

# OFFICE OF THE CITY AUDITOR

City and County of Honolulu  
State of Hawai'i



## Captive Insurance Study for the City and County of Honolulu

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A Report to the  
Mayor  
and the  
City Council of  
Honolulu

Conducted by

First Risk Management  
Services, Inc.

Report No. 06-04  
June 2006



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**THE CITY AUDITOR**  
CITY AND COUNTY  
OF HONOLULU  
STATE OF HAWAII

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## Foreword

This is a report of the Captive Insurance Study for the City and County of Honolulu. The study was conducted pursuant to Section 3-114 of the Revised City Charter of Honolulu and Council Resolution No. 05-070, that requested the City Auditor to contract a firm or person to conduct a detailed study of the cost impacts to the City of a captive insurance company. The firm of First Risk Management Services, Inc. conducted the study, which was performed in accordance with Generally Accepted Government Auditing Standards.

We wish to express our appreciation for the cooperation and assistance extended by the officials and staff of the Department of Budget and Fiscal Services, the Department of Human Resources and others who we contacted during this study.

Leslie I. Tanaka, CPA  
City Auditor



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## I. EXECUTIVE SUMMARY

The purpose of this study is to evaluate the advisability and feasibility of establishing a captive insurance company to address the City and County of Honolulu's risk and liability obligations and make recommendations as appropriate. The study was conducted pursuant to Section 3-114 of the Revised City Charter of Honolulu and Council Resolution No. 05-070, that requested the City Auditor to contract a firm or person to conduct a detailed study of the cost impacts to the City of a captive insurance company. The firm of First Risk Management Services, Inc. conducted the study, which was performed in accordance with Generally Accepted Government Auditing Standards.

The study findings and recommendations are summarized below.

### **Feasibility Of Captive**

A captive insurance company is a feasible risk financing option for the City from both a conceptual and financial perspective. A captive will also allow the City to better maintain accountability for its entire insurance and risk management program.

#### ***Recommendation***

***We recommend that the City form a captive to address its risk and liability obligations.***

### **Comparison Of Captive To Self-Insurance**

Captive funds can be invested in longer-term securities compared to the City's current investment capability. In general, the rates for allowable long-term securities are approximately 2% higher under a normal yield curve than the interest rates for short-term securities. In addition to reserve funds for traditional insurance coverages, the City could also place funds for its long-term liabilities into the captive. We estimate these long-term liabilities to be around \$60 million. The City sets aside and invests funds for some of these liabilities while others are only listed as accounting liabilities. The additional investment income earned on currently unfunded liabilities could be as much as 5% of the liability amount and provide an even greater investment income opportunity.

- ***If the City places funds for its long-term liabilities into the captive, it could earn additional income in the range of \$1 - \$3 million annually.***

A captive funds its actuarial reserves to a confidence level determined by the Actuary. Typically a captive will ensure that these reserves are "funded to ultimate". This terminology means that the full amount of actuarially projected ultimate losses for each line of insurance coverage is deposited into the captive. This is different than the City's current method of only funding the expected paid losses in the coming fiscal year.

- ***Under the Fund to Ultimate method, the City would have to invest an additional \$17 million in funds for all three coverages (workers compensation, general liability and automobile liability) combined; but, depending on actual paid losses and investment income, could earn around \$140,000 more than the cost of operating the captive in the current interest rate environment.***

If cash-flow is an issue, then there is a unique financing feature available to captives, called a “loan back.” A loan back is a Promissory Note from the parent to the captive that will return any unnecessary funds to the parent/owner, upon approval of the Insurance Commissioner. This approval is based on the parent/owners ability to repay the loan back on demand.

Under this scenario, the amount funded that is in excess of expected paid losses and expected operating expenses for the coming year would be loaned back to the parent/owner. The net effect is that amount of loss reserve funds in the captive for each coverage would be exactly the same amount that the City would set aside for its self-insured losses (excluding those from prior years – the captive would be set up on a “going-forward” basis). The only cost difference on an annual basis would be the ongoing expense.

- ***Under the Loan Back method, the City would not have to invest any additional funds compared to self-insurance. There would be no additional investment income earned compared to the current investment strategy of the City. Under this method, it would cost the City an additional \$200,000 in operating expense for all three coverages combined.***

### **Start-Up And Ongoing Cost Of A Captive**

Costs included in the development and start-up of a captive insurance program will include fees for the following services:

- Preparation of feasibility study
  - Actuarial study to determine projected losses and confidence level
  - Legal fees associated with captive insurance company formation
  - Preparation and filing of Captive Insurance Application and Business Plan
- ***Typically, the start-up costs for a captive would be somewhere between \$65,000 - \$100,000.***

Once the captive insurance company is licensed by the Hawaii Insurance Division, there will be a number of required services provided by outside service providers. These include the following:

- Captive insurance management
- Annual actuarial certification of reserves
- Annual CPA audit

- Legal
- Claims Administration (these services may be provided by current City personnel)

The cost of these services would vary by the line of insurance coverage included in the captive insurance company. The reason for this variance in cost is attributable to the labor involved in preparing and maintaining captive insurance services for certain lines of insurance coverage. An example is that workers compensation coverage is a more labor intensive line of insurance than property coverage.

➤ *Below is a breakdown of the estimated cumulative annual operating expenses if the City was to implement and license a captive insurance subsidiary. These fees are allocated by line of coverage and assumes the City will continue to administer claims:*

• <i>Workers compensation -</i>	<i>\$130,000</i>
• <i>General liability -</i>	<i>\$35,000</i>
• <i>Automobile liability -</i>	<i>\$35,000</i>
• <i>Property -</i>	<i>\$25,000</i>
• <i>Other -</i>	<i>\$25,000</i>

### **Risk Management Organization**

The optimum risk management structure is to have one department with overall responsibility for reducing the cost of premiums and self-insured losses (“Cost of Risk” – See Chapter IV for a further discussion) by effective usage of insurance, self-insurance, claims management and loss control. Other departments can assist with this process but the ultimate risk management decisions should be made by the same department to ensure consistency in risk management approaches. The risk management function was established under Section 2-5 of the Revised Ordinances of Honolulu requiring the creation of a risk management program to identify and control the City’s exposures to liability. Since this responsibility was placed under the direction of the Department of Budget and Fiscal Services, Risk Management Division, it makes sense that the management of all of the City’s risks should be centralized in this area as well.

#### ***Recommendation***

***We recommend the City centralize oversight of its entire risk management program under the direction of the Department of Budget and Fiscal Services, Risk Management Division.***

### **Current Risk Practices**

Because the largest contributor to the City’s COR is workers compensation, it does not seem prudent for the City to self-insure this exposure. This approach leaves the City vulnerable to catastrophic losses. The City has 778 employees concentrated at the

municipal building and another 358 at City Hall. It is not inconceivable that a fire or some other natural disaster could occur and injure/kill 500 employees or more. If such an event occurs and the average claim for each employee is \$100,000, the total loss would be \$50 million. For comparison purposes, civilians killed or seriously injured during the World Trade Center attacks received a total of \$8.7 billion, or an average of \$3.1 million per recipient. It is not anticipated that the City might incur a loss as great as this but it does show how large unexpected losses can be and underscore the need for catastrophic insurance protection.

### ***Recommendation***

***We recommend the City consider purchasing excess workers compensation insurance and have its broker obtain premium quotations excess of various retention levels.***

The recommendations in this chapter are detailed in the body of the report. The report should be read in its entirety to obtain a complete understanding of our findings.

### **Response of the Department of Budget and Fiscal Services**

In its response to the draft study (Attachment 2), the Department of Budget and Fiscal Services (BFS) stated that it generally disagreed with the recommendation that the City form a captive insurance company to address its risk and liability obligations. The director of the Department of Budget and Fiscal Services noted that the “draft study is consistent with our past analyses and does not identify any clear benefits that outweigh the significant added costs associated with setting up and operating a captive insurance company.”

As related to the other recommendations made in the draft study, the director of BFS noted that it will: 1) analyze and evaluate the centralized oversight of the City’s risk management program with its implementation of a consolidated computerized information system; 2) evaluate the risks, probabilities, costs and benefits associated with the recommendation to purchase excess workers’ compensation insurance; and 3) begin a more comprehensive program of periodic independent workers’ compensation claims handling audits in the next fiscal year.

### **First Risk Management Services, Inc. Comments to BFS’ Response**

In its comments to BFS’ response to the draft study (Attachment 3), First Risk Management Services, Inc. (FiRMS) noted that the start-up costs, ongoing expenses, and loss reserve funding identified by BFS in its response apply only if the captive includes workers compensation, general liability and auto liability. However, FiRMS noted that its recommendation in the draft study is for the City to initially only fund its general liability and auto liability risks in the captive. It continues to believe that the study does identify clear benefits that outweigh the costs associated with setting up and operating a captive insurance company and stands by the accuracy of the study.

## II. RISK MANAGEMENT ORGANIZATION

Before considering if a captive is feasible for the City, it is important to understand how the City is organized for the management of its risks.

Risk management at the City is provided by the following departments:

- Department of Budget and Fiscal Services, Risk Management Division (RM)
- Department of Human Resources, Industrial Safety and Workers Compensation Division (ISWC)
- Department of Corporation Counsel (CC)

Table II-1 below outlines how various risk management duties are divided among these departments.

**Table II-1  
Risk Management  
Areas of Responsibility**

Risk Management Discipline	Workers Compensation	General Liability	Automobile Liability	Property
Program Management	ISWC	RM	RM	RM
Risk Financing	ISWC/RM*	RM	RM	RM
Claims Management	ISWC	CC	RM	RM
Legal Defense	CC	CC	CC	N/A
Loss Control	ISWC	RM	RM	RM

\*The City is currently self-insured and does not purchase any Workers Compensation insurance. If the City did decide to purchase this coverage, it would be a joint decision between RM, ISWC and the Managing Director.

The individual staff and departments that oversee risk management functions are highly skilled and each area of risk management appears to be properly handled by appropriate staff. However, there does not appear to be specific oversight and accountability for the entire program. For example, ISWC handles workers compensation claims and provides loss control in an autonomous manner with no oversight from RM. Furthermore, there is

not an IT system in place that is utilized by each department that would allow them to share information on open and closed claims and reserves for future claims.

