Knowing your costs and why this is important in Community Transport

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Source: http://www.vcta.org.au/

Outline

1. Knowing your costs – why?
2. The framework of CT costs
3. Capital costs
4. Vehicle costs
5. Driver costs
6. Overheads
7. Unit costs
8. Some examples
9. Conclusions

Knowing your costs and accounting

- What this is not about…..
- Unit costing is not the same as accounting for what is spent and what is received from clients and from funding bodies
- Unit costing will not tell you if you can 'make ends meet' at the end of the year or end of the month

- What the course will help with…..
- Unit costing is about using information you collect to help you make decisions
- Unit costing will require you to structure this information so that it is helpful in this process BUT is not a substitute for accounting for your daily activities

Knowing your Costs

- The importance of understanding your costs is at the heart of understanding your business
- Having a good handle on the costs involved in your service helps to put you in the driver's seat of your business
- On the other hand, not knowing your costs leaves you vulnerable

FRAMEWORK

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Source: http://www.vcta.org.au/

Knowing your costs – why

- Why?
  - For survival in an increasingly competitive market
  - Running your business better – making better decisions
  - Strategic vs Non-Strategic Bidding: this may well be in the future – it is in NSW
  - For reporting purposes
    - To satisfy legal requirements
    - To satisfy funding requirements eg for submitting information for reporting
    - For comparison over time within your own group or comparing between groups to improve efficiency
- This topic provides you with an appreciation of
  - how you should calculate the costs of providing particular services
  - so varying an existing service or introducing a new service or eliminating an existing service entirely, you know exactly how many $ are involved in making those changes.

Knowing your costs

- What costs would be incurred if I were to introduce or change a service or what costs would be avoided if I were to eliminate a service?
  - Which costs vary by vehicle kilometres?
  - Which costs vary by vehicle hours provided?
  - Which costs vary by driver paid hours?
  - Which costs vary by the number of vehicles used?

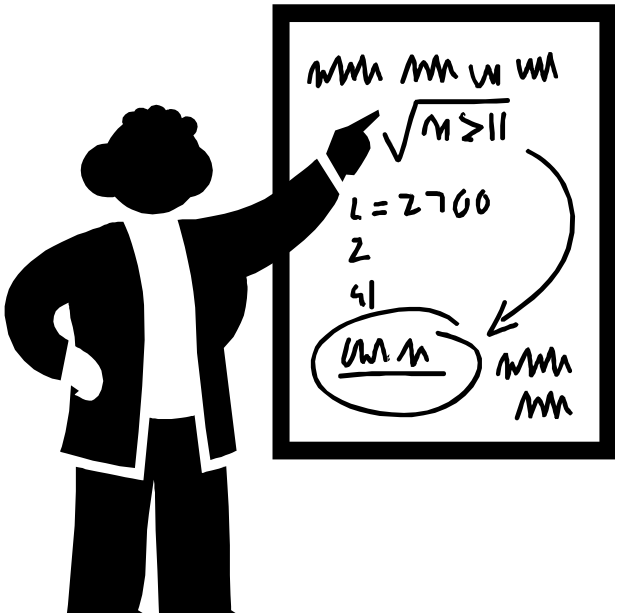
Traditional economic approach – the short run

- The short run is defined as:

  '*The period of time over which the inputs of some factors cannot be varied*'
- Costs in the short run are divided into
  - Fixed costs
  - Variable costs (and sometimes semi-variable costs)
- Operators are
  - Committed to paying for fixed factors even if they stop operating
  - Can save on the variable factors if they stop operating
- Time horizon varies by operator and relates to their operating environment

Traditional economic approach – the long run

- The long run is the time period when all inputs can be varied
  - Represents the group's planning horizon
  - No fixed costs
  - All costs variable

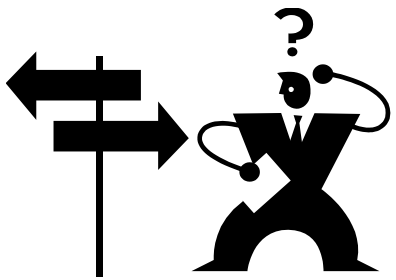


The real world: planning versus decisions

- Need to distinguish between
  - A planning approach
  - A decision based approach

