

Development of Version 1 of the Australian National Aged Care Classification (AN-ACC) funding model for community transport

June 2022

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Acknowledgements

The Centre for Health Service Development would like to acknowledge the contribution of the community transport service providers that so generously participated in the study. We particularly extend our thanks to the members of the expert panel whose contributions were critical to the success of the study. We would also like to acknowledge Tara Russell, Community Transport Organisation Executive Officer, and thank her for her ongoing support throughout the study.

Suggested citation

Kobel C, Loggie C, Westera A, Gordon R and Eagar K (2022) Development of Version 1 of the Australian National Aged Care Classification (AN-ACC) funding model for community transport. Centre for Health Service Development, Australian Health Services Research Institute, University of Wollongong.

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Abbreviations

AN-ACC	Australian National Aged Care Classification
CHSP	Commonwealth Home Support Programme
CTO	Community Transport Organisation
CV	Coefficient of Variation
MMM	Modified Monash Model
RIV	Reduction in Variance
RVU	Relative Value Unit
NWAU	National Weighted Activity Unit

Key Messages

- ❖ The study was undertaken to demonstrate how the Australian National Aged Care Classification (AN-ACC) can be extended from residential aged care to community transport to provide a viable alternative to the model currently proposed by the Australian Government in the 'Support at Home Program'.
- ❖ The proposed 'Support at Home Program' is a significant change to the funding arrangements for providers of home and community care services, moving from a grant funded model to a fee-for-service payment in arrears model. Concerns have been raised by the sector regarding the sustainability of services under this type of transactional payment arrangement.
- ❖ The Australian Government will implement AN-ACC as the new funding model for residential aged care from 1 October 2022. This model was designed to facilitate its extension across all aged care services, with the principles that underpin the AN-ACC applying equally to residential and community aged care.
- ❖ The AN-ACC funding model provides stability in funding as it recognises the large proportion of costs that are related to the 'capacity' of the provider to deliver services to all care recipients, in addition to the 'activity' costs of providing care that is tailored to the individual needs of care recipients.
- ❖ The Centre for Health Service Development worked in partnership with community transport providers in NSW to develop the first version of an evidence-based funding model based on AN-ACC for community transport (comprising four classes) that can be extended nationally.
- ❖ On average, 70% of community transport costs relate to capacity and the remaining 30% to activity. For urban providers the proportion of capacity costs is slightly lower at 65% and for rural providers slightly higher at 85%.
- ❖ Version 1 of the AN-ACC funding model for community care is a credible alternative to the proposed 'Support at Home Program' and the current block funding model, which the Australian Government is looking to abolish.
- ❖ The study established that the AN-ACC can be extended so that the one funding model could be used across residential and home and community care, consistent with the goal of improving integration of aged care across care settings.
- ❖ Further development and refinement of the AN-ACC funding model for community transport should be undertaken to fine-tune the model, along with a program of education and sector engagement and consultation as the model is progressively implemented.

1 Introduction

This report details the development of a prototype classification and funding model for community transport providers in NSW. The research was conducted by the Centre for Health Service Development, within the Australian Health Services Research Institute at the University of Wollongong, in partnership with and funded by Community Transport Organisation (CTO), the peak body for community transport providers in NSW. The project was commissioned by CTO in March 2022 in response to concerns from the sector around future funding stability under the payment in arrears model that has been proposed by the Australian Government in the 'Support at Home Program'¹.

The research was originally designed as a 'proof-of-concept' study to establish how the Australian National Aged Care Classification (AN-ACC) funding model for residential aged care can be extended for use within community transport services. While the scope of the project was for community transport in NSW, the broader objective was to establish the foundation to develop similar classifications for other home and community aged care service types, in support of the objectives of the Support at Home Alliance.

The Support at Home Alliance, established in late 2021, brought together representatives of the major peak bodies for the Commonwealth Home Support Programme (CHSP) providers, including the CTO, under the leadership of the Aged and Community Services Association². The Support at Home Alliance is seeking to ensure that a new program structure and funding model for home and community care services aligns with the recommendations of the Royal Commission into Aged Care Quality and Safety and ensures the sustainability of the sector into the future.

The development process was undertaken in consultation with a panel of experienced leaders of community transport services from a range of providers across NSW. Along with the input from the panel, the study involved the analysis of routinely available financial and transportation data in an iterative process that culminated in Version 1 of AN-ACC funding model for community transport.

2 Background

2.1 Overview of Government-funded home and community aged care services

Home and community aged care is available for older people that need assistance to maintain their independence and continue living safely in their own homes. It includes services such as help with daily tasks, transport, social support and nursing and allied health care. The Australian Government subsidises home and community care through the CHSP for entry level support and separately Home Care Packages for more complex needs. Older people who want to access home and community care services are assessed through a My Aged Care Regional Assessment Service for CHSP, or an Aged Care Assessment Team for more complex needs, including Home Care Packages.

In 2019-20 the Commonwealth expenditure for CHSP service delivery was \$2.6 billion. The Australian Government pays for CHSP services through grant funding to providers to deliver a set number of activities within an Aged Care Planning Region at individually agreed prices. Service providers receive the payment upfront on a quarterly basis. Providers can charge different amounts for their services and

¹ Australian Government Department of Health (2022) Support at Home Program Overview, available at: <https://www.health.gov.au/resources/publications/support-at-home-program-overview>.

² From 1 July 2022 the Aged and Community Services Association and Leading Age Services Australia will merge to create the Aged & Community Care Providers Association.

clients pay a contribution to the provider, as detailed in a consumer contribution policy. Client contributions totalled around \$251 million in 2019-20, or less than 9% of the total CHSP funding³.

