

Application of the polluter-pays principle in the provision of sewage services

December 2006

Before Harbour Area Treatment Scheme (HATS) ...

- 1.8 million tonnes of **untreated sewage** discharged into the Harbour every day
- Causing health risk and threat to marine life



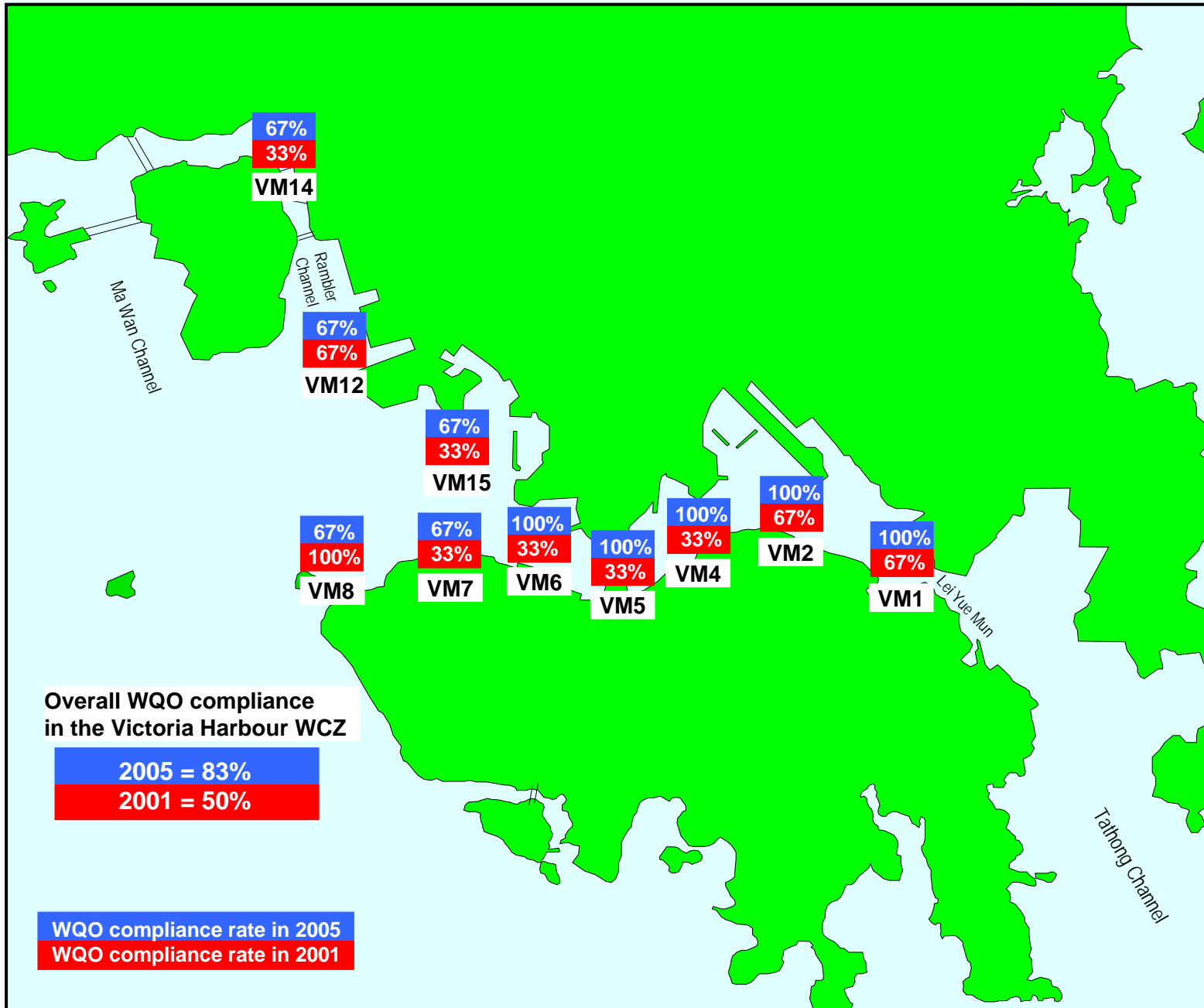
With HATS Stage 1 (Dec 2001)

- Sewage from Kowloon and Eastern Hong Kong collected
- conveyed through deep tunnels
- central treatment at the Stonecutters Island Sewage Treatment Works