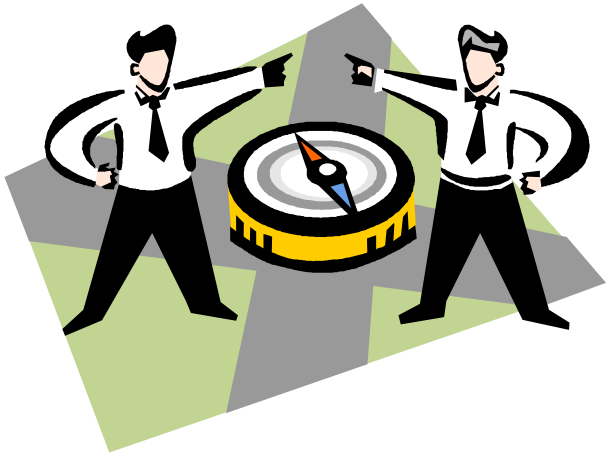
Decision based costing in a transport setting

- Decisions need to take account of the distinction between *shared* and *avoidable* costs
  - Avoidable costs are '*those costs which can properly be attributed to a service and are outlays which are avoided if the service is withdrawn or not implemented*'
    (Brake et al. 2006)
  - Shared costs are '*those costs which apply to more than one service and are outlays which are only avoided if all the services sharing the cost are stopped*'. *(Brake et al. 2006)*
- Examples of shared costs
  - Depots
  - Marketing
  - Administration/HR
  - Scheduling



Decision Rules

- Services are only worth continuing if:
  - In the short run, they cover their *avoidable* costs
  - In the longer run, cover their avoidable costs and make a contribution to shared costs
  - In the even longer run, give a big enough margin over avoidable cost so that investment can be replenished.



The Golden Rule

- To cover your Avoidable Costs and make some contribution to your shared costs.
- Your Avoidable Costs should include an acceptable return on your investment.
- The distinction between shared and avoidable costs is crucial for any bidding for contracts of any sort.

Why do you think this is so important?

The answer

- In the market place, being able to identify the avoidable costs lets you know what is the minimum cost that you have to charge (quote) to at least recover the additional costs incurred as a result of changing the service level.
- For Community Transport, it tells you which activities are being covered by funding and which activities are not
- In conjunction with unit costing, helps you make the right
  - Long term planning decisions
  - Day to day decisions

UNIT COSTING

Source: http://www.vcta.org.au/

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Unit costing

This involves a way of allocating what it costs you to provide a service in a systematic way to

- The direct costs of providing an output
  - The direct costs of capital
  - The direct costs of moving the vehicle
  - The direct costs of driving the vehicle
- The other costs of providing the business framework
  - The overhead costs

Use existing tools rather than re-inventing the wheel……

Basic Structure of CT Operating Costs

- Operating a service requires
  - Vehicles
    - Vehicle capital-related costs
    - Vehicle direct operating costs
    - Repair and Maintenance
    - Vehicle overheads eg depot, administration
  - Drivers

CAPITAL COSTS

Source: http://www.vcta.org.au/

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Capital Cost of vehicles

- The appropriate cost of an asset to be charged against operations during any given period is the cost of using it during that period
- This may be different for *accounting* purposes as compared to a *decision* purpose
- Although vehicles most important, there are other assets used in providing community transport and these might have different lengths of life
  - These are often determined by funding rules of funding bodies

Example:

Category	Estimated Useful Life (Years)
Fleet	15
Depot buildings	40
Depot buildings - brick	100
Computer equipment - hardware	4
Software	2.5
Motor Vehicles	8
Furniture and fittings	13
Plant and equipment	20
Tools	5
Security systems (cameras etc.)	7
Portable sheds	10
Office equipment	5

Calculating the cost of capital

- Theory long winded!
- Fortunately many tools to help…. Aiming for a cost of capital for a period – usually a year
- Depends on
  - The cost of the capital asset
  - The rate of interest (or discount rate) – usually prescribed by the funding body
  - How long the asset will last or how long you expect to keep it
  - How much you would get for selling the asset at the end of this period
  - An estimate of the rate of inflation
- Then use a capital calculator such as in the Vehicle replacement and kilometre operating costs tool from NSW

http://www.transport.nsw.gov.au/content/key-local-and-community-transport-hacc-and-ctp-documents