There are currently around 850,000 people receiving CHSP services from more than 1,400 providers, which are predominantly not-for-profit organisations. People receiving CHSP services typically require only one to two services and, depending on their needs, may receive CHSP services on a short-term, intermittent or ongoing basis.

2.2 Community transport services

Community transport is available through CHSP and is provided to assist people in attending medical appointments as well as other outings such as shopping or participating in social activities. Community transport was the third highest CHSP service type in number of clients in 2018-19, with around 175,000 clients, and ranked seventh in CHSP funding allocation at \$182 million⁴. In NSW, community transport providers are sub-contracted to the NSW Government, Transport for NSW, to provide services under the CHSP.

The current funding model for community transport utilises the service output as 'trip', a blunt measure that does not account for the different needs of individual clients or the range of different transport requirements. Other significant funding considerations for community transport providers are the high proportion of overall costs that are involved in maintaining the fleet of vehicles and the need to respond to fluctuations in client demand.

2.3 Proposed changes to home and community aged care funding

Following the release of the findings of the Royal Commission into Aged Care Quality and Safety in 2021⁵, the Australian Government has embarked on a plan to reform the home and community aged care sector to address the recommendations to support older people to stay in their homes for longer. The proposed new 'Support at Home Program' would combine the existing CHSP, Home Care Packages Program and Short-Term Restorative Care and residential respite programs into a single system, with the introduction of a new assessment, classification and funding model⁶.

The Support at Home Program has been proposed as a payment in arrears model in which clients make direct payments to providers at point of delivery using their individualised funding. This transactional type of model removes funding stability for CHSP service providers.

3 Overview of the AN-ACC funding model

The Australian Government will use AN-ACC as the new funding model for residential aged care from 1 October 2022⁷. The AN-ACC was developed for the Australian Government in a major national study

³ Aged Care Financing Authority (2021) Ninth Report on the Funding and Financing of the Aged Care Industry, available at: <https://www.health.gov.au/resources/publications/ninth-report-on-the-funding-and-financing-of-the-aged-care-industry-july-2021>.

⁴ Deloitte Access Economics (2020) Commonwealth Home Support Data Study, available at: https://www.health.gov.au/sites/default/files/documents/2021/06/commonwealth-home-support-programme-data-study_0.pdf.

⁵ Royal Commission into Aged Care Quality and Safety (2021) Final Report: Care, Dignity and Respect, available at: <https://agedcare.royalcommission.gov.au/>.

⁶ Australian Government Department of Health (2022) Support at Home Program Overview, available at: <https://www.health.gov.au/resources/publications/support-at-home-program-overview>.

⁷ Australian Government Department of Health (2022) The AN-ACC care funding model, available at: <https://www.health.gov.au/health-topics/aged-care/aged-care-reforms-and-reviews/residential-aged-care-funding-reform/the-an-acc-care-funding-model>.

that involved the collection and analysis of resident assessment, service utilisation and financial data from aged care homes, as well as input from expert aged care clinicians.

The AN-ACC is a ‘casemix’ system similar to the one which is the basis for activity-based funding of hospitals in Australia and internationally. While casemix has been long established in acute care, casemix systems represent a flexible approach that are also used in subacute and non-acute care as well as non-admitted and community-based care systems worldwide. They have also been successfully implemented in the disability and education sectors.

The AN-ACC is an administratively simple funding model, yet it represents a conceptually more sophisticated approach to funding based on evidence of cost and cost drivers. Some of the key concepts and terminologies that are integral to the AN-ACC are explained below in Table 1.

The AN-ACC system provides funding transparency by focusing on what actually drives the need for care and best predicts resource use. This supports more equitable distribution of funding, while also offering service providers greater funding certainty. Funding comprises a Base Care Tariff and an individualised care payment or activity component. The Base Care Tariff component provides stability in the funding model and the activity component accounts for the volume and mix of care recipients. In addition to being the foundation for activity-based funding, the casemix classification also provides a base to measure, resource and report on the inputs, outputs and outcomes of care across the sector.

Critical to the development of any casemix classification, such as the AN-ACC, is identifying and understanding the drivers of service delivery costs. Importantly, this process is informed both through consultation with experts that have in-depth knowledge and experience in the sector and the analysis of activity and cost data. Draft models are tested and refined in an iterative process that ensures that the casemix classification is meaningful and relevant to its users as well as statistically robust.

The AN-ACC was designed with the intention that it could be extended to home and community care services to provide coherence across the different sectors, albeit tailored to the variety of service types delivered in community context.

Table 1 Key terms used in AN-ACC

AN-ACC term	Description
Casemix system	<p>A casemix system provides a payment model in which there is an explicit relationship between cost and price. Individuals receiving care services are allocated to a ‘class’ based on their assessed needs. The care recipients within a class will have similar needs for care and their care will involve similar levels of resource consumption.</p> <p>The AN-ACC funding model for residential aged care has 13 classes, which are defined by resident characteristics such as level of mobility, cognitive ability, and level of function.</p>
Payment components	<p>The AN-ACC comprises two main funding streams, a Base Care Tariff and an individualised care payment.</p> <p>The AN-ACC funding model for residential aged care also includes a one-off payment on entry to residential care in recognition that there are additional, but time-limited, resource requirements when someone initially enters residential care. The one-off adjustment payments are based on the resident’s AN-ACC class.</p>