Improvements achieved through HATS Stage 1

- Dissolved oxygen in harbour water *increased by about 10% overall*
- Ammonia *declined by about 24%*
- Overall E.coli level, an indicator of disease causing microorganisms, *reduced by some 50% overall*



Map showing the percentage of WQO compliance (DO, TIN and NH₃) at each monitoring station in the Victoria Harbour Water Control Zone in 2001 and 2005, before and after the commissioning of HATS Stage 1

After HATS Stage 1



Dissolved Oxygen (mg/L)

Water Quality Improvement Achieved by Stage 1 for Dissolved Oxygen

After HATS Stage 1



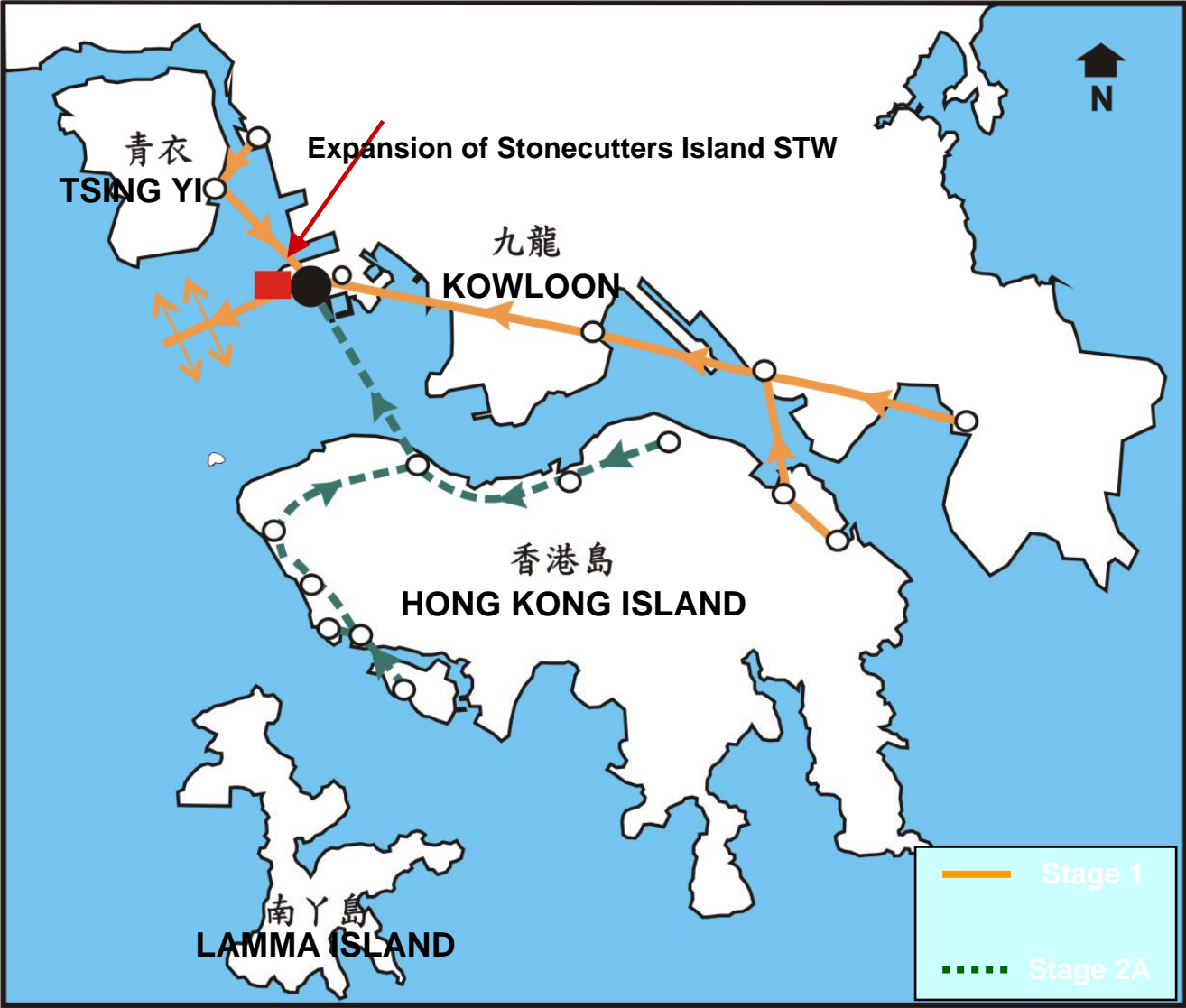
E. coli (Count /100 mL)

