Assumptions (teacher background information)

Source: *Garry Christoffersen (Boffa Miskell) (SmartGrowth team 2002) – reproduced with kind permission.*

Assumptions:

The following are the assumptions used in the option development planning exercise.

Description	***Assumption***
Dwelling type considered	Resident only i.e. vacation homes not considered.
Base map scale	1:25,000
1996 population (actual)	114,000
2001 population (actual)	130,000 (a)
2026 population (projected)	218,000
2050 population (projected)	290,000 (b)
No. of people per household (density)	2.3
Infill capacity	7000 hh @ 2.3 = 16,100 people
Greenfield capacity	8000 hh @ 2.3 = 18,400 people
Rural residential capacity	3500 hh @ 2.3 = 8,050 people
Potential future urban	17000 hh @ 2.3 = 39,000 people
Additional population 2001 - 2050	160,000 (b) (a)
2000 people @ 10 houses / hectare	87 hectares
2000 people @ 15 houses / hectare	58 hectares
Business land	1500 hectares
Hospital	20 hectares
Airport (2 x 1km)	200 hectares
Passive harbourside park	20 hectares
Cultural heritage park	100 hectares
Passive coastal park	100 hectares
Active rural park	200 hectares
Rural/wilderness park	500 hectares

Notes:

The parks included are those identified in the joint Tauranga District Council and Western Bay of Plenty District Council policy on sub-regional parks.

1. Passive harbourside: Land adjoining the Tauranga Harbour for passive recreation such as walking and picnicing. (10-20ha)
2. Active Rural: A large rural park for active recreation, such as motorcross, shooting etc. (100-200ha).
3. Cultural heritage: To protect areas of cultural significance and for education and passive recreation. (50-100ha)
4. Passive Coastal: A coastal landscape area primarily for passive recreation and ecological protection. (50-100ha)
5. Rural/Wilderness: A large area of rural and bush country for both active and passive recreation (300-500ha).

Map Feature Descriptions

The following is explanation of the features included on the map. This information is not intended for reference to specific land parcels and should be treated as indicative only and is subject to ongoing refinement.The mapped features are not absolutes, but all have implications and risks.

Note: The constraints shown on the map are a subset of the constraints being considered in the project.

SmartGrowth Area:

Defines the area of the sub-region in the SmartGrowth study.

SmartGrowth Information Area:

Includes land within which there is a high probability that there will be general pressure for increasing intensity of land use in the future. The definition considered; contour, slope, existing land use, water supply areas, proximity to urban centres and market desirability. Defined by the SmartGrowth Environment Project Team, December 2001.

Strategic Roads:

A ring road taking all motorists in and out of Tauranga city quickly and safely.

High Coastal Natural Character:

The natural character attributes identify areas of the coastal environment (seaward side) which may comprise a constraint on future development, particularly more urban forms of residential development.

Data sources include the following:

1. Western Bay of Plenty District Visual Landscape Evaluation 1993, Boffa Miskell.
2. Tauranga District Landscape Study 1995, Boffa Miskell.
3. A Landscape Assessment of the Bay of Plenty Coastal Environment 1993, Boffa Miskell.

High Landward Natural Character:

The natural character attributes identify areas of the coastal environment (land side) which may comprise a constraint on future development, particularly more urban forms of residential development.

Data sources include the following:

1. Western Bay of Plenty District Visual Landscape Evaluation 1993, Boffa Miskell.
2. Tauranga District Landscape Study 1995, Boffa Miskell.
3. A Landscape Assessment of the Bay of Plenty Coastal Environment 1993, Boffa Miskell.

Significant Heritage Features:

"Heritage Sites" within the Tauranga District Council administrative area were sourced from the District Plan (Appendix 16A) on 28 May 2002. The "Heritage Sites" indicated, are not just those significant to Tangata Whenua. Note: The Landscape and Ecological features are indicated as discrete locations only.