The optimum risk management structure is to have one department with overall responsibility for reducing the cost of risk (premiums and self-insured losses – See Chapter III for a further discussion) by effective usage of insurance, self-insurance, claims management and loss control. Other departments can assist with this process but the ultimate risk management decisions should be made by the same department to ensure consistency in risk management approaches. The risk management function was established under Section 2-5 of the Revised Ordinances of Honolulu requiring the creation of a risk management program to identify and control the City's exposures to liability. Since this responsibility was placed under the direction of the Department of Budget and Fiscal Services, Risk Management Division, it makes sense that the management of all of the City's risks should be centralized in this area as well.

### ***Recommendation***

***We recommend the City centralize oversight of its entire risk management program under the direction of the Department of Budget and Fiscal Services, Risk Management Division.***

The main function of RM is to provide budget stabilization associated with the cost of risk. This is accomplished through the following:

- Development and ongoing maintenance of the City risk financing and risk control programs (individual departments are responsible for safety programs).
- The purchase of commercial insurance and determination of limits and retention for the City insurance program.
- Review of all insurance contracts.
- Maintenance of Certificates of Insurance.
- Completion of RFP process for hiring of outside service providers, such as insurance brokers, claims administrators and adjusters.

RM provides a report to the City Council each year for the review of the City's insurance program and to receive approval for the risk management provisional account. This account is used to purchase commercial insurance, claim payments and all other costs associated with risk management, except for salaries. The funds within the risk management provisional account that are not used at the end of the fiscal year revert to the general fund. If funds are encumbered at the end of the fiscal period, then the funding will remain in the risk management provisional account to pay those expenses, such as third-party administrative contracts or settled claims.

Within the Budget and Fiscal Services Policies and Procedures Manual is a section on Risk Management. This manual is available via intranet to City employees. It includes a section on risk management and loss control. A hard copy manual is not provided to staff or departments.

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### III. CURRENT RISK PRACTICES

Risk management consists of risk financing (purchase of insurance and retention/self-insurance decisions) and risk control (claims management and loss control). A captive is a risk financing tool and its impact is dependent on how risk management is structured within an organization. For example, if risk management is set up with its focus on reducing or minimizing an entity's cost of risk (COR), then a captive could very well enhance this process. On the other hand, if risk management is not organized in an efficient manner and/or little or no attention is paid to controlling losses, then it is doubtful if a captive would have any beneficial effect.

#### A. COR (Cost of Risk)

COR is a concept that attempts to quantify and tabulate the amounts expended on risk treatment methods. The major risk cost elements are:

1. **Insurance Premiums** – Amounts paid to commercial insurers.
2. **Self-Insured Losses** – Losses paid under deductibles, self-insured retentions, or from incidents simply not covered by insurance.
3. **Administration** – Administrative expenses include contract or in-house staff expenses and related overhead associated with claims adjusting, loss prevention and financial management of risks.
4. **Indirect Risk Costs** – These are secondary expenses that arise as a result of losses incurred.

For the purpose of this report, we will concentrate only on the first two items.

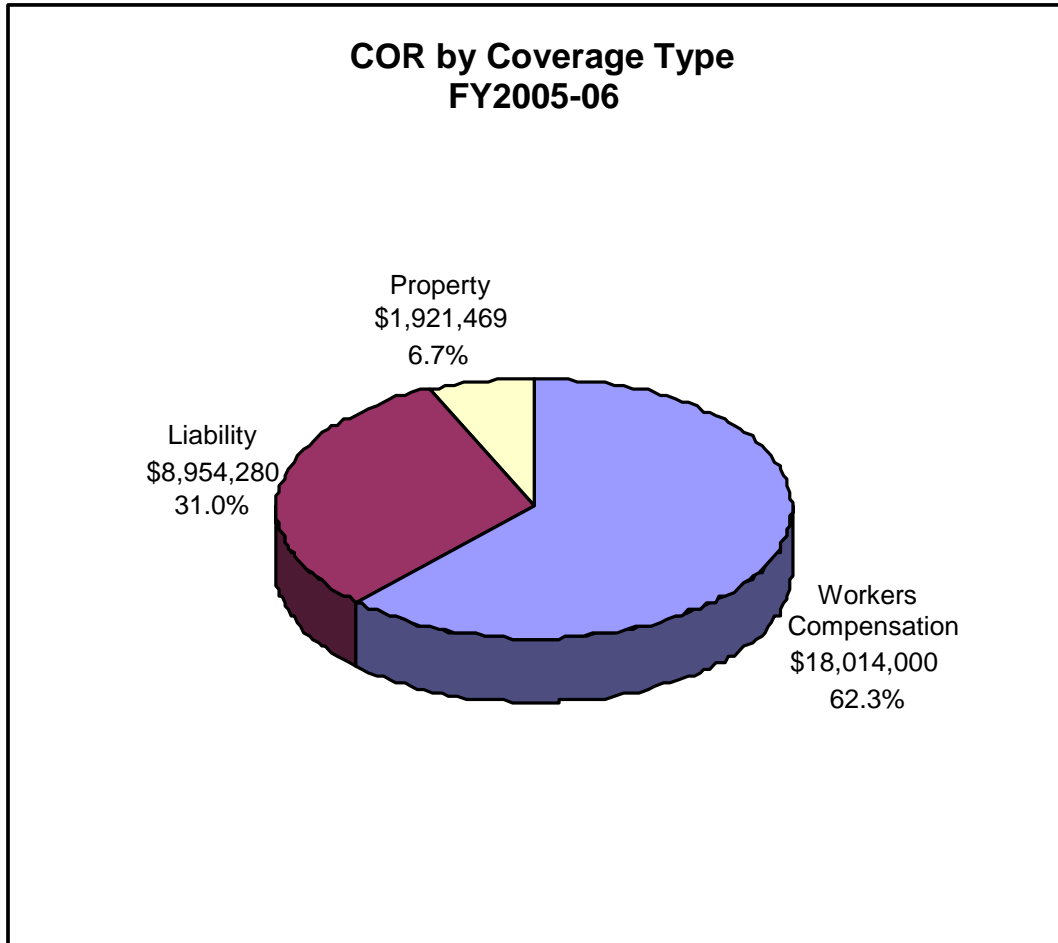
Exhibit III-1 includes a Summary of Insurance for the City. It breaks down the premium cost for liability and property policies as well as projected self-insured losses for workers compensation, general liability and automobile liability.

**Exhibit III-1**  
**City And County Of Honolulu**  
**Schedule of Insurance**  
**FY2005-06**

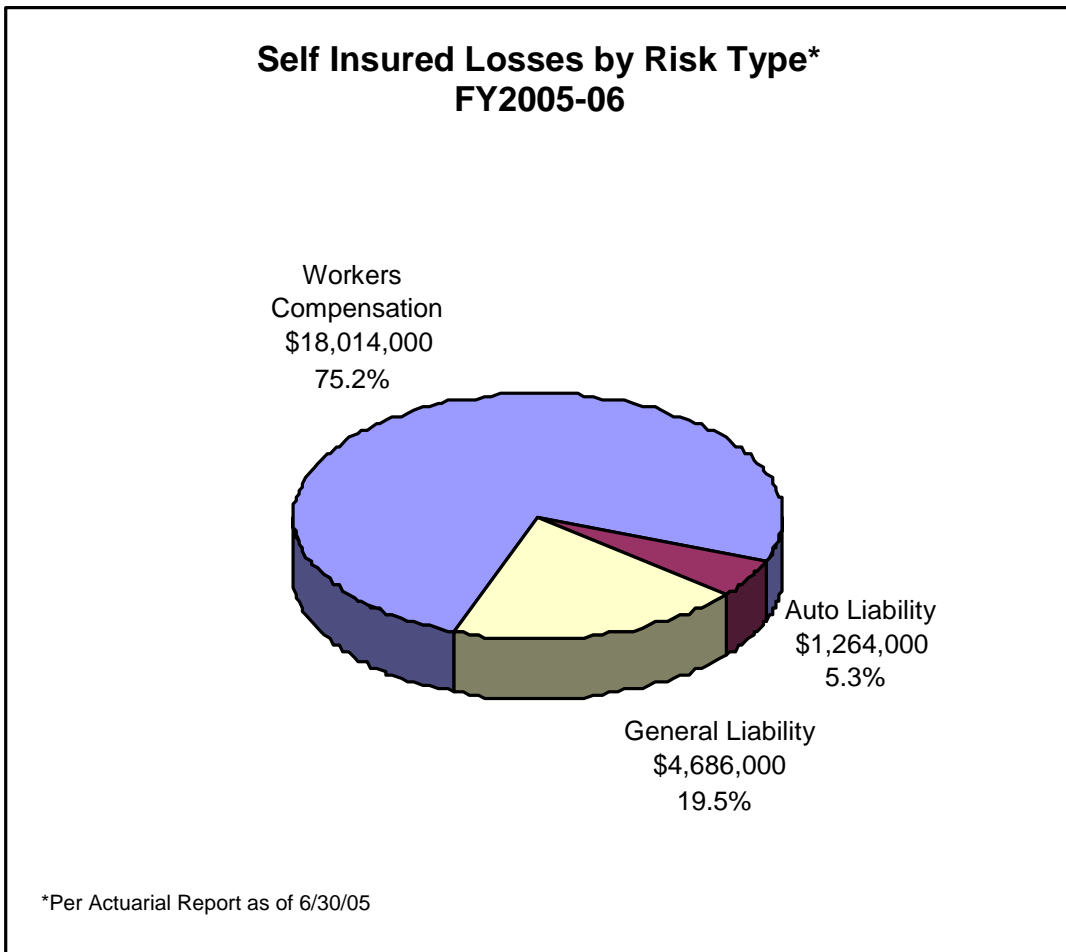
Coverage	Policy Term	Limits	Deductible/SIR	Premium
Ambulance Professional Liability	7/1/05 - 7/1/06	\$1,000,000	\$50,000	\$340,710
Aircraft Liability	7/1/05 - 7/1/06	\$20,000,000	\$0	\$59,020
Auto Liability - HPD Subsidized Fleet	7/1/05 - 7/1/06	\$300,000 BI \$250,000 PD	\$25,000	\$931,831
Excess Liability AL&GL	7/1/05 - 7/1/06	\$10,000,000	\$2,000,000	\$1,653,400
Kekaulike	8/1/05 - 8/1/06	\$1,000,000	\$0	\$19,319
<b>LIABILITY SUBTOTAL</b>				<b>\$3,004,280</b>
Aircraft Hull Damage	7/1/05 - 7/1/06	stated value	2.5% of hull value	\$119,820
All Risk Property (\$2.7 Bil TIV)	7/1/05 - 7/1/06	\$125M blanket \$50M quake & flood	\$75,000 AOP 2% wind 5% quake 5% flood	\$1,656,391
Boiler & Machinery	7/1/05 - 7/1/06	\$50,000,000	\$75,000	\$70,415
3-D Crime	7/1/05 - 7/1/06	\$5,000,000 \$1,000,000	\$100,000	\$48,444
Flood Insurance	Various	\$322,100	\$5,000	\$26,399
<b>PROPERTY SUBTOTAL</b>				<b>\$1,921,469</b>
<b>PREMIUM SUBTOTAL (Liability + Property)</b>				<b>\$4,925,749</b>
<b>PROJECTED SELF-INSURED LOSSES (see table below)</b>				<b>\$23,964,000</b>
<b>TOTAL COST OF RISK</b>				<b>\$28,889,749</b>

SELF INSURANCE	EXPECTED LOSSES
Subsidized Auto	\$524,000
Auto Liability (City)	\$740,000
General Liability	\$4,686,000
Workers Compensation	\$18,014,000
<b>TOTAL EXPECTED LOSSES</b>	<b>\$23,964,000</b>

The graph below illustrates how the City's COR is distributed among its workers compensation, liability and property risks. As you can see, more than 60% of the City's COR is from its workers compensation exposures.