Water Quality Improvement Achieved by Stage 1 for *E. coli*

LegCo's View

- Public Accounts' Committee Report No.42 (03/04): *recommended advancing the disinfection facilities for HATS Stage 2A*
- LegCo Motion Debate in December 2004: *support applying polluter-pays principle in reviewing sewage services*

HARBOUR AREA TREATMENT SCHEME STAGE 2A



Cost estimate of HATS Stage 2

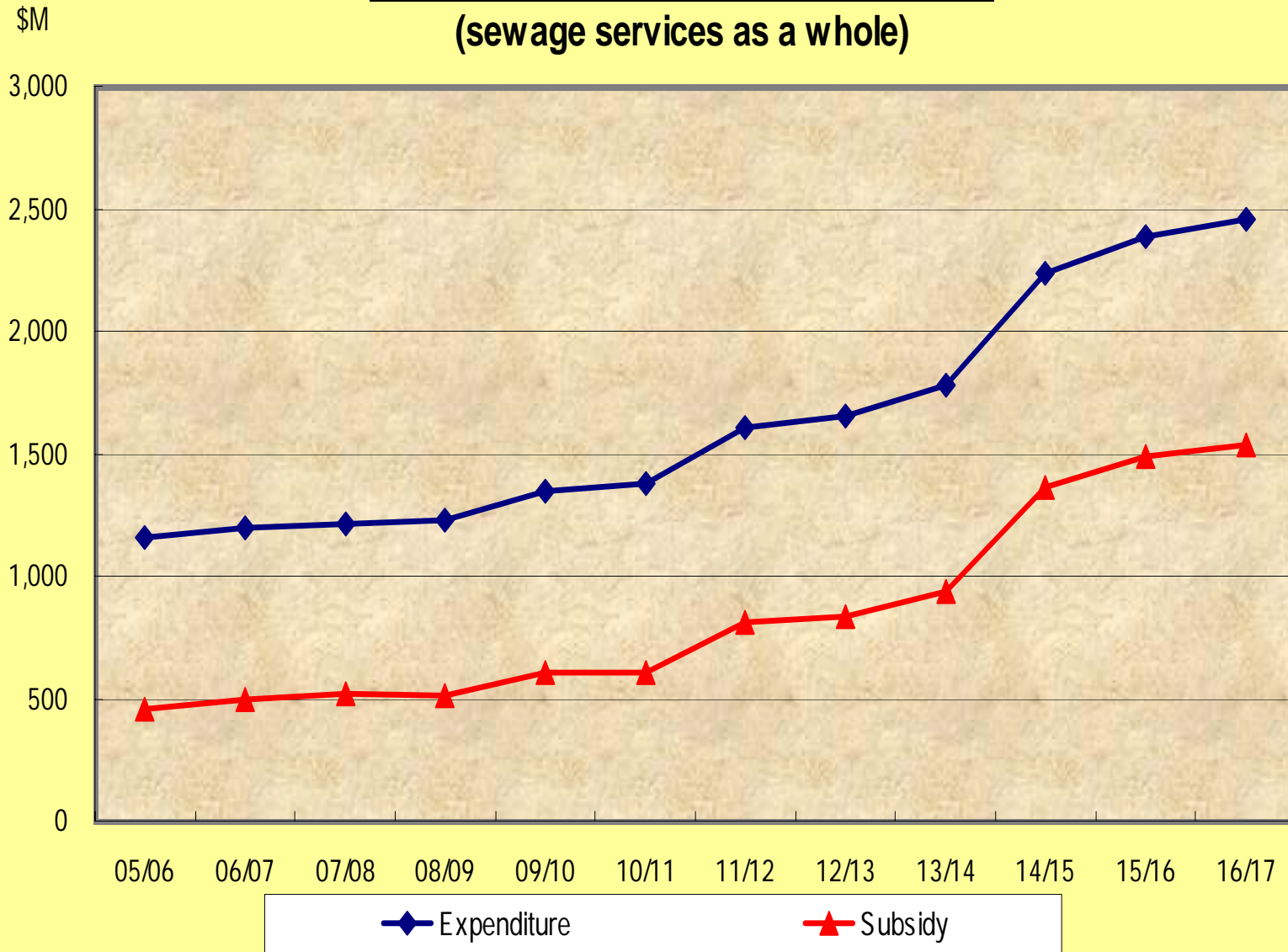
	Capital Cost (\$billion)	Annual Operating Costs (\$million)
Stage 2A		
main works	7.87	333
advance disinfection	0.07	88
sub-total for Stage 2A	7.94	421
Stage 2B		
main works	8.9	430
nutrient removal	1.9	270
sub-total for Stage 2B	10.8	700
Stage 2 Total	18.74	1,121