Capital cost calculator

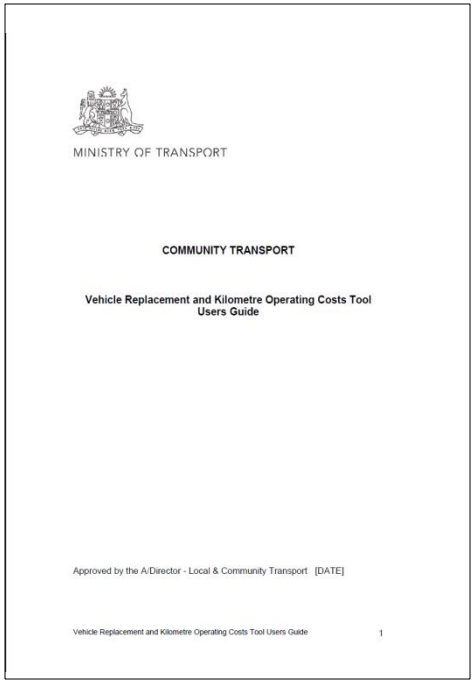
VEHICLE REPLACEMENT COST CALCULATOR

Interest Rate	2.50	%
Service Life	10	Years
Inflation Rate (CPI)	2.50	%
Purchase Cost	$89,250	
Sale Price	$35,000	
Capital Loss	$54,250	

Vehicle replacement costs

Year	Annual Cost	Per Month
1	$6,201	$517
2	$6,356	$530
3	$6,515	$543
4	$6,678	$556
5	$6,844	$570
6	$7,016	$585
7	$7,191	$599
8	$7,371	$614
9	$7,555	$630
10	$7,744	$645
11	$0	$0
12	$0	$0
13	$0	$0
14	$0	$0
15	$0	$0
TOTAL SET ASIDE	$69,470	

Amortisation Factor =	0.1143
Capital Loss	$54,250
additional funds set aside	$15,220
TOTAL SET ASIDE	$69,470
SALE PRICE	$35,000
CAPITAL RECOVERED	**$104,470**



MINISTRY OF TRANSPORT

COMMUNITY TRANSPORT

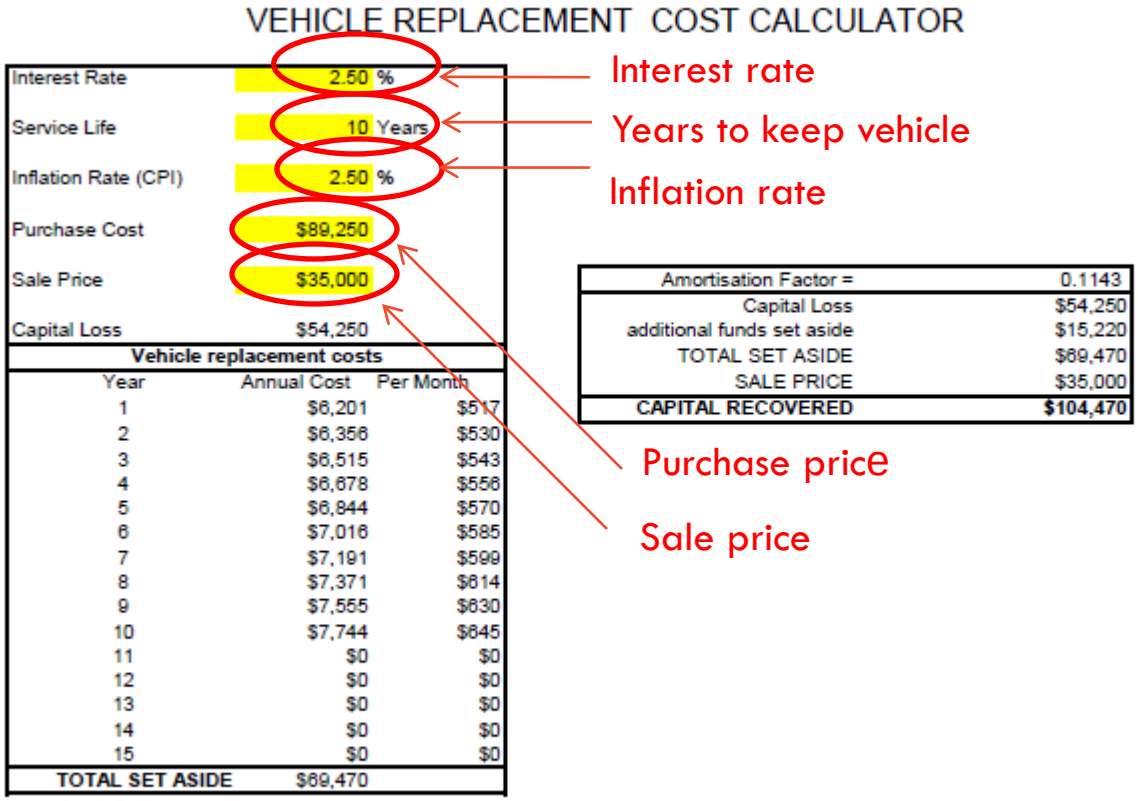
Vehicle Replacement and Kilometre Operating Costs Tool Users Guide