AN-ACC term	Description
<p>Base Care Tariff (Capacity component)</p>	<p>The base care tariff is included in the funding model in recognition that a large proportion of costs are related to having the capacity to deliver services. For example, renting office accommodation, the cost of the management team, and the embedded cost of core activities such as staff supervision, quality assurance and activity reporting. There are also capacity costs that vary by service type. For example, the costs of purchasing and maintaining a vehicle for community transport providers is independent of the needs of the people who use the bus.</p> <p>In residential aged care the capacity costs are around 50% of the overall care costs, meaning that approximately half of the funding the provider receives is a fixed amount, regardless of fluctuations in response to the care needs of individual residents. There are seven base care tariffs in the AN-ACC funding model for residential care which are determined by size, location and specialisation of the aged care home.</p>
<p>Individualised care payment (Activity component)</p>	<p>The individualised care payment is related to the activity delivered to individual care recipients by service providers and is paid in addition to the base care tariff. Each care recipient is assessed and assigned to an AN-ACC class according to their care needs. The AN-ACC class defines the amount of funding received for the care recipient. As such, the individualised care payment is a variable amount depending on the casemix of the care recipients.</p>
<p>Relative Value Units (RVUs)</p>	<p>Relative value units (RVUs), sometimes referred to as ‘weighted activity units’, are a measure of relative cost. RVUs are used in casemix systems rather than actual dollars because relativities remain stable from one year to another, as opposed to actual dollars which need to be updated over time. Within a set of classes RVUs are used to describe relative costliness. An RVU of 1.00 serves as the reference point (normally representing the overall / national mean or the most frequent class). In comparison, a class with an RVU of 2.00 has twice the resource utilisation and a class with an RVU of 0.5 has half the resource utilisation.</p> <p>When determining funding levels or adjusting from year to year all that needs to be done is to set the monetary value of RVU 1.00 (e.g. \$100). The value of each class can then be determined by multiplying the monetary value with the corresponding RVU (e.g. \$100 x 2.00 = \$200).</p> <p>For the AN-ACC for community transport, two sets of RVUs are used: Base Care Tariff RVUs (or RVU_B) and activity RVUs (or RVU_A). RVU_A and RVU_B will have different monetary values and will need to be calibrated against each other and ultimately converted to National Weighted Activity Units.</p> <p>In the AN-ACC funding model for residential aged care the RVUs range from 0.37 to 1.95 across the 13 classes.</p>
<p>National Weighted Activity Unit (NWAU)</p>	<p>A measure of relative price across the whole of aged care. An NWAU of 1.2 means that the price of the activity is 20% above the national average. An NWAU of 0.5 means that the price is 50% below national average. The ‘national average’ is the average of all aged care in Australia, both residential and community. The NWAU is a common currency for funding aged care across the care continuum. The Independent Hospital and Aged Care Authority will recommend the price of an NWAU of 1.00 from 2022-23. All other prices for aged care are determined relative to the price of 1.00 NWAU.</p>

4 Developing the AN-ACC funding model for community transport

The study was undertaken in partnership with the CTO. This involved consultation with a panel of experts in community transport services and the collection and statistical analysis of routinely collected community transport data in an iterative development process. The expert panel was convened by the CTO Executive Officer and comprised twelve experienced managers from community transport providers of different sizes, locations and service types (single service, multi-service, and Councils). The panel members are listed in Appendix 1. Complete sets of routinely reported data were available for analysis from 20 community transport providers. These providers had responded to an invitation by CTO to the community transport sector to participate in the study. Participating service providers are listed in Appendix 2.

The development process took place over several stages as outlined below. A more detailed description of the methodology, analysis and findings is provided in Appendix 3.

Stage One: Testing the ideas

The AN-ACC model, originally developed for residential aged care, was reviewed regarding its extension to home and community care services and the specific requirements for it to be applied to community transport services. There were three components that needed to be developed for an AN-ACC funding model for community transport:

- a classification of the different community transport activities provided (required as an intermediate product to calculate RVUs for the different activities);
- a set of Base Care Tariffs (to classify the service for the **capacity** cost component – based on characteristics that drive these costs in community transport);
- a set of AN-ACC classes (to classify each individual client for the **activity** cost component – based on the individual's level of need for community transport).

Stage Two: Expert panel deliberations

The panel was invited to participate in a face-to-face workshop in early April 2022. Members were familiarised with the AN-ACC and reviewed a hypothetical community transport model that had been prepared by the Centre for Health Service Development to illustrate the functioning of the system. Members provided advice on what they considered to be the key characteristics that drive costs for each of the three classification components and how these should best be measured and categorised.

Stage Three: Costing study and classification refinement

The components of the funding model developed at the workshop were tested in a costing study using the community transport data that had been provided to the Centre for Health Service Development. The outcomes of the analysis were used to refine the proposed Base Care Tariffs and AN-ACC classes and propose different options for the community transport activity classification. RVUs were developed for each.

Stage Four: Expert panel review and final design

In May 2022, the panel met virtually to review the outcomes of the analysis. The refinements and options for each of the components were discussed in detail, and decisions were made around making adjustments to the initial options based on the results of the subsequent data analyses.

A consensus was reached on all refinements and the panel endorsed the final design as Version 1, which is sufficiently robust to present as a working model going forward. A proposed future work program to continue the refinement of the model, along with further decisions to be made around the operational aspects of the AN-ACC funding model for community transport, were also discussed. These next steps are detailed in Section 7.

5 Version 1 of the AN-ACC funding model for community transport

Version 1 of the AN-ACC funding model for community transport comprises three classification components as presented below. The four AN-ACC classes to which a client is assigned (Section 5.3) are based on the community transport activity classification (Section 5.1). The Base Care Tariffs are outlined in Section 5.2.