Capital and Operating Costs for HATS Stage 2 (Updated))

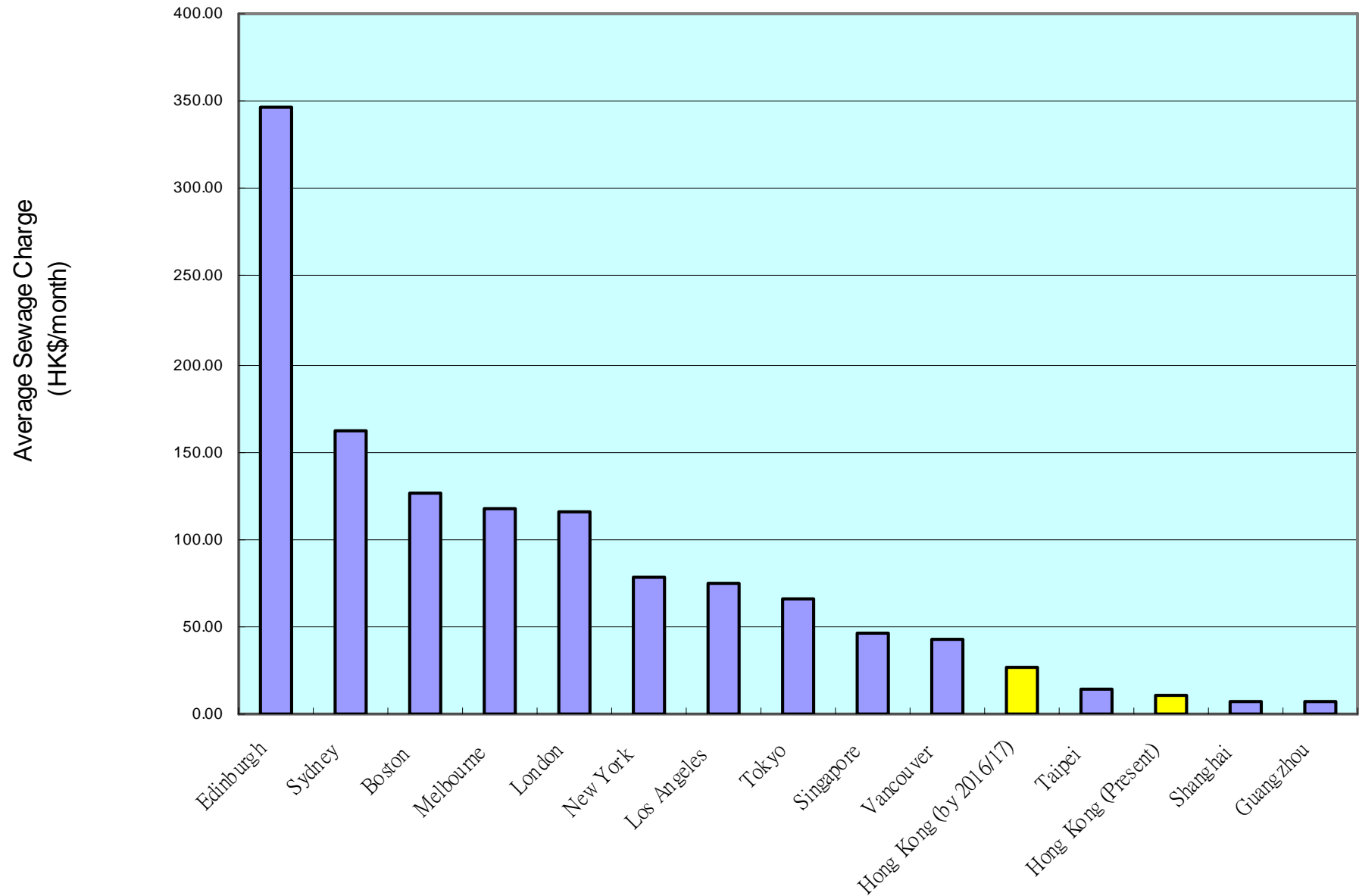
Examples of Future Major Projects other than HATS