Approved by the A/Director - Local & Community Transport [DATE]

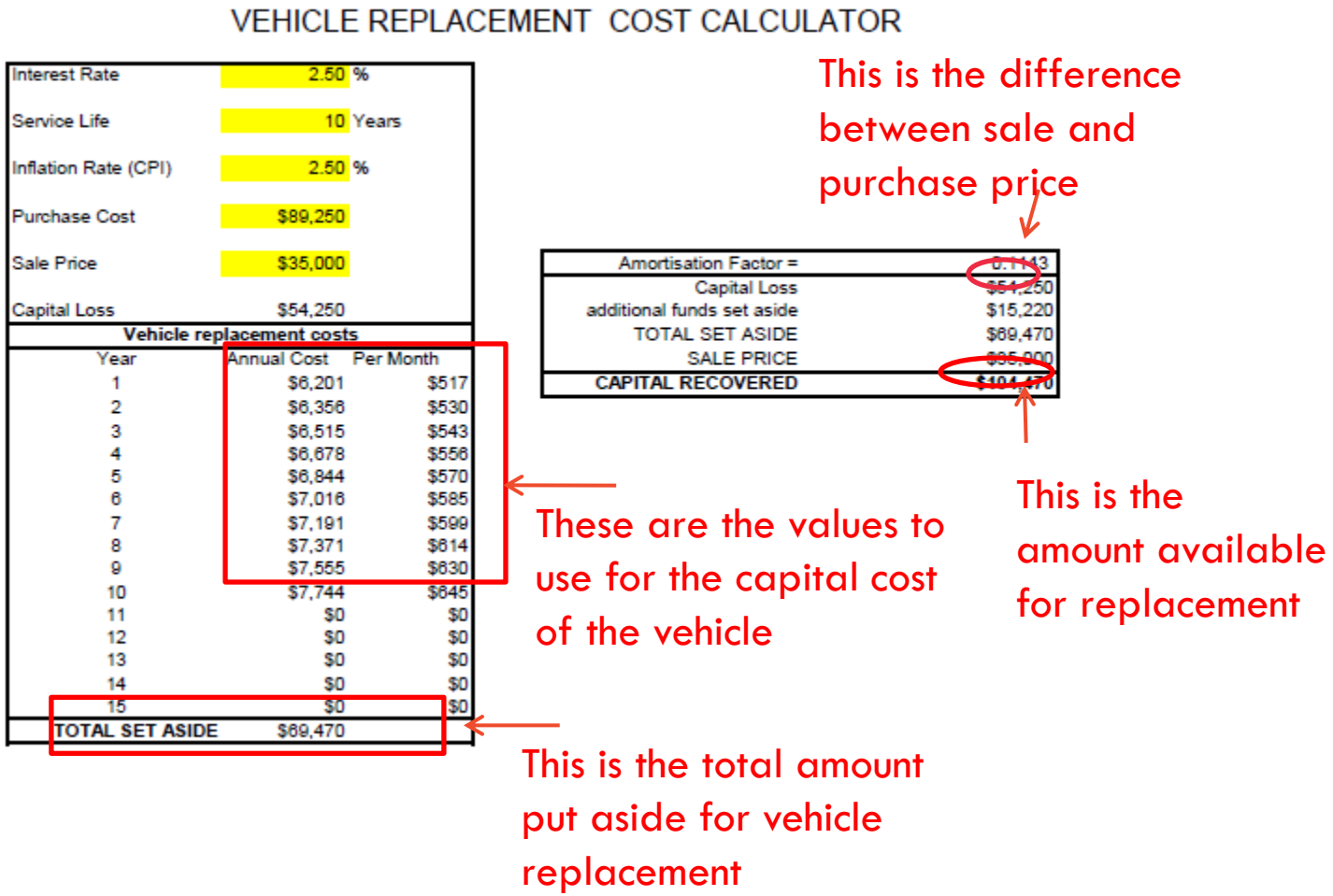
Vehicle Replacement and Kilometre Operating Costs Tool Users Guide 1

