6.0 FUTURE DEMAND

6.1 Factors Affecting Demand

There are a number of factors that influence demand for the Solid Waste assets and services within the Taupō District. These are described below and include:

- Transfer Station location
- Refuse Collection area boundaries
- Expanded recycling options
- Tourism
- Out of district home ownership
- Service provision by the private sector
- Growth in development and therefore population / economic activity
- Community expectations
- Changes in level of level of service through primary drivers such as legislation
- Lifestyle trends
- Economic instruments
- Council policy and plans
- Product Stewardship schemes
- Changes in legislation and National direction
- Solid Waste Bylaw
- Education
- Commercial competition
- Events
- Public holidays
- New products and product development

6.2 Demand Management

Demand management is:

> "……*the modification customer demands for services in order to maximise use of existing assets or to reduce or defer the need for new assets."*

A unique feature of demand management in Taupō District is the managing of the fluctuating demand. Taupō has a large percentage of unoccupied dwellings which means that the base demand as compared to dwelling numbers is low. However this demand increases significantly during peak holiday periods, tourist seasons and when there are large events in town.

One of the key objectives of demand management is to seek non-asset solutions (such as reduction, reuse and recycling) as alternatives to constructing new asset based solutions.

The use of economic instruments is playing an ever increasing roll in the modification of customer demands. By applying or not applying a charge, Council can provide the incentive or disincentive that will promote the objectives of its Waste Management and Minimisation Plan.

An example of this is the pricing of green waste less than waste disposal, which results in the community separating this material to achieve a saving, and results in a usable material for Council and the diversion of green waste to tip face and the reduction of greenhouse gases.

The overall service provision cost must be funded, but by using the correct combination of

rates and fees and charges to create the correct cost differential, waste diversion can be achieved and behaviours changed for the better.

Council will continue to try and identify material in the waste stream that can be recycled and or reused such as the crushed concrete, currently being sold from the Broadlands Rd Landfill.

During the identification of new waste minimisation opportunities Council must analyse whether the service is sustainable environmentally and economically. Waste that has no residual value and thus needs a high level of financial support from Council must be thoroughly investigated as to its suitability for extra funding.

Criteria for extra funding would be cost, volume of material per cubic metre or tonne diverted from Landfill and the amount of public good as well as long term sustainability issues and current legislation. Most opportunities will pass or fail on the cost factor, but opportunities to divert more waste become more economical and sustainable the higher the cost to dispose to landfill.
Council's current policy of charging for waste going to disposal and allowing a free (Rate Funded) recycling drop off has kept a high level of recycling participation.

Council as a landfill owner must also keep in mind that waste diverted from landfill will have an effect on the revenue from the site which may need to be funded elsewhere.

Waste legislation is set to further drive waste minimisation in NZ with central government able to identify priority products that must then come under a product stewardship program, this may in the future reduce the cost to rate payers and place the cost of recovery on the purchaser of products. (Currently no products have been identified by Government after 10 years). Taupo District along with the majority of other Council's continue to lobby government regarding product stewardship, and recently passed a remit with 90% support that supported Container Deposit legislation for containers, as yet government are still yet to implement change.

The packaging industry vigorously challenge this direction as the cost of recovery of material will then fall on the industry they represent not on rate payers that may or may not have used their product.

The Waste Minimisation Act 2008 has put in place a waste levy on tonnes to landfill(currently $10 per tonne), the levy's purpose is two fold, firstly to increase the cost of waste disposal and therefore drive diversion and secondly the revenue gained from the levy will be used to promote further waste minimisation initiatives. Council will receive funds from the Levy based on district population and can make extra applications to a consolidated fund outside of the Population criteria.

The introduction of a waste levy has had cost implications for Council in regards to reporting of information, handling of monies for the Levy and the making of applications for funding of waste minimisation programs. This extra cost has been factored into the operational budgets for the cost centre.