5.1 Community transport activity classification

The community transport activity classes relate to the cost of providing individual community transport services to clients and comprise fuel and the cost / time of drivers. All other provider costs are in the capacity component. The community transport activity classification serves as an intermediate step in calculating the levels of activity required by individuals and measuring the volume of activity delivered by community transport providers. There are eight classes of community transport activities: five for individual trips and three for group trips (Table 2). The corresponding activity RVU, RVU_A , is also provided.

Individual activity is classified according to duration, and group activities are classified according to the duration and the distance travelled and are defined as transport for a minimum of three people. RVU_A for the group trips represent the value per person.

Table 2 Community transport activity classes

Activity classes	RVU_A (per person)
A1: Individual trip, less than 15 mins	1.00
A2: Individual trip, 15 to 30 mins	2.24
A3: Individual trip, 30 to 75 mins	4.52
A4: Individual trip, 75 to 180 mins	11.40
A5: Individual trip, more than 3 hours	26.30
A6: Group trip, less than 2.5 hours	1.76
A7: Group trip, more than 2.5 hours, less than 300 kms	5.67
A8: Group trip, more than 2.5 hours, more than 300 kms	11.90

5.2 Base Care Tariffs (capacity component)

The main factors contributing to service capacity costs are **size** and **location**⁸, and there are five Base Care Tariffs in Version 1, see Table 3. The RVU for each Base Care Tariff, RVU_B , is also provided.

Examples of the capacity costs for community transport service providers are salaries for management and administration, office space, IT and equipment, and fleet purchase, maintenance and depreciation. In general, the bigger the size of the service, the more capacity it needs. Size is measured in total weighted activity units (or RVUs) of activity provided to all clients per annum, rather than by number of clients, trips, vehicles, or drivers. Unsurprisingly, there are differences in capacity costs due to the geographic location of a service (metropolitan versus regional), which are generally associated with differences in staffing, depot costs and the mix of vehicles within the fleet.

⁸ The location of a provider has been categorised using the Modified Monash Model (MMM) according to its primary address. The MMM is a geographical classification system based on population data that categorises metropolitan, regional, rural and remote locations into seven levels according to geographical remoteness and town size. More information about the MMM is available at <https://www.health.gov.au/health-topics/rural-health-workforce/classifications/mmm>.

Table 3 Base Care Tariffs

Base Care Tariff	RVU _B
B1: Metropolitan (MM 1-3) provider with less than 50,000 RVU _A of activity per annum	0.44
B2: Metropolitan (MM 1-3) provider with 50,000 to 125,000 RVU _A of activity per annum	1.00
B3: Metropolitan (MM 1-3) provider with more than 125,000 RVU _A of activity per annum	1.66
B4: Regional (MM 4-7) provider with less than 60,000 RVU _A of activity per annum	0.46
B5: Regional (MM 4-7) provider with more than 60,000 RVU _A of activity per annum	1.00

On average, 70% of community transport costs relate to capacity and the remaining 30% to activity. For urban providers the proportion of capacity costs is slightly lower at 65% and for rural providers slightly higher at 85%.

5.3 AN-ACC community transport classes (activity component)

Clients are assessed for their community transport needs and depending on their total needs over the year, expressed in total RVU_A, categorised into one of four AN-ACC classes: High, Medium, Low or Casual as shown in Table 4. The average RVU_A for each AN-ACC class is also provided.

Table 4 AN-ACC classes

AN-ACC classes	Definition	RVU _A
C1: Casual CT needs	Person needs up to 107 RVU _A of activity per annum	46.6
C2: Low CT needs	Person needs between 107 and 290 RVU _A of activity per annum	167.4
C3: Medium CT needs	Person needs between 290 and 775 RVU _A of activity per annum	413.4
C4: High CT needs	Person needs more than 775 RVU _A of activity per annum	1,146.0

6 How the AN-ACC funding model for community transport would be implemented

Funding under the AN-ACC is significantly different to both the block funding model currently used and the proposed fee for service model under the 'Support at Home Program'. It involves an annual 'price and volume' contract (funding agreement) with two payment components:

- Capacity payment, paid as the Base Care Tariff, with the amount determined by the provider's Base Care Tariff allocation and paid upfront annually as a lump sum;
- Activity payment, paid according to the total volume of funded activity to be delivered by the provider per annum. The volume is weighted for resource use rather than just counting 'trips' (expressed in activity RVUs) and is determined by the AN-ACC classes of the clients that receive services from the provider. The payment is paid up front, either annually with the Base Care Tariff or at a period to be determined in the business rules (see Section 7).

While CHSP funding would initially continue to be funded via block grants, the goal would be to progressively introduce price and volume contracting with all providers. A period of shadow funding could facilitate a smooth transition to the new model.

Price and volume contracts give providers flexibility, including the ability to accommodate fluctuations in client activity as needs change, as well as the opportunity for innovation in the types of activities

provided over the course of the funding period. The model also informs future planning with the ability to predict ongoing demand.

A risk sharing mechanism is built into each price and volume contract. For example, a provider might have a price and volume contract for 100,000 activity RVU of community transport plus or minus 10%. If the total volume of care delivered is within the 100,000 ± 10% band, there are no adjustments required. Where the total volume falls above or below the band a response mechanism(s) would be triggered. The details of any adjustments that would be made need to be determined in the funding model business rules (see Section 7).