Available from VCTA

Capital cost calculator



Capital cost calculator



VEHICLES

Source: http://www.vcta.org.au/

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Vehicle cost allocation: check list of cost items

Vehicles	
Direct operating costs	• Fuel • Oil/lubricants • Tyres/tubes
Vehicle fleet overheads	• Vehicle cleaning costs • Comprehensive insurance • Registration and third party insurance • Rent and rates for depot • Admin staff (wages plus on-costs) • Depot and admin overheads eg telephone, stationery, postage

Source:
http://communitytransport.org.au

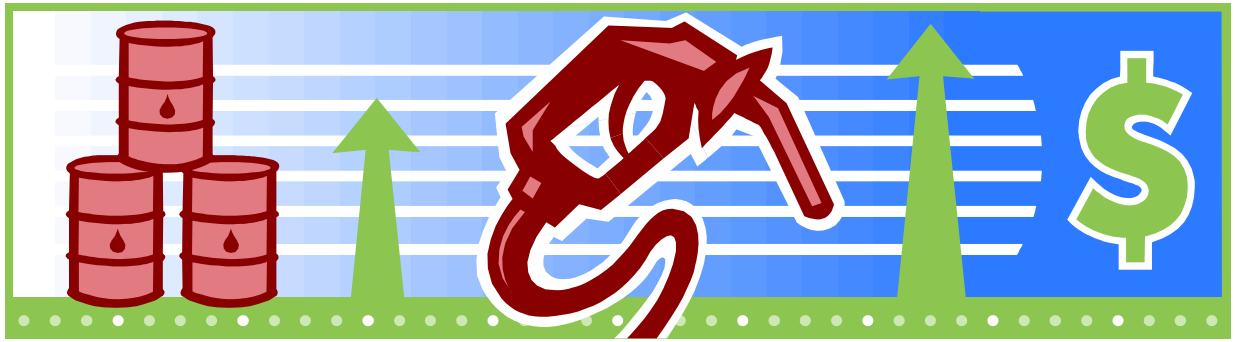
Vehicle cost allocation: check list of cost items

Vehicles (cont)	
• Vehicle related capital costs	• Already considered…..
• Repair and maintenance costs	• Labour eg Mechanics gross wage plus on-costs • Non-labour items eg spare parts OR • Cost paid to external repair/service company

Source:
http://communitytransport.org.au

How do operating costs vary?

- Need to understand how costs vary
  - Which costs vary by distance?
  - Which costs vary by driving time?
  - Which costs vary by vehicle hours?
  - Which costs vary by the number of vehicles in the fleet?