Central Government are currently reviewing the effectiveness of the levy, but no conclusion as to changes in the value of how it is divided up has been made to date. The Local Government view is that the levy should apply to a greater range of disposal facilities as currently the levy falls on Landfills as classified under the act which then drives waste to cheaper and less environmentally controlled disposal sites.

Asset based solutions include:

- Increasing the size of current facilities to cater for increases in peak demand
- Construction of additional cells at the Broadlands Road landfill
- Provision of compacting street refuse bins in high use areas

The Broadlands Rd Landfill resource consent conditions require that Council has an independent peer reviewer that undertakes inspections of capital works such as new cell developments but also provides guidance on day to day operations. The reports provided by the peer reviewer can effect maintenance requirements. Asbuilts from capital works are kept on file as well as forwarded to the Regional Council.

Council has one disposal site for residual waste in the district being the Broadlands Rd landfill. This site can easily cope with increased waste volumes but Council does have the discretion to "ring fence" the site for the district and stop waste coming into the district from other areas that may have higher residual waste charges. Council's landfill consent allows for 50,000 tonnes of waste per year with the current tonnage being half that amount.

The Broadlands Rd landfill enables Council to avoid the cost of refuse charges from other facilities as well as the cost of transporting waste and utilise a portion of the disposal fee to support waste minimisation programs.

Council could also choose to receive waste from out of the district to increase the revenue stream from the site but this will shorten the life of the landfill.

The consent for the Broadlands Rd landfill expires in 2027 and prior to that council will apply for a new consent to run the site.
In 2017 Opus International produced a development plan for the landfill that identified an additional 600,000 landfill fill volume, but this will require 354,000 cubic metres of cut volume to be removed, some of which will be used as fill material as the site develops.

Based on the Cell 2D tender the rough order development cost for the landfill south of 2D and 2C1 would be $6.8M (including 20% contingency). This equates to around $11.30m/3 of void. While higher than the average from previous cells of around $6.20, it is still highly economic compared to the landfill charges or the cost of transferring waste out of district. Primarily the higher the unit cost arises from the very large cut to waste required in the southern ridge, so any strategy that can use this material elsewhere will aid the overall economics.

Council owns and operates 5 RTS sites that ring the lake that cater for the smaller urban areas as well as rural members of the community. Changes in refuse disposal demand can be managed by the increasing or decreasing the numbers of refuse haulage bins taken to landfill and hours of operation for the individual sites.
Due to cost, Council only services urban areas with its kerbside collection contract but all district transfer station facilities can handle the full suite of recyclables as well as additional items.
The Kerbside refuse and recycling contractor has the ability to off load and stockpile waste and recyclables at district facilities to enable him to cater for increases in demand caused by seasonal population increases. Council also incentivises waste minimisation practises by rate funding services where waste disposal is predominantly user pays funded.

The market for recovered materials can impact the service levels that Council and the commercial market provides as the demand for material fluctuates which impacts the return value. Recently we have seen steel prices reduce which has meant that the RTS sites are now starting to receive end of life cars, which they have not seen for the last 8 year as they still had a residual value.

Recovered product quality is a major factor in being able to support the collection and sale of product.