Projected self-insured losses (\$23,964,000) make up about 83% of the City's total COR (\$28,889,749). The graph below illustrates how the City's projected self-insured losses are distributed among workers compensation, general liability and automobile liability. Approximately 75% of the City's projected self-insured losses are from its workers compensation risks.



By far, the largest portion and main factor in driving the City's risk costs are self-insured losses, particularly workers compensation. This element can vary widely, especially since the City does not have excess workers compensation coverage. The fact that losses make up such a large portion of the COR reinforces the need for proper risk retention levels and a strong loss control program. This is true regardless if the City decides to form a captive to cover some of its risks.

## B. RISK FINANCING

To determine the dollar amount of accidental losses that an organization can absorb, it must evaluate several subjective and objective factors, including:

1. Unencumbered retained income, reserves or fund balances.
2. Certainty and amount of its annual gross income.
3. Amount of operating and capital expenditures that could be canceled or deferred to meet short-term cash needs caused by an accidental loss.
4. Legal and financial ability to issue debt.
5. Ability to increase taxes or otherwise raise revenue to finance accidental losses.
6. Existence of financial reserves designated for catastrophic loss payment.
7. Attitude of senior management towards risk.

The ideal risk retention approach includes retaining small, predictable losses and insuring catastrophic or unpredictable losses. Regardless of which risk retention policy is chosen, it should be clear and applied consistently to all risks.

Exhibit III-2 illustrates the City's self-insured retentions for its various exposures.

**Exhibit III-2**  
**City and County of Honolulu**  
**Deductible/SIR**  
**FY2005-06**

<b>Coverage</b>	<b>Ded/SIR</b>
Aircraft Liability	\$0
Kekaulike Project Liability	\$0
Flood	\$5,000
Auto Liability-Subsidized Fleet	\$25,000
Ambulance Professional	\$50,000
Property	\$75,000
Boiler & Machinery	\$75,000
Crime	\$100,000
Auto Liability-City	\$2,000,000
General Liability	\$2,000,000
<b>Median Ded/SIR</b>	<b>\$433,000</b>
Workers Compensation	Unlimited/Statutory

The City's risk retention approach (deductibles/self-insurance) varies from "no retention" of aircraft liability losses to "unlimited/statutory" self-insured losses for workers compensation. Even general liability and automobile liability (City vehicles) are limited to \$2 million per occurrence.

Because the largest contributor to the City's COR is workers compensation, it does not seem prudent for the City to self-insure this exposure. This approach leaves the City vulnerable to catastrophic losses. The City has 778 employees concentrated at the municipal building and another 358 at City Hall. It is not inconceivable that a fire or some other natural disaster could occur and injure/kill 500 employees or more. If such an event occurs and the average claim for each employee is \$100,000, the total loss would be \$50 million. For comparison purposes, civilians killed or seriously injured during the World Trade Center attacks received a total of \$8.7 billion, or an average of \$3.1 million per recipient. It is not anticipated that the City might incur a loss as great as this but it does show how large unexpected losses can be and underscore the need for catastrophic insurance protection.

### ***Recommendation***

***We recommend the City consider purchasing excess workers compensation insurance and have its broker obtain premium quotations excess of various retention levels.***

## **C. RISK CONTROL**

A strong risk control program that includes proactive loss control and effective claims management must be in place to ensure that self-insured losses are minimized or reduced. Various departments have responsibility for claims management and loss control for the type of risks listed below:

### **1. Workers Compensation**

The oversight of workers compensation is the responsibility of the Department of Human Resources (DHR). The Department includes an Industrial Safety & Workers' Compensation (ISWC) Division and also a Labor Relations and Training Division. The DHR is responsible for the administration of all the City's workers compensation claims. The ISWC division has 12 claims adjusters on staff. These adjusters work on a case load of 1400 claims per year, which equates to a case load of about 130 to 150 per adjuster. The industry standard is an average between 125-150 claims per adjuster. Workers compensation claims are filed with the division usually within 7 days of the accident. Based on discussions with ISWC, the average reporting period is 2 days.

The claim forms are online and available to all of the City's staff. The two methods for payment of workers' compensation claims are wage replacement

and a provisional indemnity account. If the wage replacement account is used, then payment will be made out of the department which the injured worker is employed. The provisional account is budgeted for by the DHR on an annual basis. The wage replacement is budgeted as salaries and wages for each individual department. If the ISWC Division requires attorneys to get involved in a case, then the City's attorneys are used. These attorneys are paid a salary by their department and their expense is not allocated to the case.

Individual departments are responsible for return-to-work programs. The DHR has a Safety Specialist on staff that provides oversight to each City department. Each department has its own safety staff. The Safety Specialist acts as a consultant to each of the City departments and provides training and materials to each department's safety staff.

Since the City's workers compensation program is self-insured, claims are accounted for on a "pay-as-you-go" basis. This means that workers compensation claims are treated on a "cash basis" for accounting purposes. As claims are reported, the claims adjuster provides for a reserve amount in the claims system. This reserve amount is not accounted for in the annual audited financial statements of the City, but is located in a footnote to the audited financial statements. This footnote is listed under item 13 – Contingent Liabilities as part of the City's annual audited financial statements.

The City is also required pursuant to Hawaii Revised Statutes §386-153 to pay an assessment on an annual basis to the Department of Labor and Industrial Relations. This assessment has averaged approximately \$800,000 per year.

Throughout any given fiscal year, a budget is appropriated for the payment of workers compensation claims. Senior adjusters have settlement authority up to \$20,000. Settlements in excess of this amount must be approved by the Workers Compensation Manager. Settlements in excess of the value of 25% of the "whole person" amount must also have the approval of the City's Managing Director.

ISWC contracts with an outside vendor for bill review and medical management. During the period of 1/1/05 – 12/31/05, this service achieved bill reductions of 35% overall for outpatients and 52% for inpatients.

The ISWC Division last had a workers compensation claim audit completed in 1991 by Watson Wyatt. Generally accepted risk management "best practices" is to have an audit of claims handlers performed every 3-5 years. This is to ensure that claims are being handled as efficiently and effectively as possible. Improper handling most likely would lead to increased claim costs. Periodic reviews of this function is important since Workers Compensation comprises the bulk of the City's self-insured losses and COR.

## ***Recommendation***

***We recommend the City contract with an outside agency for an audit of its workers compensation claims handling and repeat this process at least every five years.***

As mentioned previously, there is no oversight provided by RM for workers compensation claims. Nor is there any interaction, verbally or via access to claim data, between the two departments. This practice does not allow the City to have an integrated, proactive management of its risks.

### **2. General Liability**

The City self-insures general liability claims up to \$2,000,000 for each occurrence. The oversight of adjusting and settling liability claims is the responsibility of the Department of Corporation Counsel (CC). Within the CC, there is one division responsible for litigation and another for investigation of claims.

Liability claims may be filed through the City via telephone or submission of a completed claim form. Claim forms are available at satellite City Halls around Oahu. Once a claim has been filed, the CC then assigns the claim to an investigator for review. Upon completing the investigation, the claim is then forwarded to an attorney within the CC.

The CC has the authority to settle all liability claims up to \$5,000. Any claim over \$5,000 requires the approval of the City Council. Payment of liability claims is made out of the Judgment & Losses Fund. If a lawsuit is filed with a court of law, then the lawsuit is assigned to a Deputy of the CC. The Deputy will determine whether to settle the claim or litigate the claim in court. In some circumstances, outside counsel is hired to defend the claim. This occurs when the specifics of the case require an expert counsel or because of the ramifications of the case. It is mandated to utilize outside counsel if multiple City employees are involved in the litigation. If the case is litigated in court and the result is a court ordered settlement, then City Council approval is not required for the payment of the settlement. If a liability claim reserve is made for greater than 25% of the \$2,000,000 self-insured retention of the City, then the Deputy is required to notify Risk Management so that it can be reported to the excess general liability insurance carrier.

Liability claim payments are made out of the Judgment and Losses Fund. Operating expenses for consultants, experts, outside defense and related expenses to court cases are typically around \$2,000,000 per year. Other departments may also have monies budgeted for outside legal counsel. The use of that budget is approved by the CC.



The CC works with RM in reporting claims and tracking the self-insured retention.

### 3. Automobile Liability

The City self-insures auto liability claims up to \$2,000,000 per occurrence. RM provides oversight for these claims. Automobile claims are submitted by the department where the motor vehicle is assigned. The claim form is usually filed within two working days of the accident. Major accidents are phoned in immediately. RM contacts the third-party administrator, Specialty Risk Services, LLC (“SRS”). SRS then adjusts the claim. If a claim is made by a third party, the City is usually notified by the claimants insurance carrier. RM then requests a copy of the police report, if filed, from the Honolulu Police Department. The report is then provided to SRS to assist them in adjusting the claim. SRS has authority to provide payment for claims up to \$5,000. Any claim over \$5,000 requires the approval of the City Council.

### 4. Property

Fire and other types of property losses are reported to the Property insurance carrier and are handled by its designated adjuster. Repairs for claims within the deductible are handled by individual departments.

Automobile physical damage claims are handled by the responsible departments with subrogation assistance provided by RM and CC.