The purpose of this risk sharing mechanism is both to share financial risk and to simplify contract management. A further reason is that this provides a mechanism to allow agencies to better predict and manage income and expenditure. This in turn will assist providers to recruit and maintain a stable workforce. There is considerable evidence that staff continuity is a critically important factor in driving quality and safety.

6.1 A worked example

This is a worked example of how the AN-ACC funding model for community transport will be implemented. This example is for a community transport provider called the Anytown Community Transport Service. However, the overall approach applies equally to other types of community and home support services.

In this example the Anytown Community Transport Service meets the definition for Base Care Tariff B4 (Regional (MM 4-7) provider with less than 60,000 RVU_A of activity per annum). At the beginning of the financial year, it will receive a Base Care Tariff grant of \$690,000 to cover its capacity-related operating costs. This amount is based on the RVU_B of Base Care Tariff B4 being 0.46 and a fictional national RVU_B price of \$1,500,000.

The Anytown Community Transport Service has many clients, including Mary Jones and Harry Smith. Mary is classified as having low community transport needs (Class 2), corresponding to 167.4 RVU_A and Harry is classified as having high community transport needs (Class 4), corresponding to 1,146 RVU_A. In total, all clients of Anytown Community Transport Service have 30,000 RVU_A.

Table 5 summarises the funding agreement for Anytown Community Transport Service. As a level B4 Base Care Tariff provider, it receives \$690,000 as its Base Care Tariff. It also receives \$360,000 as an AN-ACC activity payment. This is funding for 30,000 RVU_A of activities (including 167.4 RVU_A for Mary and 1,146 RVU_A for Harry) plus or minus 10%. If its final activity for the year is in the range 27,000 to 33,000 RVU_A, Anytown Community Transport Service has met its activity goal.

Table 5 Funding agreement for Anytown Community Transport Service

Funding agreement	Total RVU _A per annum	Minimum RVU _A	Maximum RVU _A	Fictional \$ per RVU _A	Total
Base Care Tariff B4					\$690,000
Activity component (RVU _A +/- 10%)	30,000	27,000	33,000	\$12	\$360,000
Total					\$1,050,000

While the budget has been built up based on meeting the assessed needs of its customers, the funding agreement is a lump sum price and volume contract based on total activity (30,000 RVU_A). Anytown Community Transport Service can cross-subsidise between its customers and can substitute one

transport activity with another. It can vary the mix of activities it delivers in response to changing needs and can be innovative in delivering different types of transport activity over the course of the year.

The service has two requirements:

1. It needs to meet the transport needs of its customers. If Mary or Harry are unhappy with the services they receive from the Anytown Community Transport Service, they can transfer to another community transport provider and take their notional RVU_A allocation with them.
2. It needs to meet the total quantum of activity, in this case 30,000 RVU_A plus or minus 10%. If activity falls below 27,000 RVU_A or is more than 33,000 RVU_A, the funding for Anytown Community Transport Service may require adjustment. These RVU_A are adjusted to account for any consumer who joins or leaves the provider during the year. The goal is that services compete on quality and consumer experience rather than compete on price.

7 Next steps

The development of the AN-ACC funding model for community transport has demonstrated that the AN-ACC model can be used across the spectrum of aged care from residential to community transport. Version 1, as the outcome of this study, provides a credible evidence-based classification that can be used as the foundation for the funding of community transport going forward.

In order to further refine and develop the first version of the classification, a number of activities should be undertaken. These include the development of a set of business rules that detail the funding arrangements for the new model, and a longer-term work plan to further develop the classification. Given the concepts and language are new to the sector, there should also be a program of education and change management undertaken.

Development of business rules

While the classification provides the foundation for the new funding model, a set of business rules is required around the operational details. Some of the key operational aspects of the funding model that need to be addressed are detailed below.

- **Variation from the funded total volume of activity as specified in the price and volume contract:**
The tolerance band around the total volume of funded activity to be delivered per annum is a risk sharing mechanism that is built into each price and volume contract. The mechanisms for responding where the activity delivered falls outside the tolerance band need to be determined. These operational issues include:
 - At what point the reported activity is measured against the price and volume contract. For example, it could be at the completion of the annual contract, or it could be done each quarter, or only in the final quarter of the year.
 - Whether there would be a financial adjustment for volume of activity variations that are outside the band. Note that any adjustments should only apply to the activity component and be at the marginal rate.
 - How activity variations would be used to inform ongoing price and volume agreements.
- **Payment of activity component funding:**
As the activity payment is based on the volume of services to be delivered, there are options around when this component would be paid, for example, as an annual upfront payment with the Base Care Tariff, or as a payment made on review of activity at more regular intervals.
- **Development of working definitions:**
Working definitions based on the classification will need to be developed.

Ongoing refinement and development of Version 2

The development of Version 1 of the AN-ACC funding model for community transport was undertaken as a proof-of-concept study in a relatively short timeframe and used routinely collected data that was readily accessible. While there was a successful outcome with the development of a viable first version, there is a program of future development and refinement work that should be undertaken. This would include the following activities:

- Collection and analysis of a national dataset that covers a longer timeframe, with consideration given to the impacts of the COVID-19 pandemic and other significant events over recent times.
- Investigation of any additional available data items that could be used to further inform the refinement of the classification.
- Further investigation of driver expenses to determine whether a portion of driver costs should be included in the Base Care Tariff, rather than being allocated to the activity payment.
- Further investigation of different models of community transport service delivery.
- The cut-offs used to define the classes should be confirmed, along with the RVUs.
- Completion of a microstudy of community transport services in MM 4-7 to confirm that there should be a split into smaller and larger services in the Base Care Tariff for regional providers.
- Further work to identify the characteristics that predict client needs and the development of an assessment tool that captures the variables. It is anticipated that these could include characteristics such as: physical needs, social participation needs, alternative transport options, environmental factors.
- Refine the AN-ACC classes (Casual, Low, Medium, High) based on the findings of further analysis.