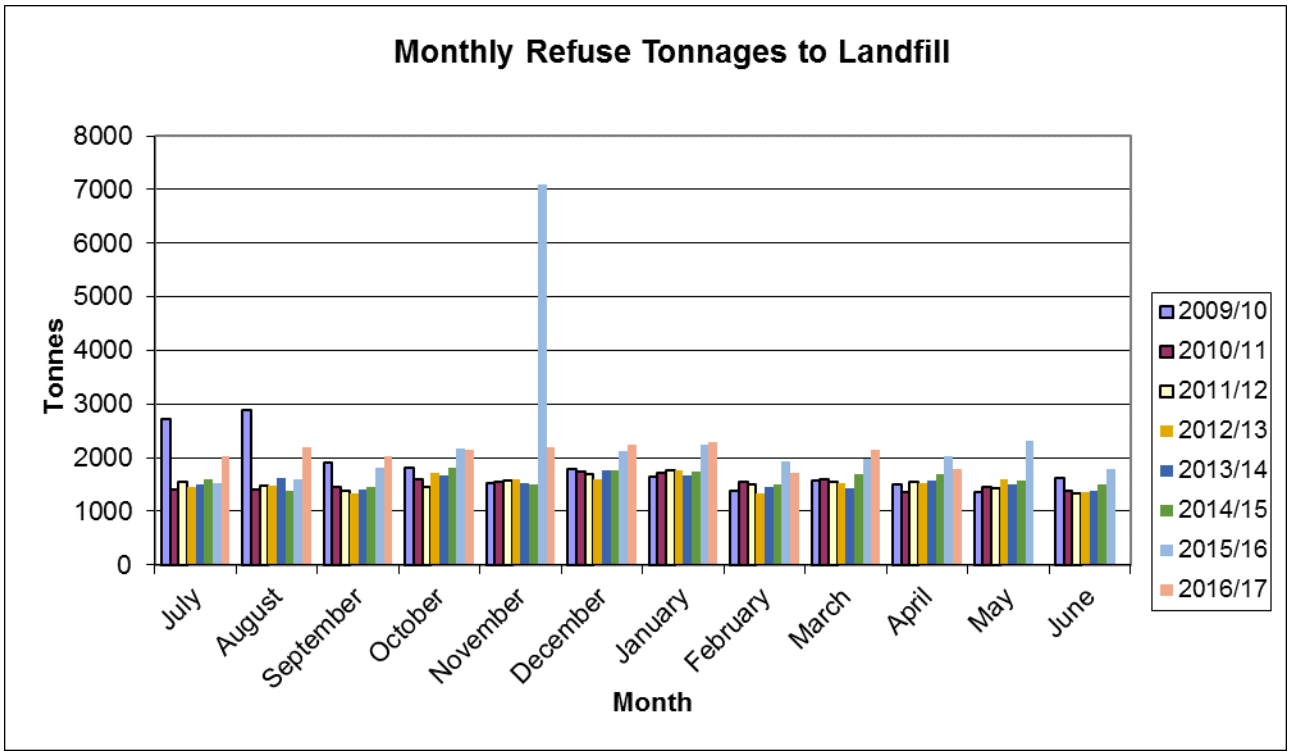
Council's current kerbside service relies on the community to sort material into selected products so that they can easily deposited into the collection vehicle. This process provides high quality end product with virtually zero contamination. Low contamination rates mean easier access to overseas markets and higher return values. Comingled collection methodologies require intensive post collection sorting and comingled collection models have contamination rates of around 18%.

By having a rate portion in the solid waste cost centre, Council achieves a number of outcomes:

- Lessens the ability for competitors to compete with service delivery which would undermine Councils ability to provide services.
- Council acquires funding for the district facilities from out of district home owners
- Allows council to manipulate pricing to incentivise diversion

Council has incorporated smart technology into the provision of street litter bins in the district. Council currently has 35 Big Belly compactor bins located in Turangi, Taupo and Kinloch. These bins have the capacity of ten conventional 60L bins as they compact the refuse once it reaches a certain level. The bins are also powered by solar energy and let the collection contractor know when they are full, thus reducing vehicle movements.
Bins have been deployed in high use areas and have greatly reduced the incidences of over flowing refuse bins and windblown litter. Another benefit is the reduction in the number of refuse bins scattered around.

Over the past two years Council has seen an increase in waste volume from the average 18500 tonnes per year to now around 25000 tonnes per year. This sharp increase is directly linked to an increase in economic activity after the economic lull over the last period.