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#### **IV. APPROPRIATE CAPTIVE COVERS**

Captive insurance companies have been formed by companies large and small, for-profit and not-for-profit, private and public entities. The use of captive insurance is not a new idea. Over the past thirty years, the evolution of risk management has fueled the growth of captive insurance from a sophisticated alternative to an effective risk financing tool that is now commonplace in corporate risk management programs. Captives have the ability to provide a variety of coverages. In general, a captive may provide coverage for any line or type of insurance allowed by law. This would include the following:

- Workers Compensation
- General Liability
- Automobile Liability
- Property
- Surety
- Fidelity
- Employee Benefits

Generally an entity's insurance program is required to have appropriate premium levels before it makes sense to consider a captive. This threshold amount used to be \$1 million but today, captives are being formed with premium as little as \$250,000.

Pursuant to Hawaii Revised Statutes (HRS) §46-1.5, the City is allowed to insure risks through a captive insurance subsidiary. Following are types of coverages that would be appropriate for the City to consider insuring through a captive.

##### **A. WORKERS COMPENSATION**

Pursuant to HRS §386-121, an organization may insure its workers compensation risks through the use of self-insurance programs, commercial insurance or a captive.

If a Hawaii-based captive insures workers compensation risk, then those risks may be insured on a direct basis. This means that the captive insurance company may provide first-dollar primary insurance company to the Hawaii-based parent company or insured entity. If a non-Hawaii-based captive insurance company is used to insure workers compensation risk, then a Hawaii licensed insurance company is required to provide "fronting" coverage to the parent company or insured entity. This licensed insurer requirement for workers' compensation insurance is a common requirement in all fifty states.

Workers Compensation would be an appropriate risk to cover in a captive because its frequency and severity of losses is generally predictable. However, as with self-

insurance, it is advisable to purchase excess coverage to protect against catastrophic events. Prior loss experience and the marketplace will dictate whether it makes sense to purchase protection in excess of \$2 million, \$5 million or even higher.

Insuring workers compensation coverage in a captive will also provide for accountability in tracking the true cost of insurance for this type of coverage. All expenses related to administering the workers compensation portion of the captive insurance program could be allocated to this line of business.

## **B. GENERAL LIABILITY**

General liability insurance does not have any specific requirements for coverage by statute. Restrictions placed on general liability coverage are dictated by contracts, banks or loan administrators. Some examples are that general contractors are required by Hawaii Revised Statute to carry \$1,000,000 of general liability insurance through a licensed insurance carrier. A captive insurance company would allow a general contractor to meet those requirements.

In the case of a government contract or banking requirement, sometimes the general liability insurance is required to be purchased through an A.M. Best rated insurance company. A.M. Best is a highly respected insurance company rating agency. If none of these specific requirements exist, then a captive may provide general liability insurance to a parent company/insured.

This coverage is typically either in the primary layers or even in upper levels of an insurance program. A captive could insure a self-insured retention or deductible. A captive may also reinsure high level limits or be part of an excess insurance program.

As with workers compensation, general liability would be an appropriate risk to cover in a captive because its frequency and severity of losses is generally predictable. Again, excess coverage should be purchased to provide catastrophic loss protection.

Insuring general liability coverage in a captive insurance subsidiary will also provide for accountability in tracking the true cost of insurance for this type of coverage. All expenses related to administering the general liability portion of the captive insurance program could be allocated to this line of business.

## **C. AUTOMOBILE LIABILITY**

Insuring automobile liability insurance through a captive is similar to self-insuring automobile liability. Typically a self-insurance certificate is valid for a period of one year and may be renewed annually. As a captive insurance company, the City would receive its initial Certificate of Authority upon licensure. The Certificate of Authority, unless revoked, is good for the life of the captive. A captive is a licensed insurance company in the State of Hawaii. The captive has the ability to issue and provide certificates of insurance for automobile coverages up to statutory limits. Captives and

self-insurers of automobile liability insurance are both regulated by the Hawaii Insurance Division.

It would be appropriate to insure automobile liability risks in a captive and again, excess protection should be purchased. A captive insurance company would allow its parent company/insured additional flexibility in drafting its commercial automobile liability policy and also in addressing the stated limits of protection.

Insuring automobile liability coverage in a captive will also provide for accountability in tracking the true cost of insurance for this type of coverage. All expenses related to administering the auto liability portion of the captive insurance program could be allocated to this line of business.

#### **D. PROPERTY**

Property insurance may also be insured through a captive insurance company, with minimal licensed insurer requirements. A Hawaii-based captive can insure property risks on a direct basis for any amount of coverage desired, upon approval by the Insurance Commissioner.

A captive can be a very effective tool in developing a property insurance program. The captive could be utilized in many different ways. It may act as the primary insurer or it may act as the reinsurer or excess insurer of the program. Specific levels of coverage could be insured, such as \$5,000,000 xs \$1,000,000. It could also insure high level excess layers, such as \$25,000,000 xs \$125,000,000.

Having a captive would provide the parent company/insured additional flexibility when developing its property insurance program. A captive also will allow the parent company/insured to include terrorism insurance as part of the property program, pursuant to the Terrorism Risk Insurance Act of 2002. This would enable the City to access an additional funding source if an act of terrorism occurred in Hawaii and impacted property owned by the City.

## **E. OTHER**

The other coverage mentioned that might be included in a captive – fidelity, surety and employee benefits – would only be considered after the captive was well established. This is because these coverages don't fit the same frequency and severity predictability as the other ones discussed above.

Other opportunities for the City would be to insure environmental liabilities in a captive insurance company. Captives have been formed in Hawaii and in other domiciles that insure such risks as pollution liability, contract pollution liability and remediation cost cap insurance. These captives have been formed by a variety of private sector companies, which include government contractors. Currently the Environmental Financial Advisory Board, which advises the Environmental Protection Agency on financial assurance related to closure and cleanup liabilities and is exploring the use of a captive insurance company as a financial assurance mechanism.

The captives that have been formed to insure these coverages have the ability to fund future potential liabilities in the captive and then are able to invest the monies according to a long-term loss payout pattern. This allows the captive investment to grow over time at potentially more aggressive investment rates than reserves for typical lines of insurance, such as property and automobile liability.

The City might also consider insuring some of its various types of future liabilities in the captive insurance program. Some examples would be liabilities related to the Clean Water Act, Sewer Fund, Solid Waste Landfill Closure and Post-closure Care Costs and Citizen Lawsuits. Currently, the City funds for these types of liabilities out of the General Fund as they arise (pursuant to Footnote 14, City and County of Honolulu, June 30, 2005 audited financial statements). By funding these reserves in a captive insurance company, the City would be allowed to tailor its insurance and risk management program to fit current and future liability needs. The captive will also have the ability to earn additional investment income for the City by funding these types of insurance coverage in the captive instead of retaining the liabilities on the balance sheet of the City or as a footnote in the financials.

## V. CAPTIVE ADVANTAGES AND DISADVANTAGES

A captive insurance program has advantages as well as disadvantages compared to the City's current risk financing practices. Certain captive disadvantages are also inherent in self-insurance programs and those similarities are noted.

Before considering implementing a captive insurance program, each of these points should be carefully evaluated.

### A. ADVANTAGES

Some of the advantages for starting up a captive insurance program include the following:

- ***Improved cash flow*** – A captive insurance program provides the opportunity to invest capital and premium dollars paid into the captive. Based on HRS §431:19-110, a pure captive insurance company is required to invest in accordance with HRS §431:6, but has the ability to seek the approval of the Insurance Commissioner for use of other types of investments. This allows for a captive insurance company to have the ability to earn a higher rate of return. The typical interest rate for the types of long-term investments allowed for a captive is generally about 2% higher than the short-term investments utilized by the City. Of course, unforeseen factors could affect both types of interest rates in the future.
- ***Broader coverage*** – Unlike commercial insurance, captive insurers are not required to make rate and form filings with the Department of Insurance. Captive insurance companies can offer a tailored policy to fit the needs of their insureds.
- ***Market stability*** – A captive provides insurance coverage and price stability in an otherwise unstable marketplace that traditionally has short-term swings in the pricing and availability of insurance.
- ***Direct reinsurer access*** – A captive insurance company is allowed to negotiate directly with reinsurance companies and pools. This direct access should also provide a better opportunity for a reduced overall cost of insurance by eliminating the cost of intermediaries.
- ***Accountability*** – The formation of a captive insurance program provides a mechanism to track the expenses related to each type of coverage for each City department. All claims made would be reported to the captive insurance company. All expenses related to the function of the captive (employee salaries

and benefits, service providers, claim payments, etc) would be tracked to provide a true cost of risk.

## **B. DISADVANTAGES**

Some of the potential disadvantages of forming a captive insurance program:

- ***Capitalization and Commitment*** – The establishment of a captive insurance program will require a substantial outlay of initial capital (a letter of credit is an acceptable form of capital). Depending on the specifics of the captive insurance company formed, this amount of capital could be one-third to one-half of the annual premium paid to the captive. The amount of capital required is set by the Insurance Commissioner and the captive insurance company is required to maintain that capital funding at all times. Any reductions in capital require an additional contribution from the parent company.
- ***Inadequate loss reserves and potential losses*** – Captive owners must be prepared for the possibility that in any given policy year greater losses than expected might occur (this is also true for self-insurance). This situation could trigger the need for additional capital contributions and also require notification to the Insurance Division. Independent Actuaries will review the adequacy of loss reserves on an annual basis.
- ***Additional service providers*** – By implementing a captive insurance program, the parent company will be required to hire the following service providers:
  1. Captive insurance manager
  2. Independent actuary (also required for self-insurance)
  3. Independent CPA
  4. Claims administrator (also required for self-insurance)



## VI. COST OF CURRENT AND EXPECTED LOSSES

Information in this chapter and pertinent exhibits in Appendices A, B and C were developed for the purpose of evaluating the establishment of a captive insurance company. This data should not be used for any other purpose or released to any agency or person, except upon prior written approval of the City Auditor.

The loss data used in this study was obtained from RM for an evaluation period as of June 30, 2005. This data was relied upon without audit or independent verification; however, it was evaluated for consistency and reasonableness.

The City currently retains statutory limits for workers compensation and \$2 million per occurrence for general liability and automobile liability exposures. These high retention limits create the potential for substantial variability in the projected loss estimates caused by, but not limited to, changes in the legal environment, expansion of benefits beyond what is reflected in historical experience, public attitudes, social conditions, and economic inflation.