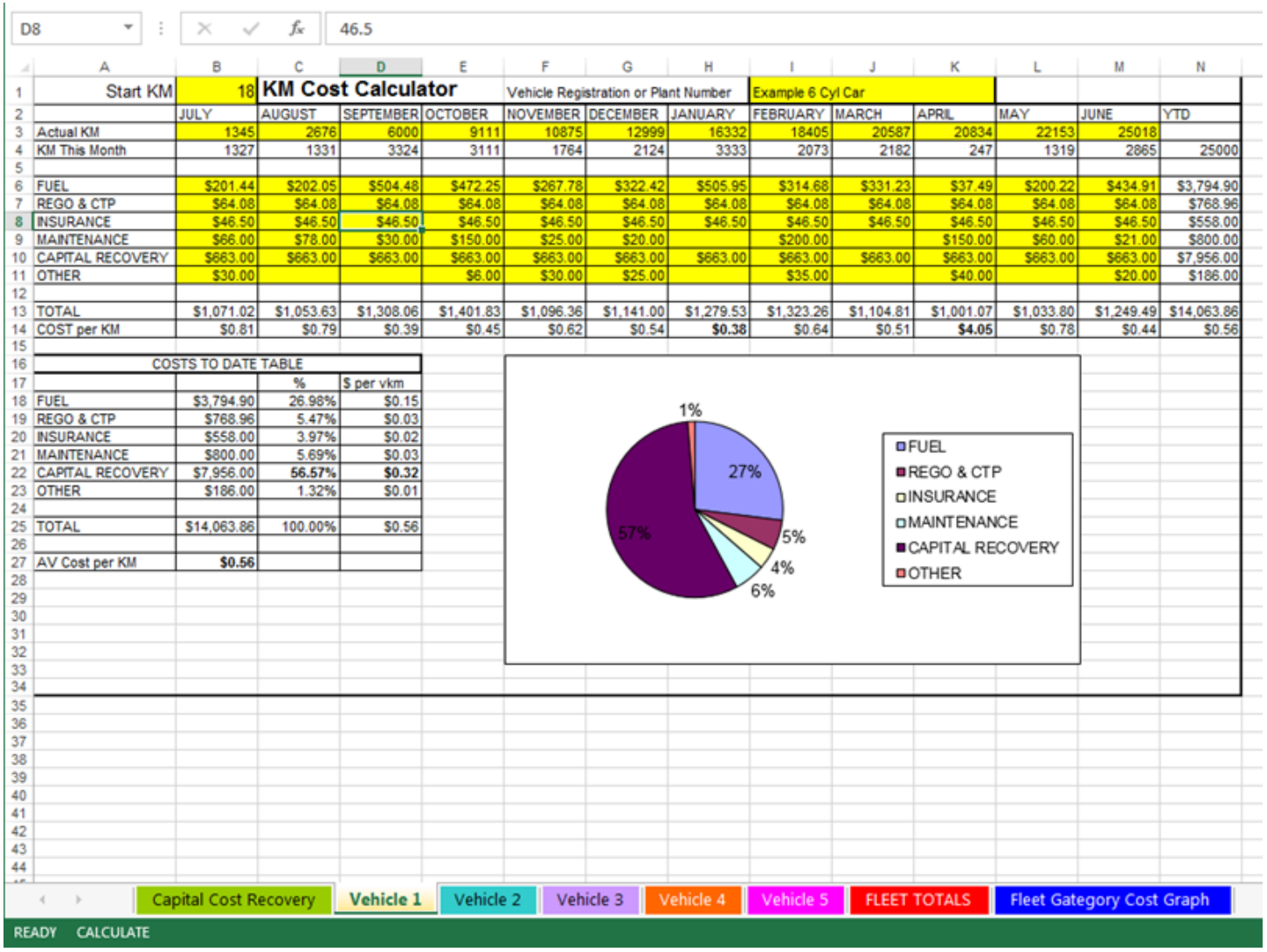
Vehicle operating costs – how do they vary?

- Direct operating costs vary by distance
  - Fuel, oils etc
- Vehicle costs
  - Capital costs – by the number of vehicles
  - Maintenance costs
    - Related mostly to vehicle km
    - Some related to vehicle hours

How to keep track of vehicle costs

- Not too tricky but time consuming
- Need to track the costs and operation of every vehicle – whether a bus or a car owned by the organisation
- Volunteer vehicles do not need to be tracked unless the organisation is responsible for contributing to specific elements
- Use a vehicle cost tool – such as the other tabs of the capital cost tool
  - This gives the total cost for the vehicle
  - Dividing by the km travelled, gives a cost per vehicle km