Recycling volumes have also increased proportionally but the main contributor to the increase is the construction and development sector.
This is a difficult market to deal with as construction sites have multiple parties accessing the site at different times with no one party being responsible for the diversion of waste materials or implementing recycling systems.
Most construction site operators compare the time and cost and energy of diverting material to the amount and cost savings and quickly abandon the option.
This coupled with cheap large scale waste disposal options in the form of skips makes waste reduction a difficult proposition.
If material is diverted there is still a lack of local markets that are prepared to utilise this type of material.

6.3 Plans Related to Growth

In addition to the general Council planning documents such as the District Plan there are other planning documents that relate to demand in relation to the Solid Waste assets and services. These include:

Growth Management Taupō 2050 - The Council's asset management plans need to be aligned with the strategy to ensure more efficient and affordable provision of infrastructure for the identified growth areas.

- Infrastructure Strategy
- Taupō Urban Structure Plan
- Taupō Town Structure Plan
- Kinloch Structure Plan
- Taupō West Structure Plan

6.4 Growth

6.4.1 GROWTH MANAGEMENT STRATEGY

In June 2006 the Council adopted Taupō District 2050 (TD2050), the Growth Management Strategy for the District. The growth management strategy identifies where urban growth is anticipated so that land use and infrastructure planning can be aligned. TD2050 has been incorporated into the District Plan by way of plan changes, particularly Plan Change 21 which identifies the future urban growth areas.

This strategic approach to integrating land use and infrastructure is intended to be supported by subsequent structure planning of the urban growth areas to identify the detailed settlement pattern and infrastructure servicing. Council has prepared structure plans for:

- Kinloch
- Mapara Valley
- South-western Bays Settlements (including Turangi); and
- Commercial and industrial areas within Taupō Township

A growth model was developed based on the anticipated population increase and associated residential lot increases in TD2050. The growth model is reviewed and updated every three years prior to the review of the asset management plans and development of the long term plan. The review of the growth model is based on census data estimates, feedback from developers and analysis of resource consents.

NEW LOTS TO BE CREATED

Consideration has been given to the optimistic discussions with developers, actual consent numbers over the past three years, demographic considerations[1] and officers' estimates when estimating the potential lot numbers outlined in the *DC Policy* and the *Growth Model*.

The table below outlines those estimates for the next ten years. The areas that are not predicted to have any growth due to current capacity levels, such as, Hatepe, Motuoapa, Whareroa, and Five Mile Bay/Waitahanui have been removed.

Taupō South	25	55	55	55	55	55	55	55	30	30
Nukuhau/Brentwood/ Poihipi/Huka Falls	25	35	55	35	30	30	30	30	30	30
Taupō Town	20	20	20	20	20	20	20	20	20	20
Total Lots Created	70	110	130	110	105	105	105	105	80	80
Acacia Bay (including lower Mapara Rd)										
Total Lots Created	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**
Kinloch										
Total Lots Created	10	22	0	12	0	7	0	0	0	0
Mapara Valley										
Total Lots Created	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**
Five Mile Bay/Waitahanui	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total Lots Created	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Turangi										
Total Lots Created	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**
Pukawa/Omori/ Kuratau										
Total Lots Created	18	15	18	0	3	0	3	0	3	0
Rural Other										
Total Lots Created	5	5	5	5	5	5	5	5	5	5

Table: Estimated lots created over the period 2018-28 from the Taupō Growth Model

- OCCUPANCY PER DWELLING

The long term trend for more than fifty years has been for a decrease in the number of people per dwelling. This is true across all ages. Occupancy among aging populations is especially low, with widowed partners typically living alone.

[1] Jackson, N., "*Taupō District, Demographic Trends and Projections, National Institute of Demographic and Economic Analysis*", June 2014.

Council uses a Household Unit Equivalent (HUE) to convert between population figures and the number of dwellings. Current Census data shows the HUE is approximately 2.6 people per household. Statistics New Zealand projects the average occupancy rate will decrease to 2.1 by 2021 due to an aging population and changes in family structures.