There is no guarantee that future loss payments will not differ from estimates projected herein. Moreover, these projections make no provision for extraordinary future loss emergence or experience not sufficiently represented in the historical data.

➤ *Projected losses for FY2006-07 are as follows:*

- *Workers compensation - \$16,090,000*
- *General liability - \$4,902,000*
- *Automobile liability - \$1,277,000*

Below is a description of the exhibits included in Appendices A, B and C.

### A. WORKERS COMPENSATION

Exhibit A-1 summarizes the projected loss payments for workers compensation benefits over the ten-year fiscal period for losses with accident dates during this time period. Special Compensation Fund expenses are projected in Exhibit A-13 based upon actual payments made over a ten-year period. The selected amount of \$1,000,000 per fiscal period is projected based upon the most recent three-year average of actual payments made to the Fund by the City and County of Honolulu.

Fiscal Year 2006-07 total projected losses are estimated to be \$16,090,000. One-half of these losses are projected to be paid within the first two years following the date of the covered accident, and the remaining expenditures are projected to be paid over a period of many years.

Exhibit A-2 provides information about City payroll expenditures, headcount and exposure trend. RM provided the FY2005-06 estimate of payroll and headcount. For the purposes of this study, future payroll increases are projected at 103% of the FY2005-06 level, and increasing 3% per year beyond that level.

City workers compensation claim frequency is calculated in Exhibit A-3. Claim frequency based upon either payroll or headcount has been consistently declining over the experience period. The selected claim frequency projection for the future used in this study reflects this favorable trend, and expects that it will continue into the future years.

Exhibit A-4 presents the first of four actuarial methods to estimate loss rates per \$100 of payroll. Paid indemnity loss data is evaluated as of June 30, 2005. These amounts, segmented by accident/fiscal period, are projected to ultimate settlement values using the NCCI paid loss development factors appropriate for each fiscal period. Loss rates are consistent within a narrow range over the prior ten-year period, down from earlier fiscal periods in the early 1990's. Declining claim frequency over this time period largely offsets increases in wage replacement costs due to inflationary pressures.

Medical loss rates are calculated similarly in Exhibit A-5. These rates display a decreasing trend in the early 1990's consistent with the decline in indemnity costs as accidents were eliminated. Medical loss rates are increasing more rapidly in recent years as medical inflation is rising faster than wage inflation.

Exhibits A-6 and A-7 provide an alternate actuarial method to calculate these loss rates for indemnity and medical benefits. The results of the four methods are summarized in Exhibit A-8, and an average is taken to produce a selected estimate of ultimate loss in each fiscal period. This is a preliminary step to producing the indicated loss rate per \$100 of payroll in Exhibit A-9.

In Exhibit A-10, loss severity and trend indices are calculated for later use in this analysis. Average claim costs observed in the early years increased in line with inflationary expectations. Costs in later years increased more than inflationary indices due to the reduction in claim counts. Fewer total claim occurrences translate to higher average claim amounts for the claims that do occur. Since this analysis assumes that the favorable claim frequency reduction calculated in Exhibit A-3 will continue into the future, the trend severity index is selected consistent with this assumption.

Future projected losses and loss rates for the ten fiscal periods are calculated in Exhibit A-11. Losses and loss rates are projected to increase over time due to moderate inflationary pressures. These estimates do not include any provision for extraordinary future loss emergence that could arise. Further, changes in the payroll amounts may affect these estimates. There is no guarantee that future amounts will not differ from these projected amounts, perhaps even substantially.

Exhibit A-12 is needed to provide an estimate of annual costs associated with vocational rehabilitation benefits. The selected amount of \$80,000 is included in projected losses in

Exhibit A-11, and trended for inflationary cost adjustments in subsequent years. This analysis assumes that the vocational rehabilitation program in existence today will continue to function at a similar level into the future.

Exhibit A-13 calculates the expected annual average costs to the City for the State Special Compensation Fund assessment. Since this amount varies widely between years with a low observed amount of \$452,000 and a high observed amount of \$1,109,000, an average amount on the high end of estimates was selected and no inflationary adjustments were made.

## **B. GENERAL LIABILITY**

A similar analysis is performed for general liability. The City currently retains the first \$2,000,000 of loss arising from any one event, and this retention amount is assumed to continue in effect for the ten projected fiscal periods.

Exhibit B-1 displays the projected loss amounts for the ten-year fiscal period starting in FY2006-07. Amounts projected in the first fiscal period displayed, FY2006-07 are for accidents or covered events occurring during FY2006-07.

Exhibit B-2 examines historical operating budget and exposure trends for later use in this analysis. Exhibit B-3 summarizes claim count experience, and calculates claim frequency percentages based upon both operating budget and headcount.

Exhibit B-4 presents the first of four actuarial methods to estimate loss rates per \$1,000 of operating budget. In Exhibit B-4, paid loss amounts evaluated as of June 30, 2005 are used as the basis of the projection. In Exhibit B-5, incurred loss amounts are used as the basis of the projection. In Exhibit B-6, an alternate method is used with paid losses. And in Exhibit B-7 the alternate projection method is used with reported incurred loss amounts.

The results of these four projections are summarized in Exhibit B-8 and a selection of projected loss in each fiscal period is made. In Exhibit B-9, loss rate amounts are calculated with the operating budget in effect for each historical fiscal period.

In Exhibit B-10, average ultimate loss severity is calculated for the historical fiscal periods. In Exhibit B-11, a smoothed severity trend is fit to the observed historical data from Exhibit B-10. This smoothed trend line assumes that, on average, general liability costs for the City have been increasing by 3.2% annually, consistent with inflationary indices.

Future projected losses and loss rates for the ten fiscal periods are calculated in Exhibit B-12. Losses and loss rates are projected to increase over time due to moderate inflationary pressures. Actual loss amounts can reasonably be expected to vary from these amounts due to the absence or presence of large losses during a fiscal year. These estimates do not include any provision for extraordinary future loss emergence that could

arise. Further, changes in the operating budget amounts may affect these estimates. There is no guarantee that future amounts will not differ from these projected amounts, perhaps even substantially.

### **C. AUTOMOBILE LIABILITY**

The review of automobile liability includes the City's subsidized fleet of vehicles.

The City currently retains the first \$2,000,000 of loss arising from any one event, for automobile liability, and \$25,000 per occurrence for the subsidized fleet, and these retention amounts are assumed to continue in effect for the ten projected fiscal periods. Of the three lines examined in this study, the experience for the automobile coverage is the smallest in volume, and therefore subject to greater fluctuation. Actual results in individual fiscal years can vary substantially between years due to the absence or presence of a single large loss.

Exhibit C-1 summarizes the projected loss payments for automobile liability and the subsidized fleet for the ten fiscal years commencing with FY2006-07. Similar to the prior exhibits in this study, the loss amounts projected in FY2006-07 are for accidents that occurred during FY2006-07.

In Exhibit C-2, operating budget and exposure trend indices are calculated. Power units, or vehicle counts have fluctuated slightly during the prior five fiscal periods. For the purposes of this analysis, power unit amounts are assumed to be a constant 2,600 for the projected ten fiscal years.

Accident claim frequency is computed in Exhibit C-3, for later use in this study.

Exhibit C-4 presents the first of four actuarial methods to estimate loss rates. The method used in this exhibit relies upon paid losses, evaluated as of June 30, 2005 as the basis of the estimate. In Exhibit C-5, reported incurred loss amounts evaluated as of June 30, 2005 are used as the basis of the estimate. An alternate projection using paid losses is employed in Exhibit C-6. Similarly, the alternate projection method is used with reported incurred losses in Exhibit C-7.

The results of these four methods are summarized in Exhibit C-8, and a selection of ultimate loss is made for each historical fiscal year. Loss rates for each fiscal year are then calculated in Exhibit C-9 with the selected projected ultimate loss amounts.

Average historical auto loss severities are calculated in Exhibit C-10. Due to the sparsity of the data, a trend index could not be calculated from this data. A 3.0% inflationary assumption was selected for use in this study based upon other trend indices.

Future projected losses and projected loss rates for the ten fiscal periods are calculated in Exhibit C-11. Losses and loss rates are projected to increase over time due to moderate inflationary pressures. These projected amounts are reflective of historical average loss experience of the City. Actual loss amounts can reasonably be expected to vary from

these amounts due to the absence or presence of large losses during a fiscal year. These estimates do not include any provision for extraordinary future loss emergence that could arise. There is no guarantee that future amounts will not differ from these projected amounts, perhaps even substantially.

Exhibit C-12 provides estimated annual costs for the subsidized fleet, assuming a \$25,000 retention amount. The projected amount for FY2006-07 is included in the projected losses in Exhibit C-11, and trended for inflationary cost adjustments in subsequent fiscal years.

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## VII. COST OF CAPTIVE VS. SELF-INSURANCE

In general, the cost difference between self-insurance and a captive for the City would be the amount of start-up and ongoing expenses as well as the initial capital outlay (although this could be in the form of a letter of credit).

### A. START-UP COSTS

Costs included in the development and start-up of a captive insurance program will include fees for the following services:

- Preparation of feasibility study
  - Actuarial study to determine projected losses and confidence level
  - Legal fees associated with captive insurance company formation
  - Preparation and filing of Captive Insurance Application and Business Plan
- *Typically, the start-up costs for a captive would be somewhere between \$65,000 - \$100,000.*

### B. ONGOING EXPENSES

Once the captive insurance company is licensed by the Hawaii Insurance Division, there will be a number of required services provided by outside service providers. These include the following:

- Captive insurance management
- Annual actuarial certification of reserves
- Annual CPA audit
- Legal
- Claims Administration (these services may be provided by current City personnel)

The cost of these services would vary by the line of insurance coverage included in the captive insurance company. The reason for this variance in cost is attributable to the labor involved in preparing and maintaining captive insurance services for certain lines of insurance coverage. An example is that workers compensation coverage is a more labor intensive line of insurance than property coverage.

- *Below is a breakdown of the estimated cumulative annual operating expenses if the City was to implement and license a captive insurance subsidiary. These fees are allocated by line of coverage and assumes the City will continue to administer claims:*

- *Workers compensation - \$130,000*
- *General liability - \$35,000*
- *Automobile liability - \$35,000*
- *Property - \$25,000*
- *Other - \$25,000*

### **C. LOSS RESERVE FUNDING APPROACHES**

A captive funds its actuarial reserves to a confidence level determined by the Actuary. Typically a captive will ensure that these reserves are “funded to ultimate”. This terminology means that the full amount of actuarially projected ultimate losses for each line of insurance coverage is deposited into the captive. This is different than the City’s current method of only funding the expected paid losses in the coming fiscal year. We have developed pro forma financials for both scenarios. These can be found in Appendices E and F for workers compensation, general liability and automobile liability.

