[\$C_{DC} \times (\$C_Q - \$C_C)]}{\$C_C} \end{aligned}$$

Where:

- $\$C_P$  is the amount of the contribution calculated at the time of payment
- $\$C_{DC}$  is the amount of the original contribution as set out in the development consent
- $\$C_Q$  is the contribution rate applicable at the time of payment
- $\$C_C$  is the contribution rate applicable at the time of the original consent

**10. Location of where contributions are to be spent**

The Plan responds to development proposals involving heavy vehicle generation along a particular local road route. Consequently the location of where the contributions will be spent is unknown until the site of a development is determined. The location of where the contribution will be spent therefore cannot be specified in the Plan. The contributions will be spent on local road infrastructure that is directly impacted by heavy vehicles associated with a particular development.

**11. Pooling of contributions and priorities for spending**

This Plan is the only contributions plan administered by Council under Section 94 of the EP&A Act. It is also a direct consequence of a particular development and specific to a local road route. Consequently there is no opportunity for the pooling of contributions or setting priorities for spending.