Education and change management program

The AN-ACC introduces a range of new concepts and terminologies and requires different thinking about the approach to funding for home and community care services. It will be important to engage with the sector and other stakeholders strategically and actively throughout the transition to the new system.

The model will inevitably need to be fine-tuned as implementation progresses and it will take some time for the system to become completely bedded down. For this reason, implementation should occur in stages and the AN-ACC funding model should be progressively developed through a process of ongoing support and consultation with the sector.

Appendix 1 Expert panel members

Member	Position	Organisation	Location
Ben Jackson	Chief Executive Officer	Active Care Network	Kingswood
Bethany Langford	Chief Executive Officer	The Community Transport Company	Toormina
Darrin Wilson	Executive Officer	South West Community Transport	Minto
Greg Stanger	General Manager	Activus Transport Ltd	Engadine
Isaac Smith	Chief Executive Officer	Home Assistance and Regional Transport Services (HART)	Wollongbar
Kathryn Parnell	Chief Executive Officer	Bathurst Community Transport Group	Bathurst
Kathy Dickson	Operations Manager	LiveBetter Community Services	Lithgow
Lyn Townsend	Service Manager	Neighbourhood Central Ltd	Parkes
Paddianne Archdale	Community Manager	Kirinari Community Services	Lavington
Sally Walters	Services Manager	Inverell Community Transport	Inverell
Stacie Mohr	Community Support Manager	Narrandera Shire Council	Narrandera
Vicki Lennox	Chief Executive Officer	Community Transport Central Coast Ltd	Wyong

Appendix 2 Participating community transport service providers

Community transport providers	Service type
Active Care Network *	Single service
Activus Transport *	Single service
Bankstown Canterbury Community Transport Co-Operative	Multi-service
Bathurst Community Transport *	Single service
Care 'n Go	Multi-service
Coast and Country Community Services	Single service
Community Transport Central Coast *	Single service
Connect You Too	Multi-service
Connect: Inner West Community Transport Group	Single service
Hills Community Care	Council
Home Assistance and Regional Transport Services (HART) *	Multi-service
Hornsby Ku-ring-gai Community Transport	Single service
Linked Community Services	Single service
Live Better Community Services *	Multi-service
Moree Care	Multi-service
Narrandera Shire Council *	Council
Neighbourhood Central *	Multi-service
Peppercorn Services	Council
Randwick Waverley Community Transport Group	Single service
South West Community Transport *	Single service
Transcare Hunter	Single service
Valmar Support Services	Multi-service
Wollongong City Council	Council

* indicates trip data was also provided by this service

Appendix 3 Detailed methodology and findings

Methodology

Developing a casemix classification is an iterative process that involves data analysis and consultations with experts. In this case, the panel developed a set of hypothetical classifications. These were tested by statistical analysis and where feasible alternative options were presented and discussed at the second panel meeting.

Data sources and preparation

To enhance participation in the study it was decided to request routinely available financial and transportation data that was both recent and with as little as possible impact from COVID-19. Three types of information were requested:

- Financial year 2019-20 Audited Financial Acquittal Report
- Financial year 2019-20 KPI Reports
- Driver expenses as percentage of direct employee expenses (item 8.2.1.1)

Twenty providers were able to submit complete data and could be included in the analysis for the Base Care Tariff. Panel members were asked to provide an additional routinely available trip data extract (ODIN) for January to March 2022. Nine providers were able to submit this data. However, for some March 2022 had not been finalised.

All data was checked for errors and completeness and where necessary these were queried with the participating providers. For the Base Care Tariff, costs were allocated to either the capacity component or the activity component. Cost relating to indirect trips were excluded. The capacity component included:

- Total Direct Costs – Cash (excluding driver expenses, fuel)
- Total Direct Costs – Non-Cash
- Total Support and Administration Costs – Cash
- Total Support and Administration Costs – Non-Cash

The activity component was made up of driver expenses and fuel. The location of all providers was classified based on their primary address using the Modified Monash Model (MMM) which is a geographical classification system based on population data that categorises metropolitan, regional, rural and remote locations into seven levels according to geographical remoteness and town size⁹.

As trip data was not available for the same time period as the financial data and only from selected providers, the size of a provider was determined by multiplying the number of directly delivered trips as reported in the KPI reports with the average activity RVU per trip (= 2.95).

As activity costs could not directly be linked to individual trips, a proxy measure of resource consumption was derived based on a weighted combination of trip duration (driver cost) and trip distance (fuel). For individual trips, the weighted combination was 80% time and 20% distance. For group trips it was assumed 67% time and 33% distance.

The trip dataset was prepared by removing all trips that appeared incorrect or were rare outliers such as negative travel time, negative travel distance, calculated trip speed greater than 150 km/h, trips longer

⁹ More information about the MMM is available at <https://www.health.gov.au/health-topics/rural-health-workforce/classifications/mmm>.

than 12 hours. For the activity classification only trips that were direct CHSP funded trips (in total 42,706 trips in the dataset) were retained. Indirect trips were removed because their data were less complete.

For the client classification, all trips were assigned their respective RVU and a consumer-level dataset was created that included their total activity RVU during January and February 2022 (in total 4,962 clients in the dataset).