Below are the amounts of funding necessary (see actuarial projections in Appendices B, C and D) for each of the following coverages under the “fund to ultimate” method:

- Workers compensation - \$16,090,000
- General liability - \$4,902,000
- Automobile liability - \$1,277,000

The City currently maintains investments in cash and cash equivalents and obligations of the U.S. Government, primarily in shorter-term securities. Based on this approach, during FY2003-04, the City earned interest income at an average rate of return of 1.76%.

Captive funds can be invested in longer-term securities compared to what the City currently invests in. In general, the rates for allowable long-term securities are approximately 2% higher under a normal yield curve than the interest rates for short-term securities. While interest rates may fluctuate over time, the gap between the rates for long-term securities and short-term securities is fairly consistent.

Because of the difference in interest rates, the additional investment income earned by forming a captive would exceed the investment income currently earned by the City. This investment income could then be used to offset the cost of setting up and operating a captive for the City. For example, the amount of workers compensation reserves needed during the first year would be around \$11.6 million (\$16.1 million ultimate funds less expected paid losses during the first year of \$4.5 million) and 2% of this amount would net the City in excess of \$200,000 in investment income.

If cash-flow is an issue, then there is a unique financing feature available to captives, called a “loan back.” A loan back is a Promissory Note from the parent to the captive that will return any unnecessary funds to the parent/owner, upon approval of the



Insurance Commissioner. This approval is based on the parent/owners ability to repay the loan back on demand.

Under this scenario, the amount funded that is excess of expected paid losses and expected operating expenses for the coming year would be loaned back to the parent/owner. The net effect is that amount of loss reserve funds in the captive for each coverage would be exactly the same amount that the City would set aside for its self-insured losses (excluding those from prior years – the captive would be set up on a “going-forward” basis). The only cost difference on an annual basis would be the ongoing expense. The estimated loss reserve funds needed under this approach would be as follows:

- Workers compensation - \$4,482,000
- General liability - \$560,000
- Automobile liability - \$236,000

## D. COMPARISON TO SELF-INSURANCE

As mentioned above, if the City formed a captive, it has a choice of two different funding methods. Below is a summary of these methods and the cost differences between a captive and self-insurance. This summary also assumes no changes to the current claims administration process. Note that actual results could vary, based on the development of loss reserves.

The “Funds Needed” amounts are actuarial estimates of future losses. The amounts for “Investment Income” assume that a captive earns 2% more on investments than the City currently earns.

**Table VII-1  
Cost of Captive vs. Self-Insurance**

Funding Method	Funds Needed	Captive Cost	Investment Income	Captive Cost Difference
<b>FUND TO ULTIMATE</b>				
Workers Compensation	\$16,090,000	\$130,000	\$232,160	(\$102,160)
General Liability	\$4,902,000	\$35,000	\$86,840	(\$51,840)
Automobile Liability	\$1,277,000	\$35,000	\$20,820	\$14,180
<b>TOTAL</b>	<b>\$22,269,000</b>	<b>\$200,000</b>	<b>\$339,820</b>	<b>(\$139,820)</b>
<b>LOAN BACK</b>				
Workers Compensation	\$4,482,000	\$130,000	N/A	\$130,000
General Liability	\$560,000	\$35,000	N/A	\$35,000
Automobile Liability	\$236,000	\$35,000	N/A	\$35,000
<b>TOTAL</b>	<b>\$5,278,000</b>	<b>\$200,000</b>	<b>N/A</b>	<b>\$200,000</b>

- *Under the Fund to Ultimate method, the City would have to invest an additional \$17 million in funds for all three coverages combined but, depending on actual paid losses and investment income, could earn around \$140,000 more than the cost of operating the captive in the current interest rate environment.*
- *Under the Loan Back method, the City would not have to invest any additional funds compared to self-insurance. There would be no additional investment income earned compared to the current investment strategy of the City. Under this method, it would cost the City an additional \$200,000 in operating expense for all three coverages combined.*

The comparisons in the chart above do not include potential investment income that the City could earn if it placed its long-term liabilities in a captive. These would include environmental liabilities from its closed landfill sites, commitments for effluent reuse and sludge reuse under the Clean Water Act and citizen lawsuits alleging repeated spills and other violations under the same Act. The City could also include its Sewer Fund in the captive. This would allow it to earn a greater rate of return, until the funds were needed, than the City receives now.

Below is a listing of the funds that would be eligible to be invested in a captive:

Waipahu incinerator landfill	\$11,950,000
Kapaa sanitary landfill	\$14,237,000
Effluent reuse	\$20,000,000
Sludge reuse	\$10,000,000
Kailua & Kaneohe trust fund	\$2,100,000
Citizen lawsuit	<u>\$0*</u>
 TOTAL	 <u>\$58,287,000</u>

\*No reserve has been established

If the eventual reserve for the citizen lawsuit is greater than \$1.8 million, then the total amount of liabilities that could be placed in the captive would exceed \$60 million. If the above amounts were currently invested by the City, then the additional investment income earned by the captive would be \$1.2 million (2% of \$60 million), as long as the fund balance remained at \$60 million. If the liabilities are not currently invested, then the income earned by the captive could be as much as \$3.0 million (5% of \$60 million).

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## **VIII. FEASIBILITY OF CAPTIVE**

### **A. CONCEPTUAL**

When reviewing the potential for the City to form a captive insurance subsidiary, it is prudent to review other public entities that have formed captives either in Hawaii or in other domiciles.

There have been a number of captive insurance companies formed by various types of public entities. These include public utilities, school districts, pools and joint-power authorities. Some of the ones that have formed captives in Hawaii include a group of independent colleges, a school district, and a joint-power authority. Utilization of captives for public entities is not a new concept.

Approximately 80% of U.S. states have passed legislation to allow public entities to form pools. These pools provide the opportunity for a group of public entities to come together and form a group or pool for the purpose of purchasing insurance. The pool gives the group additional buying power, which in turn reduces the total cost of commercial insurance. For states like Hawaii that have not enacted this type of legislation, a captive insurance company is a viable option. A captive would enable a single public entity or a group of public entities to join together and have the ability to purchase insurance through a captive insurance company. The ability to add other public entities into the captive program would provide for a better spread of risk. This diversification can help mitigate adverse loss development in the captive insurance company and provide more options for excess insurance coverage in the marketplace. Ultimately, this should reduce the COR.

Large non-profit organizations have also formed captive insurance companies. We have reviewed and evaluated one such organization for the purpose of this report. The entity has had a Hawaii captive for about 10 years and insures property, liability and workers compensation insurance through its captive. By having a captive insurance company, the parent organization is better able to calculate its “true cost of risk” as all losses under \$500,000 are insured through the captive. The captive utilizes a manuscripted policy that gives the parent organization the ability to broaden its coverage and provides it with better control over its risk management program. The captive also provides access to reinsurance and excess insurance markets as well as primary insurance carriers. The parent organization handles the claims for the captive subsidiary. This results in better loss control of the program. The captive also helps to “smooth out” large losses incurred by various business units.

Captives domiciled in Hawaii are regulated by the Captive Insurance Branch of the Hawaii Insurance Division (“Division”). The Division is highly respected nationally and internationally in the captive insurance industry for its flexibility and prudent regulation

of captive insurance companies. The Division has been regulating captive insurance for twenty years and is the second largest captive domicile in the United States.

There are five classes of captive insurance companies that may be formed in Hawaii. These classes are as follows:

- **Class 1** - A class 1 captive is a “pure” captive insurance company that is allowed to provide reinsurance.
- **Class 2** - A class 2 captive is also a “pure” captive insurance company and is allowed to provide direct insurance and reinsurance.
- **Class 3** - A class 3 captive may be formed as a Risk Retention Group or as an Association captive insurance company. This type of captive is formed for a group or association of like companies with similar risk. A Risk Retention Group is only allowed to provide liability insurance.
- **Class 4** - A class 4 captive is also called a “Leased Capital Facility” and is known as a rent-a-captive in other captive domiciles.
- **Class 5** - A class 5 captive is allowed to provide excess insurance or reinsurance.

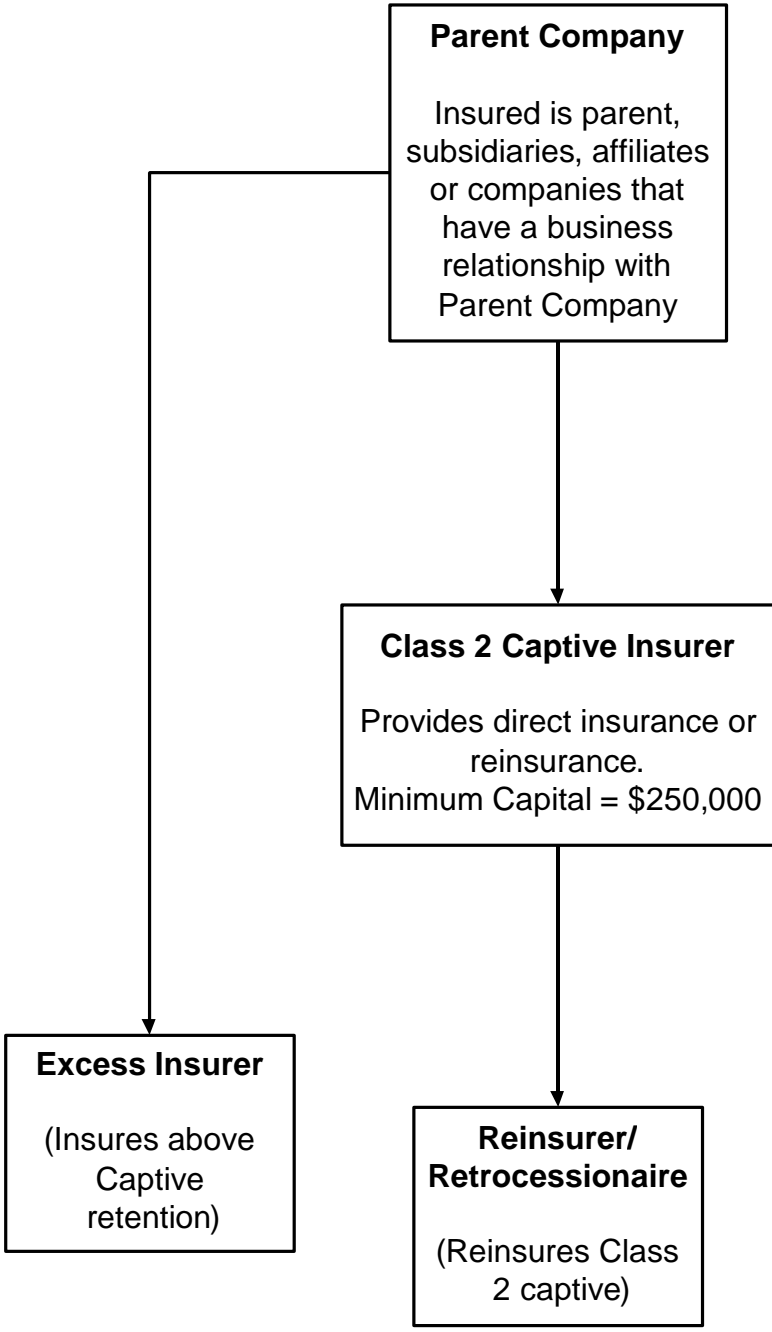
Of the five classes of captive insurance companies allowed in Hawaii, a class 2 captive insurance company would be the most feasible for the City. According to HRS §431:19-101, “A pure captive insurance company is a special purpose entity created to insure the exposures of its parent organization, subsidiaries, affiliates and organizations in which the parent organization maintains a working relationship with, and whose business risks insured by the pure captive insurance company are similar or related to the business risks of, the parent insured by the pure captive insurance company”.