Future Projects	Capital Cost (\$m)	Recurrent Cost (\$m)
Expansion to Shek Wu Hui Sewage Treatment Works	271	4.1
Upgrading of Pillar Point sewage treatment works	834	53.6
Sai Kung sewage treatment works phase 2 upgrading	230	10.8
Upgrade of San Wai sewage treatment works	1,168	76.1
Tai Po Sewage Treatment Works Stage 5	886	25.2

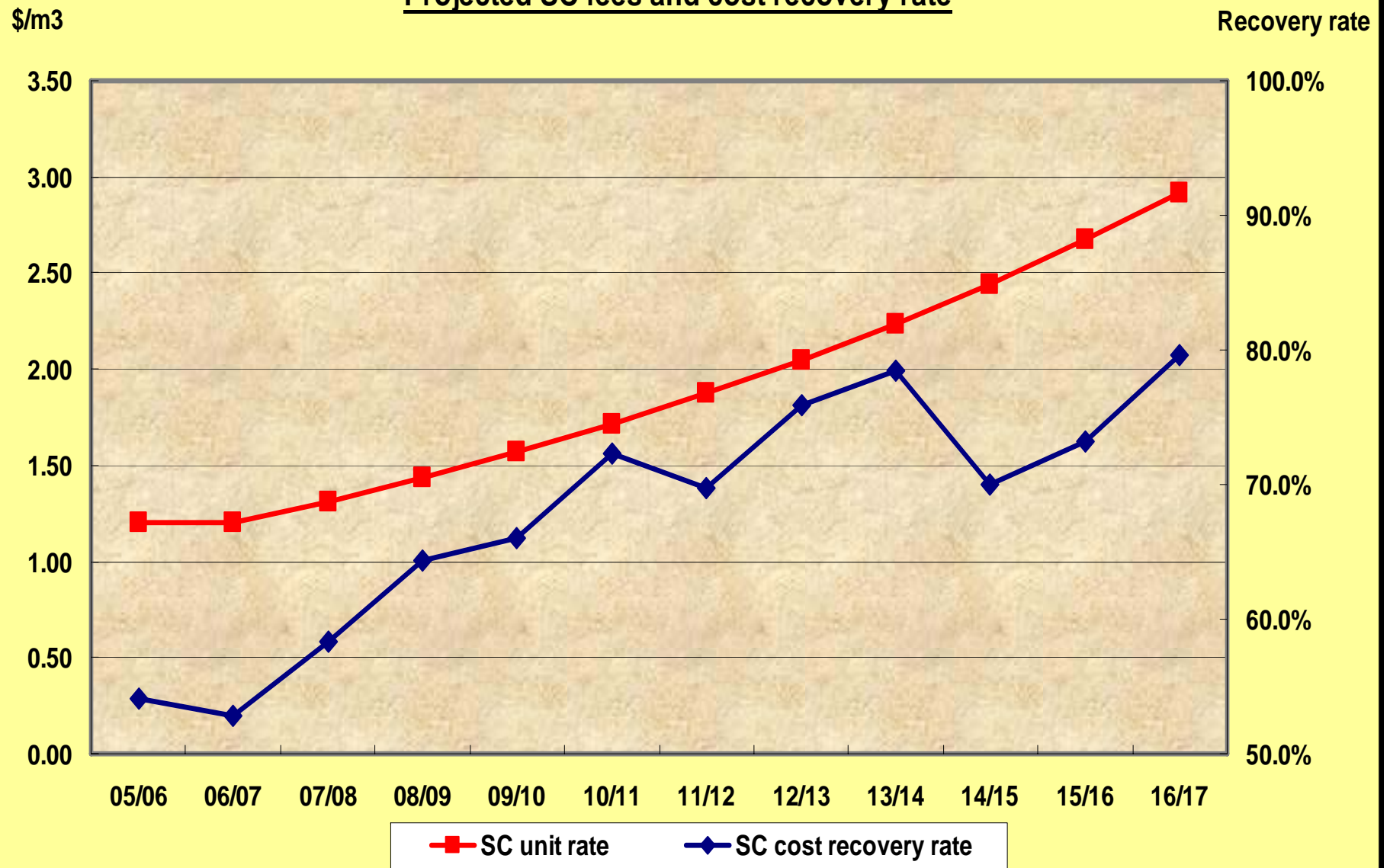
Taxpayer's subsidy if no fee adjustments
(sewage services as a whole)