In Taupō District, this figure is complicated by holiday homes which form approximately 30%[2] of the district's dwellings. This figure is difficult to fully determine due to the difference between out-of-town ratepayers and what is likely to be deemed a holiday home.

However, as a consequence of this high number of possibly empty homes for a significant part of the year Council needs to consider peak usage and populations when determining demand. This peak demand is particularly relevant when considering demand on infrastructure, such as water and wastewater outlined in detail in the *DC Policy* and *Taupō Growth Model*.

Council's original Solid Waste Management Strategy identified that Council should provide refuse disposal sites at maximum distance of 15 Km from Urban settlements. This philosophy was based upon the idea that all travel distances should be comparable for all communities and so that a constant level of service was provided. The advent of more commercial operators providing services in the market have meant that Council has to date not had to invest in the provision of extra disposal sites.

Council's review of the Waste Minimisation Plan has identified that the status quo in regards to additional infrastructure for the next tens years is the best direction for Council as it allows for a mix of Council and commercial service delivery and enables the community to chose what best suits their needs.

A number of commercial waste collection service providers are now operating in the market and local residents have the ability to contract to these service providers and thus potentially negate the need for capital investment by Council in new infrastructure. Council needs to be flexible and be ready to adjust service provision depending on the market.

Any increase growth in the rural areas can be catered for by the existing transfer stations located around the district. These facilities transport waste back to the Broadlands Road Landfill. Any increase in volume of waste due to growth would mean an increase in operational cost as Transfer Station skip bins will be emptied more often but this increase in cost will be offset some what by the extra revenue gained from the increased refuse volumes.

As the economy has seen an upturn in activity this has resulted in waste tonnages trending upwards, with a 20% increase in tonnages reflected across the country.

Council will continue to review operational opening hours at district facilities to ensure that the community continues to have access to refuse and recycling opportunities, these opening hours will be determined based on cost of service provision versus service delivery to the community.

6.4 Meeting increased/changing demand

Increased/changing demand can be met by using a number of methods including;

- Non Asset
- Capital
- Operational

6.4.1 NON ASSET SOLUTIONS

- Product stewardship i.e. others undertaking recovery of products

2 Statistics NZ data

- Landfill bans for some products (stumps, Haz waste E-Waste Tyres etc.)
- Education programs
- New Waste minimisation initiatives
- Operating hours
- Commercial Market

6.4.2 CAPITAL EXPENDITURE DUE TO CHANGES IN DEMAND

The development of 1304 lots in the district in the coming ten years will not require new infrastructure as council already has a network of facilities around the district to cater for refuse disposal and recycling service provision, but Council will of course have to continue to extend the cell footprint at the Broadlands Rd landfill but this extension has been planned and was not been bought about by growth requirements.

Growth has impacted the Kinloch and Turangi transfer stations as the operational footprints has remained the same for the last twenty years. Both sites need tweaking to enable them to cope with peak demand (December-March). The current area for vehicle movements and parking is insufficient at the Kinloch site, and the current recycling capacity is also now not coping at both Kinloch and Turangi. Funds have been provided for an upgrade of the facilities, and Council may have to look closely at the current operating hours at Kinloch as growth continues.

6.4.3 OPERATIONAL EXPENDITURE DUE TO CHANGES IN DEMAND

The development of 1304 lots in the district in the coming ten years will have an impact on operational costs but these costs will be partially off-set by fees and charges revenue. The service delivery cost for urban kerbside waste collection is totally user pays with the fee cost covering the collection and disposal costs of the waste, as the urban area grows there will be some additional rate funding needed to cover the cost of recyclable recovery.

Waste statistics identify that people in the Taupō district dispose of .669kgs of waste per annum and with a HEU value of 2.6 and additional average of 78 houses per year this will only equate to an increase of 125 tonnes of waste per year which can easily be catered for with the existing assets and services provided by Council.
The Taupō District ageing population could also see over time a reduction of these numbers as older people don’t produce as much waste as those houses with young families.