This means that the City could potentially insure the risks of the Board of Water Supply and Oahu Transit Services, Inc. It would also enable the City to include in its captive insurance program the risks of other counties and public entities throughout the State of Hawaii.

A pure captive insurance company has the ability to provide coverage in a difficult market. It will also allow for market stability and reduce the total cost of insurance since the City will no longer be subject to price swings in the marketplace. The pure captive structure allows for direct access to reinsurance and the excess markets. This strategy also provides the potential for long term cost savings by controlling losses through an effective risk management and loss control program. A pure captive is also allowed to transact multiple lines of insurance or reinsurance, such as workers compensation, general liability, automobile liability and property.

Exhibit VIII-1 is the structure of a pure captive insurance company.

**Exhibit VIII-1**  
**Pure Captive Structure**



A Class 2 captive requires minimum capital of at least \$250,000, but the actual amount will be based on a review of the insurance program by the State Insurance Division.

Below is a discussion of amount of risk to be retained by a captive, the process involved in implementing a captive and ongoing requirements of a captive.

### 1. Retained Risk

The amount of risk to be retained by the captive will be based on the findings of a certified Actuary. In general, the captive is required to retain a portion of the risk of the insurance program for the transaction to be considered insurance. There is no minimum amount of risk to be retained in the captive. With this structure, the level of risk retained by the captive may be at the first-dollar level (e.g., the first \$250,000 of each loss) or in an excess layer (e.g., \$500,000 excess \$500,000 each loss).

### 2. Implementation Process

It usually takes around 90-120 days for a pure captive insurance company program to be implemented. Below are the implementation steps:

- a. Select a captive insurance consultant to prepare a feasibility study.
- b. Select a certified actuary to prepare projected losses and pro-forma financial statements for the captive.
- c. Select a captive insurance manager.
- d. Prepare licensing documents that include the following:
  - Executive summary
  - Business plan
  - Specific state application form
  - Actuarial report
  - Five-Year pro forma financial statements
  - Articles of incorporation and by-laws
  - Biographical affidavits of officers and directors
  - Names of reinsurers or excess insurers
  - Draft policy to be issued by the captive
  - Service provider profiles

An initial meeting with the Captive Insurance Administrator is required prior to completing and filing the captive insurance application for the captive with the State of Hawaii.

The first steps of the process will require approximately sixty to ninety days if all of the required information is readily available. The application for licensure is



then filed with the Hawaii Insurance Division for review and approval. The licensure process will take up to 30 days for completion. Once approval has been granted, capitalization and formation of the company is completed. The captive will then receive its Certificate of Authority from the Hawaii Insurance Division and can begin transacting business.

### 3. Ongoing Requirements

The ongoing requirements of the pure captive are as follows:

- Annual Board of Directors meeting in Hawaii
- Annual Actuarial report
- Annual audited financial statements, GAAP basis
- Annual filing of forms and fees
- Filing of any changes in the application and business plan – these are required to be approved by the Division prior to implementation

The pure captive insurance program is dependent on the parent organization's long-term view of the program. There will be capital requirements set forth by the Division. If the capital falls below the minimum amount, the parent will be required to infuse additional capital. If there are inadequate loss reserves or loss control strategies, additional capital outlay may also be required.

## **B. FINANCIAL**

The estimated cost of operating a captive for the City would be \$200,000 if its workers compensation, general liability and automobile liability risks were insured through it. We have shown in Chapter VIII how additional investment income would exceed this cost if the City funded the captive with ultimate loss reserves.

We have also indicated that the City could place other long-term liabilities in the captive and gain even additional investment income. This additional income could well exceed \$1 million annually.

The bottom line is that a captive is much more than a risk financing option. It is a powerful investment vehicle that provides the City the ability to realize investment gains that are not otherwise available to them. Potential income from these activities far outweighs the captive's operating costs.

## C. CONCLUSIONS

A captive insurance company is a feasible risk financing option for the City from both a conceptual and financial perspective. A captive will also allow the City to better maintain accountability for its entire insurance and risk management program.

### *Recommendation*

***We recommend that the City form a captive to address its risk and liability obligations.***

Before implementing a captive insurance program, the City should seek the services of a consultant/captive manager to assist in the formation and captive insurance application process.

Initially, it is recommended that the City place its general liability and automobile liability risks (both City and subsidized vehicles) into the captive. The following table reflects the estimated costs if the City adopts our recommendation of forming a captive for its general liability and automobile liability risks.

Table VIII-1	
Estimated Captive Costs	
General Liability & Automobile Liability	
Capital Investment	\$ 1,250,000
Start-Up Costs	\$ 65,000
Ongoing Expenses	\$ 70,000
Loss Reserves	
Fund to Ultimate	\$ 6,179,000
Loan Back	\$ 796,000

Please note that the capital can be in the form of cash, LOC or trust fund. The amount of loss reserves needed would depend on which method the City chose. Pro formas for the above recommendation can be found in Appendices F and G.

The City should also consider eventually placing its workers compensation risks in the captive but only after the following activities have taken place:

- Centralize the risk management function under the Department of Budget and Fiscal Services, Risk Management Division,
- Have an audit performed of the administration of workers compensation claims, and
- Purchase excess workers compensation coverage.

Once the captive is established, the City will have the ability to tailor its insurance program to include other types of insurance coverages, such as long-term liabilities and excess insurance layers (for both property and liability) in the captive insurance program. The City could also offer to provide insurance protection to other public entities located in the State.

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## **Appendix A**

### Workers Compensation Projected Loss Exhibits

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**City & County of Honolulu**  
 Captive Feasibility Study  
 Projected Workers Compensation Loss Payment Schedule  
 (Amounts are in thousands of dollars)

Exhibit A-1

Fiscal Period (1)	Projected Losses (2)	FY 07 (3)	FY 08 (4)	FY09 (5)	FY 10 (6)	FY 11 (7)	FY 12 (8)	FY 13 (9)	FY 14 (10)	FY 15 (11)	FY 16 (12)
SCF		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
FY 07	16,090	3,482	4,595	2,158	1,683	953	536	238	105	83	63
FY 08	16,664		3,606	4,759	2,235	1,743	988	555	246	109	86
FY 09	17,259			3,735	4,928	2,315	1,805	1,023	575	255	112
FY 10	17,875				3,868	5,104	2,397	1,870	1,059	596	264
FY 11	18,513					4,006	5,286	2,483	1,937	1,097	617
FY 12	19,173						4,149	5,475	2,572	2,006	1,136
FY 13	19,857							4,297	5,670	2,663	2,077
FY 14	20,566								4,451	5,873	2,758
FY 15	21,299									4,609	6,082
FY 16	22,059										4,774
<b>Total</b>	<b>189,355</b>	<b>4,482</b>	<b>9,201</b>	<b>11,652</b>	<b>13,715</b>	<b>15,122</b>	<b>16,162</b>	<b>16,941</b>	<b>17,615</b>	<b>18,291</b>	<b>18,971</b>

Notes

- (1) Fiscal year 07 runs from 7/1/06 - 6/30/07; Special Compensation Fund (SCF) expense from Exhibit A-13
- (2) FY 07-16 projected losses are from Exhibit A-11, Column (3)
- (3) - (12) Based upon NCCI state of Hawaii loss payment patterns

**City & County of Honolulu**  
 Captive Feasibility Study  
 Workers Compensation  
 Payroll and Exposure Trend  
 (Amounts are in thousands of dollars)

Exhibit A-2

Fiscal Period (1)	Payroll (2)	% Change Payroll (3)	FTE (4)	% Change FTE (5)	Average Payroll per FTE (6)
FY 91	281,461				
FY 92	304,346	8.1%			
FY 93	328,003	7.8%			
FY 94	336,348	2.5%			
FY 95	347,294	3.3%	10,041		34.59
FY 96	332,739	-4.2%	9,977	-0.6%	33.35
FY 97	348,850	4.8%	10,104	1.3%	34.53
FY 98	363,869	4.3%	10,104	0.0%	36.01
FY 99	356,439	-2.0%	9,808	-2.9%	36.34
FY 00	388,209	8.9%	10,082	2.8%	38.51
FY 01	375,409	-3.3%	9,665	-4.1%	38.84
FY 02	394,696	5.1%	9,855	2.0%	40.05
FY 03	408,919	3.6%	9,921	0.7%	41.22
FY 04	415,547	1.6%	9,972	0.5%	41.67
FY 05	434,301	4.5%	9,993	0.2%	43.46
FY 06 est	530,418	22.1%	10,054	0.6%	52.76
Projected FY 07	546,331	3.0%	10,099	0.4%	54.10

Notes

- (1) The fiscal year FY91 runs from 7/1/90 - 6/30/91
- (2) Payroll figures are in thousands of dollars; FY 06 est and prior fiscal years payroll data provided by City & County of Honolulu; FY 07 projected as 103% of FY 06
- (3) Change in payroll values between consecutive years in Column (2)
- (4) FTE provided by City & County of Honolulu
- (5) Change in FTE values between consecutive years in Column (4)
- (6) The quotient of Columns (2) and (4): (2)/(4)