Vehicle cost calculator



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	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Start KM	18	KM Cost Calculator			Vehicle Registration or Plant Number			Example 6 Cyl Car					
2		JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	YTD
3	Actual KM	1345	2676	6000	9111	10875	12999	16332	18405	20587	20834	22153	25018	
4	KM This Month	1327	1331	3324	3111	1764	2124	3333	2073	2182	247	1319	2865	25000
5														
6	FUEL	$201.44	$202.05	$504.48	$472.25	$267.78	$322.42	$505.95	$314.68	$331.23	$37.49	$200.22	$434.91	$3,794.90
7	REGO & CTP	$64.08	$64.08	$64.08	$64.08	$64.08	$64.08	$64.08	$64.08	$64.08	$64.08	$64.08	$64.08	$768.96
8	INSURANCE	$46.50	$46.50	$46.50	$46.50	$46.50	$46.50	$46.50	$46.50	$46.50	$46.50	$46.50	$46.50	$558.00
9	MAINTENANCE	$66.00	$78.00	$30.00	$150.00	$25.00	$20.00		$200.00		$150.00	$60.00	$21.00	$800.00
10	CAPITAL RECOVERY	$663.00	$663.00	$663.00	$663.00	$663.00	$663.00	$663.00	$663.00	$663.00	$663.00	$663.00	$663.00	$7,956.00
11	OTHER	$30.00			$6.00	$30.00	$25.00		$35.00		$40.00		$20.00	$186.00
12														
13	TOTAL	$1,071.02	$1,053.63	$1,308.06	$1,401.83	$1,096.36	$1,141.00	$1,279.53	$1,323.26	$1,104.81	$1,001.07	$1,033.80	$1,249.49	$14,063.86
14	COST per KM	$0.81	$0.79	$0.39	$0.45	$0.62	$0.54	**$0.38**	$0.64	$0.51	**$4.05**	$0.78	$0.44	$0.56

	COSTS TO DATE TABLE			
17			%	$ per vkm
18	FUEL	$3,794.90	26.98%	$0.15
19	REGO & CTP	$768.96	5.47%	$0.03
20	INSURANCE	$558.00	3.97%	$0.02
21	MAINTENANCE	$800.00	5.69%	$0.03
22	CAPITAL RECOVERY	$7,956.00	**56.57%**	**$0.32**
23	OTHER	$186.00	1.32%	$0.01
24				
25	TOTAL	$14,063.86	100.00%	$0.56
26				
27	AV Cost per KM	**$0.56**		

Capital Cost Recovery | Vehicle 1 | Vehicle 2 | Vehicle 3 | Vehicle 4 | Vehicle 5 | FLEET TOTALS | Fleet Gategory Cost Graph

READY CALCULATE

DRIVER COSTS

Source: http://www.vcta.org.au/

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Driver Costs

Driver costs

- Gross wage
- On-costs
- Holiday pay
- Long service leave
- Superannuation
- Sick pay
- Public holidays
- Casual loading
- Workers compensation (gross wages > $600,000)
- Payroll tax
- Uniforms

Source: http://www.thisweeknews.com/live/content/reynoldsburg/stories/2011/05/25

Estimating the add on costs for drivers

- All the costs in the list important
- Some easy eg superannuation as a fixed %
- Others can estimate once, and just do a check, say every year, that still about right to give you an add on %
- End up with a driver cost per hour worked

OVERHEADS

Source: http://www.vcta.org.au/

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Overheads

- Overheads eg depots, administration, scheduling etc
  - Difficult to allocate – a shared cost
  - Scheduling often allocated by the trip
  - Other costs by driving hours? But no right/wrong answer
- The spreadsheet does not do overheads

Shared costs of co-ordinators

- Co-ordination of staff requires a person to do this (for volunteers or paid drivers)
- This is a shared cost and is very CT organisation dependent. The questions to be asked are:
  - Is the person dedicated to the organisation of volunteers or paid drivers?
    - Ask the question – take away this part of the job, would you still need this person to be paid in the organisation?
  - If the person is NOT dedicated
    - If there were no volunteers to organise, how much time would be freed up? Would this allow one less person (full-time or part-time) to be employed?
    - How could you re-organise tasks within the organisation (ie trade-off between what they do and other tasks)?

Allocation of shared costs

- **Shared** costs are those costs shared between two or more services which can only be eliminated if both services are withdrawn.
- Many shared costs in transport operation
  - Need some rule for allocation that is consistently applied (and this is easier for some shared costs than others)
  - May not be the same rule for every operator

  BUT
  - **The way you do allocate costs will impact on your final answer**
- The process is:
  - Allocate all direct costs to the 'service' you identify
  - Allocate shared costs according to rule
  - The more you allocate, the better your costing model

Shared costs: Be aware

- Shared costs can be allocated according to a 'rule' but don't forget that saving shared costs can be difficult
  - Stopping one activity means that the shared costs allocated to that activity have to be shared over what is left
  - Adding to shared costs, eg taking on an extra admin person, ADDS to the shared costs of other activities
- Spreading the overhead is a good way of reducing costs

  eg if overhead costs are $100 and direct costs are $200: if 30 trips are made then the cost/trip is $10