Funding of this expenditure is discussed in the financial section of this asset management plan (section 9) and strategies for operation and maintenance of assets in section 4.

- Increase of Kerbside Collection area to cater for extension of urban areas.
- Additional recycling services

In 2017 Council undertook a Swapp survey that identified waste volumes and composition. This has enabled Council to understand the types of waste that are being disposed of and thus plan service delivery to help minimise the amount that goes to landfill. As Council operates the only municipal landfill, Council's weighbridge system, “Landfill Three Thousand”, can identify changes in waste tonnages on a daily basis. Data from the weighbridge is downloaded each night. Councils kerbside service is also monitored by way of tonnage over the weighbridge and bag stickers sold. In peak kerbside collection times in Turangi and Mangakino the contractor

can utilise the transfer stations to off load refuse and recyclables allowing them extra capacity to complete collection runs.

Table 6.1 - Primary composition of overall waste to Broadlands Road landfill - 19 February-18 March 2017

Overall waste to landfill - Primary composition 19 February-18 March 2017	% of weight	Tonnes/week	Tonnes per annum (indicative only)
Paper	10.2%	50 T/week	2,532 T/annum
Plastics	12.3%	61 T/week	3,065 T/annum
Organics	24.0%	119 T/week	5,974 T/annum
Ferrous metals	2.9%	15 T/week	730 T/annum
Non-ferrous metals	0.8%	4 T/week	193 T/annum
Glass	2.4%	12 T/week	589 T/annum
Textiles	7.5%	37 T/week	1,868 T/annum
Sanitary paper	6.0%	30 T/week	1,504 T/annum
Rubble	10.9%	54 T/week	2,717 T/annum
Timber	20.0%	99 T/week	4,988 T/annum
Rubber	1.3%	6 T/week	316 T/annum
Potentially hazardous	1.7%	8 T/week	425 T/annum
TOTAL	**100.0%**	**496 T/week**	**24,901 T/annum**

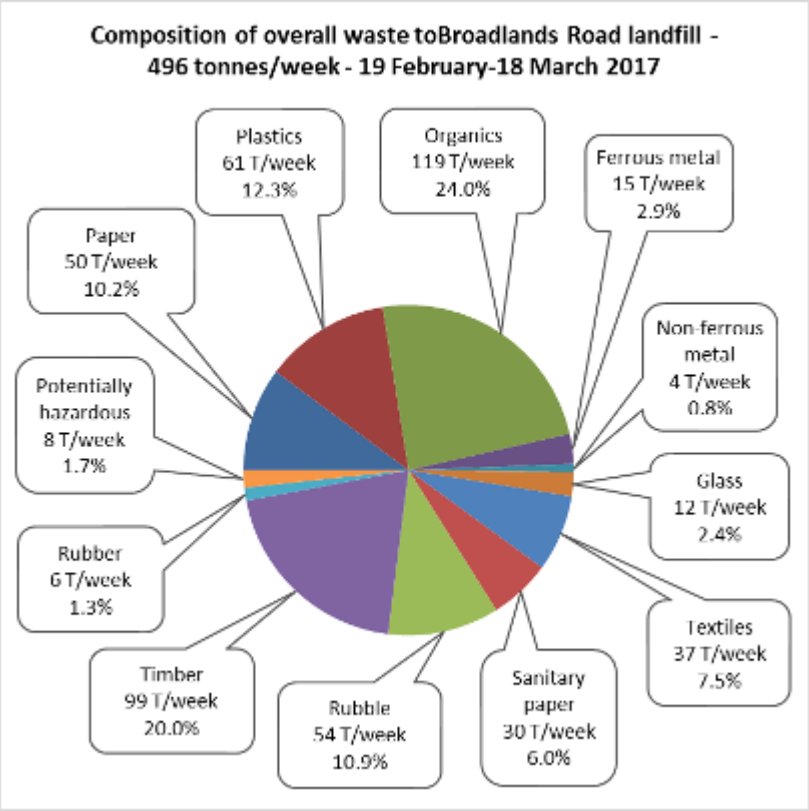


Figure 6.1 - Primary composition of overall waste to Broadlands Road landfill - 19 February-18 March 2017

Organics and timber are the biggest waste streams currently entering the Landfill.