Average Sewage Charges in Major Cities



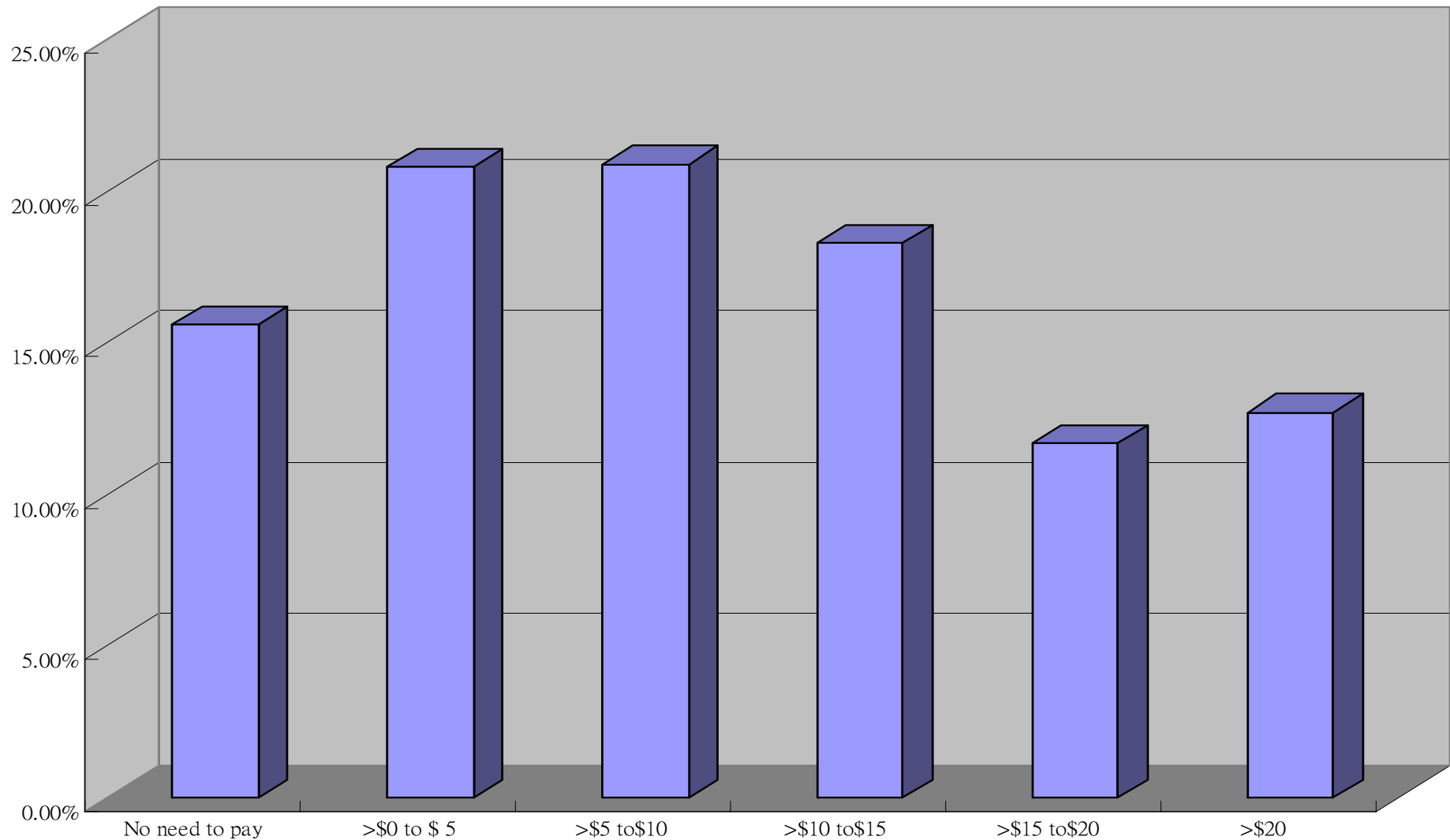
Projected SC fees and cost recovery rate