  Suppose you double the number of trips to the same destination then

  Overheads $100 and direct costs now $400. With 60 trips, the cost/trip = $8.33

UNIT COSTS – BRINGING IT ALL TOGETHER

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Source: http://www.vcta.org.au/

Unit cost calculations

- Add together the 3 components
  - Vehicle costs
    - Capital cost of vehicle
    - Direct operating costs of vehicles
  - Driver costs
  - Overhead costs
- To achieve a unit cost, must then divide by a unit of OUTPUT
  - Trip (lines up with current funding but is otherwise rather hopeless – takes no account of distance)
  - Km – a productivity measure
  - Driver hours – a utilisation measure
- So, these all tell you different things about how you operate

Useful – and bottom up - unit costing

- Will give you more detailed information about what you do and how you organise it
- Working from the bottom up, collecting data about individual vehicles and individual drivers
  - Distinguishing IT or GT
  - When the trip is
  - What sort of service
- Can then work out a unit cost, for example, of
  - IT trip and whether you have a paid driver or a volunteer
  - GT trip and whether this is an outing, shopping trip or a shuttle service

EXAMPLES

Source: http://www.vcta.org.au/

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Example 1: How many passengers do you need?

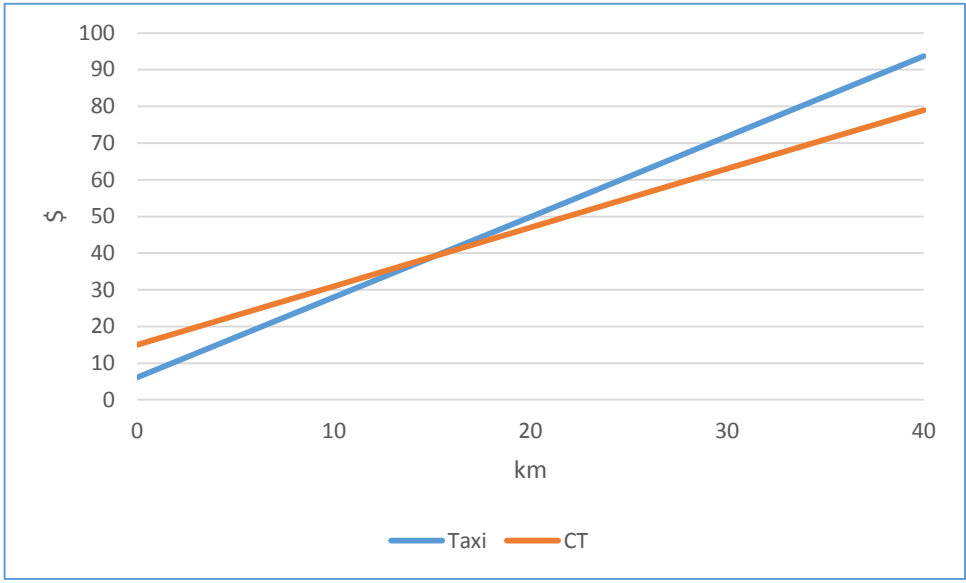
Cost	$
Vehicle Costs	$1,312.50
Driver Costs	$3,423
Admin Costs	$6,800
TOTAL	**$11,535.50**

- Your funder pays $30/trip. Passengers pay $5/trip. How many passengers do you need to make the service viable?
  - You need to make $11,535.50 from your passengers
  - Required number of passengers is $11,535.50 /$35 = 330 passengers
- What are the options?
  - Increasing the patronage – is this possible?
  - Letting another service cross subsidise this – is it possible?
  - Not running the service – but remember the shared costs will then need to be shared over less services
  - Using a taxi?

Should you use a taxi instead?

Taxi Costs	
Taxi cost per km	$1.99
Taxi flagfall per trip	$3.30
Taxi booking charge per trip	$2.20

CT organisation Car Costs	
Operating costs per km	$1.60
Admin and overheads	$15.00



Conclusions

- This has just touched the surface…..
- Understanding costs, building bottom up unit costs can
  - Protect your ‘business’
  - Prepare for the future
  - Allow cost based decisions that effectively use funding
  - Ensures funding stretches as far as possible