Timber is predominantly treated and arrives in mixed loads and in large skip bins from construction sites.

Currently the markets for treated timber off cuts locally is low as material usually comes with nails and large portion is older material. Council will work with construction companies and the commercial market, to look at ways of incentivising diversion of this material. Council's main ability to impact this waste stream is by way of differential pricing incentives. But a market for materials must also be developed otherwise the outcome will be a stockpile of treated wood.

COMPOSTABLE MATERIALS			
Organics - Kitchen/food	14.2%	70 T/week	3,528 T/annum
Organics - Comp. Greenwaste	6.3%	31 T/week	1,575 T/annum
Organics - Multi/other	1.3%	6 T/week	322 T/annum
Subtotal	**21.8%**	**108 T/week**	**5,425 T/annum**
DIVERTABLE MATERIALS	**44.2%**	**220 T/week**	**11,018 T/annum**

> Organic material was the single largest component of the overall waste stream being disposed of at Broadlands Road landfill during the survey period. Organic materials comprised about 24% of the total, approximately 60% of which was kitchen/food waste, mostly from kerbside waste collections. Timber was the second largest component, comprising 20% of the total weight. Rubble, plastics, and paper all comprised similar proportions of the overall waste stream, about 10-12%.

Council has in place a home composting subsidy program with also has a home composting education program provided by the local community gardens team.

3528 tonnes is kitchen and food waste which has the potential to be diverted but the results from food collection service delivery from other centres identifies that collection services will only collect around 40% of the available material.

This would equate to around 1411 tonnes that could be successful diverted from the waste stream if there was a district wide kerbside service. The cost of service provision versus amount possibly diverted puts this service option at the high end.

Council will look to work with commercial operators to investigate ways of diverting additional material.

6.4.4 **EFFICIENCY OF SERVICE**

Council service delivery is measured by customer satisfaction surveys which need to match or better the levels identified in the service levels tables. Council also monitor environmental performance and customer complaints.

Facility hours for district transfer stations were negotiated with the local communities to make sure that operating times are supported the majority of users.

The level of fly tipping (illegal dumping) while a nuisance, is considered to be at a low level. Council has set a goal of the cleanest district from a litter perspective and Council will continue

to monitor litter levels throughout the district. The provision of the Big Belly refuse compaction bins has provided extra capacity to cope with peak demands.

The commercial market also provides services in areas where Council does not, these services cover the larger commercial users and the rural community.

The commercial market also operates at the kerbside providing a raft of collection options for refuse bags and bins, as well as for green waste.

6.5 Infrastructure Acquired From Developers

Council will not acquire any Solid Waste assets from developers

6.6 Community Expectations

Customers are primarily concerned with expansion of existing network services such as:

- Recycling and recovery options
- Facility operating hours
- Litter bin locations and serviceability
- Site safety
- Environmental protection
- Waste disposal affordability

6.7 Tourism

The Taupo district sees a massive increase in visitor numbers over the summer peak period, and also when holding major sporting events such as the round the lake challenge and the Ironman.
This is taken into account, as we design assets for peak demand rather than permanent population.

For kerbside refuse and recycling collection, peak demands are dealt with by the contractor by having additional resources available. These peaks have been identified during the time of contract tender.

The landfill and transfer station operations show an increase in recyclable and recoverable items as well as an increase in refuse and district transfer station sites have changes in operation hours. Volume increases are dealt with by Councils contractors providing additional staff and equipment.