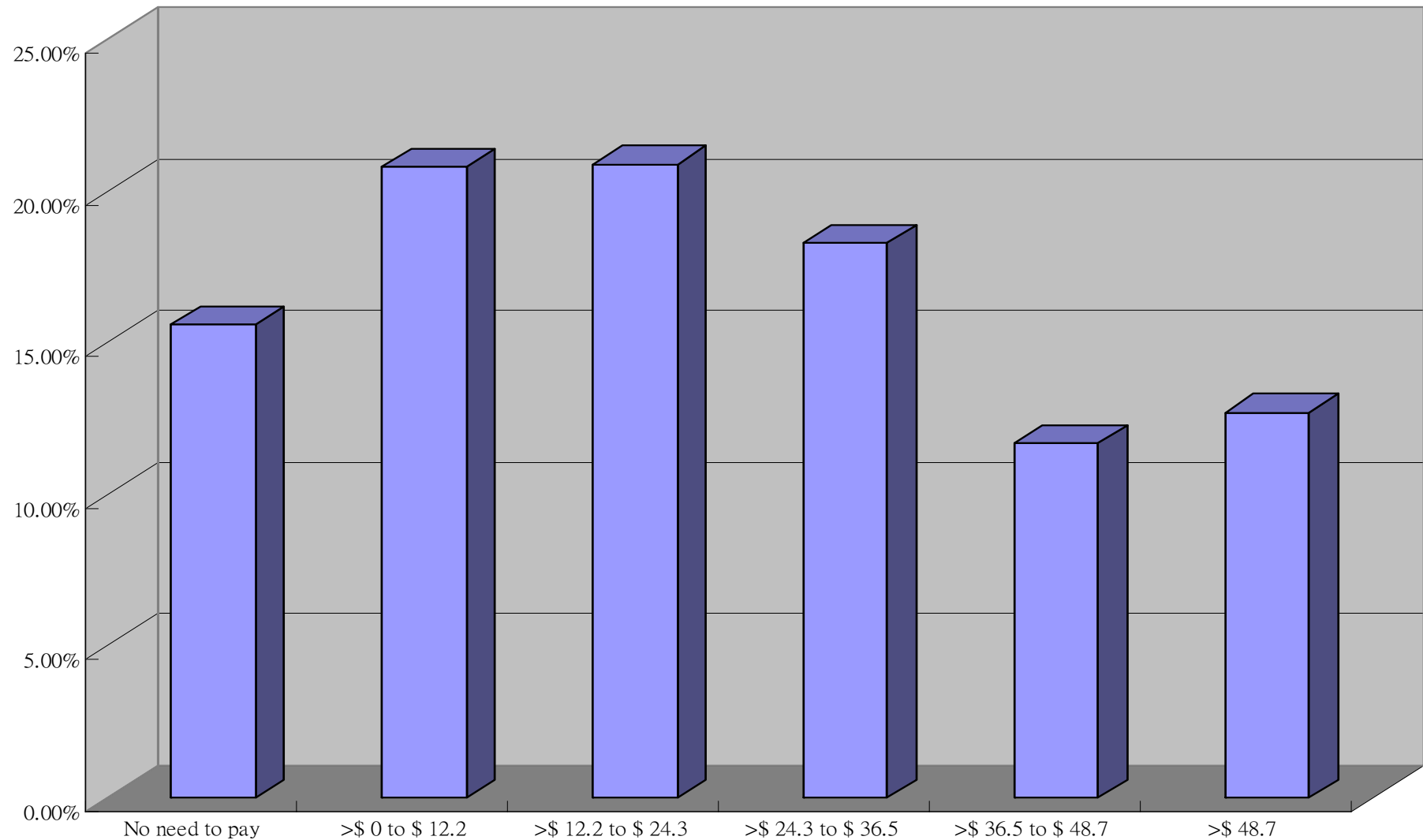
Modest impact on households

SC currently paying (\$/month)	SC after 10 years (\$/month)	Max. Increase	% of accounts	Cumulative % of accounts
0	0	0	15.6%	15.6%
>0-5	>0-12	7	20.8%	36.4%
>5-10	>12-24	14	20.9%	57.3%
>10-15	>24-37	22	18.3%	75.6%
>15-20	>37-49	29	11.7%	87.3%
>20	>49	>29	12.7%	100.0%

Households monthly SC payment (Current)