"Significant Heritage Features" within the Western Bay of Plenty District Council administrative area were sourced from the District Plan (Appendix 3) on 26 March 2002. The Significant "Heritage Features" indicated, are not just those significant to Tangata Whenua. Note: The "Identified Ecological Features" (Appendix 1) and the "Schedule of Significant Landscapes" (Appendix 2) are not indicated on this map.

Marae:

Marae located from consultation with the following sources:

1. Tauranga District Council District Plan
2. Western Bay of Plenty District Plan
3. SmartGrowth Tangata Whenua Project Team

Pa:

Pa indicated, are a subset of the data obtained from the New Zealand Archeological Association on 15 January 2002.

Ecological Sites:

Indicates the DRAFT ecologically significant sites within the sub-region. A project is currently underway investigating the coverage and completeness of the map features shown.

Data sources include the following:

1. Indigenous Biodiversity of Tauranga District, State of the Environment Reporting, May 2000. Wildland Consultants. Contract Report No. 309.
2. Western Bay of Plenty District Plan

High Versatility for Food and Fibre Production:

Illustrates the broad areas of **high** land versatility for food and fibre production.

An overall single constraint rating was applied to an individual soil after examining its documented attributes.

Data sources include the following:

1. Rijkse, W.C.; Cotching, W.E. 1995: Soils and Landuse of part Tauranga County (U14), New Zealand. Landcare Research New Zealand Technical Record. ISSN 0113-0056.
2. Cotching, W.E. 1998: Soil survey of the Te Puke District, Bay of Plenty, New Zealand. Landcare Research Technical Record. (Unpublished).
3. The National Soil Database, which contains detailed site and analytical data for soil profiles nationwide.
4. The New Zealand Land Resource Inventory (NZLRI)
5. New Zealand Soil Bureau 1954: General survey of the soils of North Island, New Zealand. New Zealand Soil Bureau Bulletin 5. DSIR.
6. Land Inventory Survey, Ohinemuri County 1968. Depart of Lands and Survey.

Future Urban:

Identified areas for potential urban expansion.

Landscape Constraints:

This map identifies constraints to development as a result of landscape values across the sub-region.

Data sources include the following:

1. Western Bay of Plenty District Visual Landscape Evaluation 1993, Boffa Miskell.
2. Tauranga District Landscape Study 1995, Boffa Miskell.
3. A Landscape Assessment of the Bay of Plenty Coastal Environment 1993, Boffa Miskell.

Maori Land:

The Maori Land indicated was obtained from the Tauranga (10 April 2002) and Western Bay of Plenty (26 March 2002) District Councils. Maori Land is defined as that administered by the Maori Land Court and does not include freehold land owned by Maori.

Severe Urban Development Constraint:

Illustrates the broad area of physical constraint affecting urban land development and urban land use.

An overall single constraint rating was applied to an individual soil after examining its documented attributes.

Data sources include the following:

1. Rijkse, W.C.; Cotching, W.E. 1995: Soils and Landuse of part Tauranga County (U14), New Zealand. Landcare Research New Zealand Technical Record. ISSN 0113-0056.
2. Cotching, W.E. 1998: Soil survey of the Te Puke District, Bay of Plenty, New Zealand. Landcare Research Technical Record. (Unpublished).
3. The National Soil Database, which contains detailed site and analytical data for soil profiles nationwide.
4. The New Zealand Land Resource Inventory (NZLRI)
5. New Zealand Soil Bureau 1954: General survey of the soils of North Island, New Zealand. New Zealand Soil Bureau Bulletin 5. DSIR.
6. Land Inventory Survey, Ohinemuri County 1968. Depart of Lands and Survey.

Existing Residential Areas:

Indicates land zoned residential in the Western Bay of Plenty District Council District Plan as at 16 April 2002. Indicates land zoned residential in the Tauranga District Council District Plan as at 20 March 2002.

Satellite Image:

Satellite imagery from LandSat 7 ETM on 14 August 2000.

Calculations from the SmartGrowth Land Capacity Report as at 16 August 2002.