Council also increases its education campaign regarding services available so that visitors to the district are made aware of what is available to them.

Overall Waste is dependent on population as people create waste but services still need to be provided to cater for the peak. Services such as the kerbside collection service still also need to drive all the streets in the urban areas as it can never be determined if the houses are occupied or not.

- **Per capita disposal of waste - comparison with 2008 and 2013**

The per capita disposal of waste to landfill by residents of Taupō District in 2017 is calculated in **Error! Reference source not found.** and compared to the same figures for 2008 and 2013.

The per capita figure is calculated, first, for all waste to landfill and, then, for all waste to landfill with special wastes excluded. The annual figures for special waste tonnages have also been provided by Council. For 2017, a total of 154 tonnes of special wastes were recorded by the weighbridge at Broadlands Road RRC.

Per capita disposal of waste to landfill - 2008, 2013, and 2017

Per capita disposal of waste to landfill	2017	2013	2008
Usually resident population Taupō District	37,000	34,300	32,148
T/annum to landfill – including special wastes	24,901 T/annum	18,118 T/annum	19,700 T/annum
Per capita disposal of waste to landfill – including special wastes	0.673 T/capita/annum	0.528 T/capita/annum	0.613 T/capita/annum
T/annum to landfill – excluding special wastes	24,747 T/annum	17,612 T/annum	18,913 T/annum
Per capita disposal of waste to landfill – excluding special wastes	0.669 T/capita/annum	0.513 T/capita/annum	0.588 T/capita/annum

Based on tonnage data, per capita disposal of waste to landfill (including special wastes) has increased by 27% between 2013 and 2017, from 0.528 T/capita/annum to 0.673 T/capita/annum.

- **Per capita disposal of waste - comparison with other areas**

The Taupō District per capita figure for landfilled waste, including special wastes, is compared to disposal figures from other local authorities previously surveyed by Waste Not Consulting in **Error! Reference source not found.**. The figures in **Error! Reference source not found.** do not include cover materials. The national average has been calculated using MfE's waste levy data [3] and Stats NZ usually resident population estimates[4].

Taupō District disposal rates compared to other areas

Overall waste to landfill including special wastes (excluding cover materials)	Tonnes per capita per annum
Gisborne District 2010	0.305
Waimakariri District 2012	0.311
Westland District 2011	0.331
Ashburton District 2015	0.366
Napier/Hastings 2016	0.495
Southland region 2011	0.500
Tauranga and WBOP District 2014/15	0.524
Christchurch City 2012	0.524
Taupō District 2013	0.528
Napier/Hastings 2016	0.548
Wellington region 2016	0.608

[3] http://www.mfe.govt.nz/waste/waste-disposal-levy/monthly-levy-graph

[4]http://www.stats.govt.nz/browse_for_stats/population/estimates_and_projections/NationalPopulationEstimates_HOTPAt30Jun16.aspx

Hamilton City 2013	0.668
Taupō District 2017	0.673
New Zealand 2016	0.713
Queenstown Lakes District 2012	0.735
Rotorua District 2009	0.736
Auckland region 2012	0.803

The per capita disposal rate for Taupō District in 2017 was marginally lower than the New Zealand average for 2016 but higher than most other provincial centres. Areas with high tourism activity, such as Taupō, Queenstown, and Rotorua, tend to have higher per capita disposal rates than areas with lower levels of tourism activity. Tourism activity generates waste but tourist are not counted as usually resident by the census.
Higher disposal rates are also associated with areas with high numbers of holiday homes. This affects the per capita disposal rates, as non-permanent residents are not counted in the census as being usually resident. Approximately 40% of dwellings in Taupō District are not permanently occupied.[5] Users of holiday homes generate waste but the occupants are not included in the population statistics.

[5] Taupo District Growth Model 2015-2025LTP