Data analysis

The statistical analyses utilised included exploratory data analysis, regression tree methodology and k-means clustering. The principal criteria for selecting one set of classes over another are that they are meaningful, resource homogeneous (measured by the coefficient of variation or CV) and explain as much of the difference between members of a class as possible (measured by the reduction in variance or RIV). Occasionally, these criteria have to be weighed against each other.

The CV is a measure of cost homogeneity within a class. It represents the amount of cost variation within a class scaled to the mean and is calculated as the standard deviation divided by the mean. From a statistical point of view, splitting a class to create additional classes is only required when variation is relatively high, i.e. CV is larger than 100. The RIV measures by how much the overall variance has been reduced by the classification and is calculated as the explained sum of squares divided by the total sum of squares.

All results have been converted to annual values.

Expert panel

An expert panel is integral to the successful development of a casemix classification system. For this study the panel consisted of a group of experienced leaders of community transport from a range of different community transport providers with respect to location (metropolitan, regional, rural), size (small/medium/large), and service type (single service/multi-service /Council). The panel members are listed in Appendix 1.

Findings

Capacity and activity components

The panel discussed which cost belonged to the capacity component and which related to the activity component. There was consensus that costs relating to management and administration, office space, IT, equipment, fleet purchase, maintenance and depreciation were capacity related. Consequently, the activity component included driver expenses and fuel. The panel discussed whether drivers belong to the capacity or activity. Ultimately, the panel was of the view that a core number of drivers should be part of the capacity component as a funding safety net.

However, for the statistical analysis it had to be assumed that the capacity component does not include driver cost and that all driver costs are in the activity component. Table 6 below shows the distribution by capacity and activity based on the Audited Financial Acquittal Report. It also shows that for the Base Care Tariff the costs reported against CHSP, CTP, TfNSW Health Grants, Travel Training and NDIS RTS were included but not 'other'.

Table 6 Capacity vs Activity split overview

CT Audit Package Section	Expense category	CHSP / CTP / TfNSW Health Grants / Travel Training / NDIS RTS	Other
8.2.1	Total Direct Costs - Cash		
8.2.1.1	Employee expenses (including oncost)	Capacity / Activity	Exclude
8.2.1.2	Brokerage: Sub-contracted Service Delivery	Exclude	Exclude
8.2.1.2	Brokerage: Taxi Hiring Expenses	Exclude	Exclude
8.2.1.2	Brokerage: Other	Exclude	Exclude
8.2.1.3	Travel	Capacity	Exclude
8.2.1.4	Carer resources	Capacity	Exclude
8.2.1.5	Volunteer Costs (excluding vehicle use)	Capacity	Exclude
8.2.1.6	Volunteer Costs (for vehicle use only)	Capacity	Exclude
8.2.1.6	Asset Replacement Fund Movement	Capacity	Exclude
8.2.1.6	Fuel	Activity	Exclude
8.2.1.6	Hire costs of vehicles used for direct service delivery only	Capacity	Exclude
8.2.1.6	Insurance	Capacity	Exclude
8.2.1.6	Other Direct Service Vehicle Costs	Capacity	Exclude
8.2.1.6	Registration	Capacity	Exclude
8.2.1.6	Repair/Maintenance	Capacity	Exclude
8.2.1.6	Roadside	Capacity	Exclude
8.2.1.6	Tyres	Capacity	Exclude
8.2.1.7	Other Direct Service Costs: User defined	Capacity	Exclude
8.2.2	Total Support and Administration Costs - Cash	Capacity	Exclude
8.4.1	Total Direct Costs - Non-Cash	Capacity	Exclude
8.4.2	Total Support and Administration Costs - Non-Cash	Capacity	Exclude

Activity classification

The panel discussed the types of trips that are provided and what characteristics make trips more resource intensive, either by taking more time or being of longer distance. In the end, the panel agreed on a set of eight trips classes, five of which were individual trips and three were group trips. Table 7 shows these types of trips and shows the anticipated relative resource use. The panel was of the view that neither trip types nor client characteristics particularly drive resource use. Following the first panel meeting statistical data analysis was undertaken. Table 7 shows the results of the analysis. It was assumed that the split between a half day and a full day was at four hours. The overall performance of these classes was a RIV of 77% and most classes had low CVs except for class 7 (group, half day). However, many trips were classified into the first class 1 (less than 30 minutes), around 73% of all individual trips.

Table 7 Draft community transport activity classes

Draft activity classes	Panel meeting		Trips	Group size	Duration (mins)		Distance (km)		Resource consumption		
	Relative Cost ¹⁰	Recalibrated RVU ¹⁰	N	mean	mean	CV	mean	CV	mean	CV	RVU
1: individual, less than 30 mins	15%	1.00	25,416		15.0	46.0	7.2	73.6	13.5	47.4	1.00
2: individual, 30 to 90 mins, less than 30 kms	20%	1.33	4,917		40.1	25.2	18.1	36.5	35.7	23.8	2.64
3: individual, 30 to 90 mins, more than 30 kms	30%	2.00	3,204		55.7	28.0	50.7	42.4	54.7	28.3	4.05
4: individual, half day	100%	6.67	1,121		130.0	27.8	118.7	46.5	127.7	28.0	9.46
5: individual, full day	180%	12.00	95		317.9	23.9	278.9	60.2	310.1	25.8	22.97
6: group, less than 90 minutes	10%	0.67	3,608	4.4	58.9	30.2	32.2	60.6	14.8	50.0	1.10
7: group, half day	20%	1.33	970	6.1	135.0	35.0	60.0	66.2	29.9	106.7	2.21
8: group, full day	30%	2.00	3,375	8.6	406.1	21.8	148.4	47.0	51.9	60.5	3.84
Overall			42,706		62.0	176.1	29.7	167.7	26.3	112.9	1.95

In addition, a data-driven classification option was derived, shown in Table 8. The classification also has eight classes, five individual and three group classes, with different class definitions and cut-offs. These slight differences improve the overall performance of the classification to RIV of 80% (an increase by three percentage points) and overall, the CVs of the classes have improved. Importantly, the most frequent class now accounts for around 43% of individual trips. The panel discussed both options and ultimately preferred the data-driven option presented in Table 8.