Growth Management Area	Census Area Unit	Infill	Greenfield	Rural	Additional Household Capacity
Western BOP	**District Total**	**2,221**	**662**	**3,378**	**6,261**
Waihi Beach	Waihi Beach	309	342	64	715
	Island View / Pios Beach	188			188
	Athenree	256	134	8	398
Katikati	Aongatete			326	326
	Katikati Community	405	144	38	587
	Tahawai			186	186
Kaimai	Kaimai			634	634
	Matakana Island			68	68
	Minden			408	408
	Ohauiti-Ngapeke			64	64
	Omokoroa Community	65		12	77
	Te Puna			128	128
Te Puke	Te Puke East	639	42	20	701
	Te Puke West	359		40	399
	Upper Papamoa			380	380
Maketu	Maketu Community			15	15
	Paengaroa			56	56
	Pongakawa			486	486
	Rangiuru			445	445

Calculations from the SmartGrowth Land Capacity Report as at 16 August 2002.

Growth Management Area	Census Area Unit	Infill	Greenfield	Rural	Additional Household Capacity
Tauranga	**District Total**	**5,024**	**7,447**	**115**	**12,586**
Mt Maunganui-Papamoa	Mount Maunganui North	1020			1020
	Omanu	277			277
	Matapihi			32	32
	Arataki	341			341
	Te Maunga	164	626		790
	Papamoa West		810	10	820
	Papamoa East		1049	14	1063
	Kairua			33	33
Te Papa	Sulphur Point				0
	Tauranga Central	354			354
	Tauranga Hospital	110			110
	Tauranga South	349			349
	Gate Pa	114			114
	Yatton Park	149			149
	Greerton	133			133
	Pyes Pa		1326	6	1332
Welcome Bay	Maungatapu	96			96
	Poike	67			67
	Hairini	469	1047		1516
	Welcome Bay	177	711	6	894
Otumoetai-Bethlehem	Matua	219			219
	Bellevue	64			64
	Otumoetai South	205			205
	Otumoetai North	175			175
	Bethlehem		1603	11	1547
	Bethlehem East		275		275
	Brookfield	352		3	355
	Te Reti	84			84
	Judea	105			105
Subregion	**Total**	**7,245**	**8,109**	**3,493**	**18,847**

Map Calculations

These calculations are really only for Garrys information. They indicate how I arrived at the physical map block sizes, map sheets etc.

Supporting Information for map creation

Overall map size to include the SmartGrowth area is 70km wide x 74km high. At 1:25,000 the paper size would need to be 280cm wide x 296cm high.

Use a printed map tile size of 90cm wide x 89cm high which @ 1:25,000 translates to 22,500m x 22250m which is 4 rows and 3 columns to cover the SmartGrowth area. For a strip 271.5cm x 89cm high, which @ 1:25,000 translates to 67875m x 22250m.

Grid origin (bottom left corner) 2759760,6348250 (NZMG).

Use paper size ARCH E for tiles and 36 x 108 for a strip

Block Size Calculations

10 households per hectare

2000 (people) /2.3 (density) = 870 (houses) / 10 = 87ha
87ha = 870,000 sm = 933 x 933m
93300cm/25000 (map scale) = **3.73cm (250 number)**

15 households per hectare

2000 (people) /2.3 (density) = 870 (houses) / 15 = 58ha
58ha = 580,000 sm = 762 x 762m
76200cm/25000 (map scale) = **3.05cm (250 number)**

Miscellaneous

250ha = 2500000sm = 1581 x 1581m
158100cm/25000=**6.32cm (20 number)**
Business = 1000ha = 4 x 250 / set

100ha = 1000000sm = 1000 x 1000m
100000cm/25000=**4.00cm (10 number)**
Cultural heritage 1
Passive coastal park 1

200ha = 2000000sm = 1414 x 1414m
141400cm/25000 = 5.66 (10 number)
Active rural park x 1
Airport x 1

500ha = 5000000sm = 2236 x 2236m
223600cm/25000 = **8.94 (5 number)**
Rural/wilderness park x 1

20ha = 200000sm = 447 x 447m
44700cm/25000 = **1.79cm (10 number)**
Passive Harbourside Park = 1
Hospital = 1