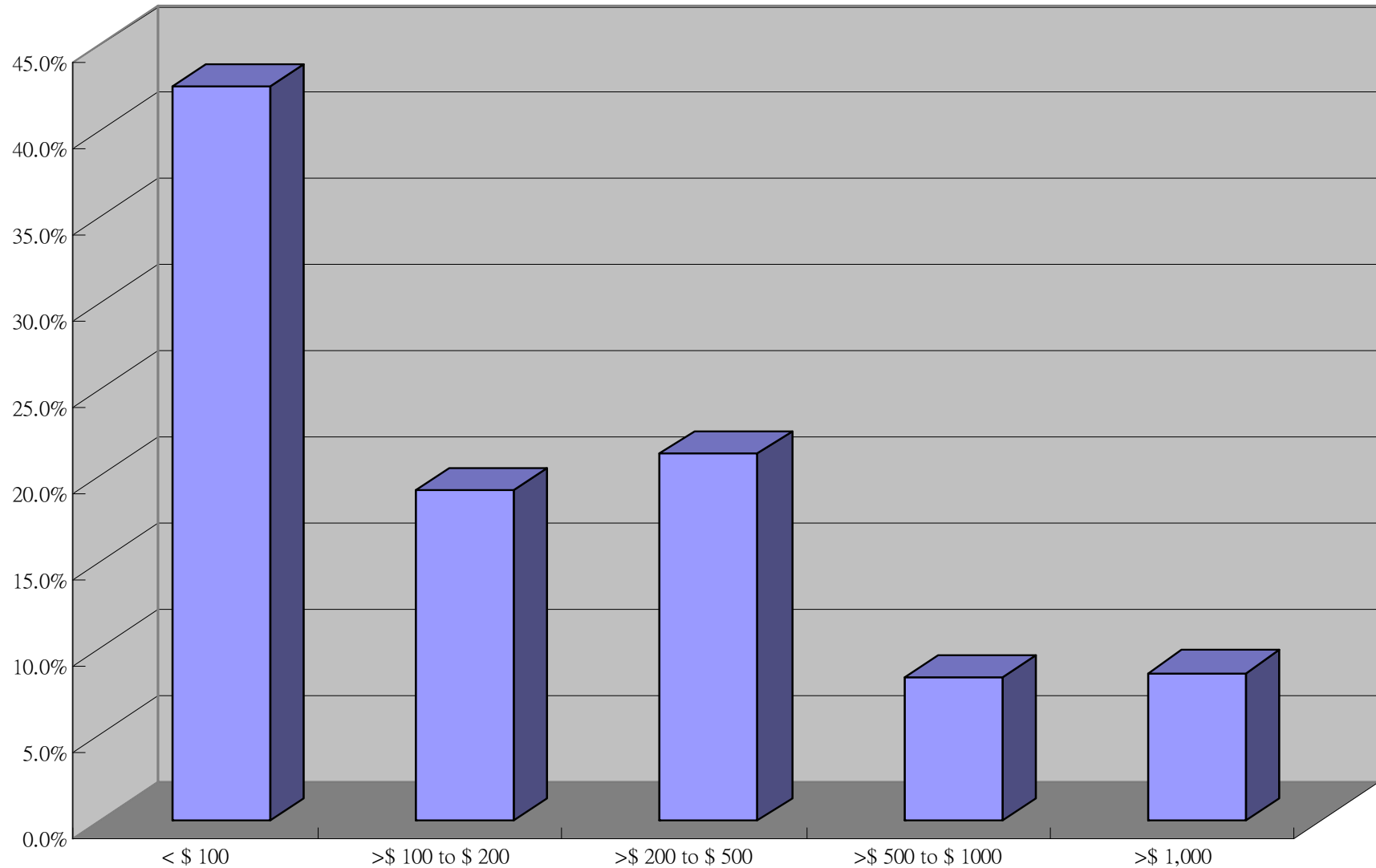
Households monthly SC payment (projected 2016/17)



Modest impact on restaurants

SC currently paying (\$/month)	SC after 10 years (\$/month)	Max. Increase (\$)	% of accounts	Cumulative % of accounts
<100	<243.3	143.3	42.6%	42.6%
>100-200	>243.3-486.7	286.7	19.2%	61.8%
>200-500	>486.7-1 216.7	716.7	21.3%	83.1%
>500-1 000	>1 216.7-2 433.3	1 433.3	8.3%	91.4%
>1 000	> 2 433.3	> 1 433.3	8.6%	100.0%

Restaurants monthly SC payment (Current)



Restaurants monthly SC payment (projected 2016/17)