¹⁰ During the first panel meeting resource use was expressed relative to 4: *individual, half day*. Later this was changed to the most frequent trip and RVU recalibrated accordingly.

Table 8 Final community transport activity classes

Community transport activity classes	N	Group size	Duration (mins)		Distance (km)		Resource consumption		
		mean	mean	CV	mean	CV	mean	CV	RVU
A1: Individual trip, less than 15 mins	15,003		10.1	34.6	4.1	60.4	8.9	35.2	1.00
A2: Individual trip, 15 to 30 mins	10,413		22.1	17.8	11.7	43.8	20.0	18.8	2.24
A3: Individual trip, 30 to 75 mins	7,531		43.4	25.7	27.8	60.5	40.3	27.7	4.52
A4: Individual trip, 75 to 180 mins	1,541		104.0	23.9	94.4	48.7	102.0	25.3	11.40
A4: Individual trip, more than 3 hours	265		241.0	31.0	211.0	58.9	235.0	32.2	26.30
A6: Group trip, less than 2.5 hours	4,319	4.8	67.1	38.1	35.8	64.0	15.7	67.7	1.76
A7: Group trip, more than 2.5 hours, less than 300 kms	3,532	8.4	389.0	25.1	137.0	45.1	50.6	57.4	5.67
A8: Group trip, more than 2.5 hours, more than 300 kms	102	6.7	507.0	21.1	348.0	21.0	106.0	66.0	11.90
Overall	42,706		62.0	176.0	29.7	168.0	26.3	113.0	2.95

Base care tariff

At the first meeting the panel discussed what drives differences in capacity costs for community transport providers and agreed that the main drivers were size (measured in activity RVUs) and location. The panel developed six Base Care Tariffs; small, medium and large providers in urban and rural areas, shown in Table 9.

Table 9 Draft base care tariffs

Base Care Tariff	Description
1	Small (less than X activity RVUs per year) CTO, MM 1-4
2	Small (less than X activity RVUs per year) CTO, MM 5-7
3	Medium (between X and Y activity RVUs per year) CTO, MM 1-4
4	Medium (between X and Y activity RVUs per year) CTO, MM 5-7
5	Large (more than Y activity RVUs per year) CTO, MM 1-4
6	Large (more than Y activity RVUs per year) CTO, MM 5-7

Unfortunately, statistical analysis was limited due to complete data only being available from 20 providers. In principle, the analysis confirmed that there were splits by location and size. As shown in Table 10, only few rural providers were in the sample, particularly from medium and large ones. It was therefore proposed to the panel that rural providers are classed as small or large and due to the lack of data the Base Care Tariff RVU_B of class 5 (Regional (MM 4-7) provider with more than 60,000 RVU_A of activity per annum) was set at the same value as class 2 (Metropolitan (MM 1-3) provider with 50,000 to 125,000 RVU_A of activity per annum). Class 2 was selected to be the reference point for RVU_B 1.00. The panel agreed with this proposal.

Table 10 Final base care tariffs

Base care tariffs	N	RVU _A		Cost (capacity component)		
		mean	CV	mean	CV	RVU _B
B1: Metropolitan (MM 1-3) provider with less than 50,000 RVU _A of activity per annum	4	33,994	31.9	593,934	19.0	0.44
B2: Metropolitan (MM 1-3) provider with 50,000 to 125,000 RVU _A of activity per annum	5	90,685	24.5	1,344,053	39.1	1.00
B3: Metropolitan (MM 1-3) provider with more than 125,000 RVU _A of activity per annum	6	184,095	21.7	2,226,563	24.2	1.66
B4: Regional (MM 4-7) provider with less than 60,000 RVU _A of activity per annum	4	29,178	65.6	614,738	30.0	0.46
B5: Regional (MM 4-7) provider with more than 60,000 RVU _A of activity per annum	1	---	---	---	---	1.00

On average, 70% of community transport costs relate to capacity and the remaining 30% to activity. For urban providers the proportion of capacity costs is slightly lower at 65% and for rural providers slightly higher at 85%.

AN-ACC classes

The panel discussed the types of clients that they serve and what characteristics drive differences in community transport needs. While there was general agreement that community transport needs are likely driven by clients' characteristics such as physical needs, social participation needs, alternative transport or environmental factors, there was unfortunately no data available to test those hypotheses. The panel agreed that there were likely four different types of clients having casual, low, medium and high community transport needs, see Table 11. Therefore, the statistical analysis was limited to confirming those classes and identifying the most appropriate thresholds between them.

Table 11 AN-ACC classes

AN-ACC Client classes	Definition	N	RVU _A	
			mean	CV
C1: Casual CT needs	Person needs up to 107 RVU _A per annum	3,244	46.6	58.6
C2: Low CT needs	Person needs between 107 and 290 RVU _A per annum	1,314	167.4	28.6
C3: Medium CT needs	Person needs between 290 and 775 RVU _A per annum	352	413.4	28.4
C4: High CT needs	Person needs more than 775 RVU _A per annum	52	1,146.0	28.9