**City & County of Honolulu**

Captive Feasibility Study

Workers Compensation

Claim Frequency

(Amounts are in thousands of dollars)

Exhibit A-3

Fiscal Period (1)	Payroll (2)	Claim Counts (3)	Claim Frequency Payroll Based (4)	FTE (5)	Claim Frequency FTE Based (6)
FY 91	281,461	1,928	0.685%		
FY 92	304,346	2,045	0.672%		
FY 93	328,003	2,000	0.610%		
FY 94	336,348	2,005	0.596%		
FY 95	347,294	1,879	0.541%	10,041	18.713%
FY 96	332,739	1,809	0.544%	9,977	18.132%
FY 97	348,850	1,713	0.491%	10,104	16.954%
FY 98	363,869	1,793	0.493%	10,104	17.745%
FY 99	356,439	1,779	0.499%	9,808	18.138%
FY 00	388,209	1,694	0.436%	10,082	16.802%
FY 01	375,409	1,689	0.450%	9,665	17.475%
FY 02	394,696	1,713	0.434%	9,855	17.382%
FY 03	408,919	1,594	0.390%	9,921	16.067%
FY 04	415,547	1,593	0.383%	9,972	15.975%
FY 05	434,301	1,538	0.354%	9,993	15.391%
<b>Total</b>	<b>5,416,430</b>	<b>26,772</b>	<b>0.494%</b>	<b>109,522</b>	<b>17.160%</b>
FY 06 est	530,418	1,609	0.303%	10,054	16.000%
Projected FY 07	546,331	1,616	0.296%	10,099	16.000%

Notes

(1) The fiscal year FY91 runs from 7/1/90 - 6/30/91

(2) From Exhibit A-2, Column (2)

(3) Claim counts data are evaluated as of 7/21/05; FY 05 is adjusted to ultimate claim counts by adding 132 claims to the claim counts data to bring the projected total claim counts to 1,538 for an indicated claim frequency of 0.354%

(4) Calculated as the quotient of Columns (3) and (2): (3)/(2)

(5) From Exhibit A-2, Column (4)

(6) The quotient and Columns (3) and (5): (3)/(5)

**City & County of Honolulu**  
 Captive Feasibility Study  
 Workers Compensation  
 Paid Loss Development Method - Indemnity  
 (Amounts are in thousands of dollars)

Exhibit A-4

Fiscal Period (1)	Payroll (2)	Paid Indemnity Loss (3)	Loss Development Factor (4)	Estimated Ultimate Ind. Loss (5)	Calculated Loss Rate (6)
FY 91	281,461	6,488	1.001	6,494	2.31
FY 92	304,346	7,324	1.001	7,331	2.41
FY 93	328,003	6,446	1.001	6,452	1.97
FY 94	336,348	6,104	1.001	6,110	1.82
FY 95	347,294	5,703	1.003	5,720	1.65
FY 96	332,739	5,848	1.008	5,895	1.77
FY 97	348,850	4,827	1.014	4,895	1.40
FY 98	363,869	5,936	1.026	6,090	1.67
FY 99	356,439	6,426	1.044	6,709	1.88
FY 00	388,209	6,139	1.076	6,606	1.70
FY 01	375,409	6,772	1.113	7,537	2.01
FY 02	394,696	5,708	1.177	6,718	1.70
FY 03	408,919	4,990	1.539	7,678	1.88
FY 04	415,547	3,627	2.040	7,399	1.78
FY 05	434,301	1,566	5.199	8,142	1.87
Total	5,416,430	83,904		99,776	1.84

Notes

- (1) The fiscal year FY91 runs from 7/1/90 - 6/30/91
- (2) From Exhibit A-2, Column (2)
- (3) Paid loss data provided by the City & County of Honolulu; evaluated as of 7/21/05
- (4) Loss development factors are NCCI industry factors for the state of Hawaii
- (5) Calculated as the product of columns (3) and (4)
- (6) Calculated as the quotient of columns (5) and (2); presented per \$100 of payroll

**City & County of Honolulu**  
 Captive Feasibility Study  
 Workers Compensation  
 Paid Loss Development Method - Medical  
 (Amounts are in thousands of dollars)

Exhibit A-5

Fiscal Period (1)	Payroll (2)	Paid Medical Loss (3)	Loss Development Factor (4)	Estimated Ultimate Med. Loss (5)	Calculated Loss Rate (6)
FY 91	281,461	3,790	1.125	4,264	1.52
FY 92	304,346	4,845	1.131	5,480	1.80
FY 93	328,003	4,337	1.134	4,918	1.50
FY 94	336,348	4,142	1.140	4,722	1.40
FY 95	347,294	4,064	1.147	4,661	1.34
FY 96	332,739	3,073	1.152	3,540	1.06
FY 97	348,850	2,786	1.155	3,218	0.92
FY 98	363,869	3,363	1.167	3,925	1.08
FY 99	356,439	3,993	1.183	4,724	1.33
FY 00	388,209	3,543	1.198	4,245	1.09
FY 01	375,409	4,206	1.242	5,224	1.39
FY 02	394,696	3,938	1.283	5,052	1.28
FY 03	408,919	3,075	1.554	4,777	1.17
FY 04	415,547	2,894	1.770	5,122	1.23
FY 05	434,301	1,448	3.875	5,612	1.29
<b>Total</b>	<b>5,416,430</b>	<b>53,497</b>		<b>69,484</b>	<b>1.28</b>

Notes

- (1) The fiscal year FY91 runs from 7/1/90 - 6/30/91
- (2) From Exhibit A-2, Column (2)
- (3) Paid loss data provided by the City & County of Honolulu; evaluated as of 7/21/05
- (4) Loss development factors are NCCI industry factors for the state of Hawaii
- (5) Calculated as the product of columns (3) and (4)
- (6) Calculated as the quotient of columns (5) and (2); presented per \$100 of payroll

**City & County of Honolulu**  
 Captive Feasibility Study  
 Workers Compensation  
 Expected Loss and Development Method - Indemnity  
 (Amounts are in thousands of dollars)

Exhibit A-6

Fiscal Period (1)	Payroll (2)	Prior Estimate Loss Rate (3)	Loss Development Factor (4)	Expected % Unreported (5)	Expected Development (6)	Paid Indemnity Loss (7)	Estimated Ultimate Loss (8)	Indicated Loss Rate (9)
FY 91	281,461	1.90	1.001	0.1%	5	6,488	6,493	2.31
FY 92	304,346	1.86	1.001	0.1%	6	7,324	7,330	2.41
FY 93	328,003	1.82	1.001	0.1%	6	6,446	6,452	1.97
FY 94	336,348	1.79	1.001	0.1%	6	6,104	6,110	1.82
FY 95	347,294	1.76	1.003	0.3%	18	5,703	5,721	1.65
FY 96	332,739	1.73	1.008	0.8%	46	5,848	5,894	1.77
FY 97	348,850	1.71	1.014	1.4%	82	4,827	4,909	1.41
FY 98	363,869	1.68	1.026	2.5%	155	5,936	6,091	1.67
FY 99	356,439	1.67	1.044	4.2%	251	6,426	6,677	1.87
FY 00	388,209	1.69	1.076	7.1%	464	6,139	6,603	1.70
FY 01	375,409	1.72	1.113	10.2%	654	6,772	7,426	1.98
FY 02	394,696	1.74	1.177	15.0%	1,034	5,708	6,742	1.71
FY 03	408,919	1.77	1.539	35.0%	2,530	4,990	7,520	1.84
FY 04	415,547	1.79	2.040	51.0%	3,798	3,627	7,425	1.79
FY 05	434,301	1.82	5.199	80.8%	6,379	1,566	7,945	1.83
<b>Total</b>	<b>5,416,430</b>				<b>15,434</b>	<b>83,904</b>	<b>99,338</b>	<b>1.83</b>

Notes

- (1) The fiscal year FY91 runs from 7/1/90 - 6/30/91
- (2) From Exhibit A-2, Column (2)
- (3) The prior estimate loss rate is the selected rate of \$1.88 per \$100 of payroll for FY 06; detrended for each fiscal period
- (4) From Exhibit A-4, Column (4)
- (5) Calculated as 1.000 less the reciprocal of the factor in Column (4):  $1.000 - 1/(4)$
- (6) Calculated as the product of columns (2), (3) and (5)
- (7) From Exhibit A-4, Column (3)
- (8) Calculated as the sum of Columns (6) and (7)
- (9) Calculated as the quotient of columns (8) and (2); presented per \$100 of payroll

**City & County of Honolulu**  
 Captive Feasibility Study  
 Workers Compensation  
 Expected Loss and Development Method - Medical  
 (Amounts are in thousands of dollars)

Exhibit A-7

Fiscal Period (1)	Payroll (2)	Prior Estimate Loss Rate (3)	Loss Development Factor (4)	Expected % Unreported (5)	Expected Development (6)	Paid Medical Loss (7)	Estimated Ultimate Loss (8)	Indicated Loss Rate (9)
FY 91	281,461	1.30	1.125	11.1%	407	3,790	4,197	1.49
FY 92	304,346	1.27	1.131	11.6%	449	4,845	5,294	1.74
FY 93	328,003	1.25	1.134	11.8%	484	4,337	4,821	1.47
FY 94	336,348	1.23	1.140	12.3%	508	4,142	4,650	1.38
FY 95	347,294	1.21	1.147	12.8%	538	4,064	4,602	1.33
FY 96	332,739	1.19	1.152	13.2%	523	3,073	3,596	1.08
FY 97	348,850	1.17	1.155	13.4%	549	2,786	3,335	0.96
FY 98	363,869	1.15	1.167	14.3%	601	3,363	3,964	1.09
FY 99	356,439	1.14	1.183	15.5%	631	3,993	4,624	1.30
FY 00	388,209	1.16	1.198	16.5%	745	3,543	4,288	1.10
FY 01	375,409	1.18	1.242	19.5%	862	4,206	5,068	1.35
FY 02	394,696	1.20	1.283	22.1%	1,040	3,938	4,978	1.26
FY 03	408,919	1.21	1.554	35.6%	1,767	3,075	4,842	1.18
FY 04	415,547	1.23	1.770	43.5%	2,223	2,894	5,117	1.23
FY 05	434,301	1.25	3.875	74.2%	4,021	1,448	5,469	1.26
<b>Total</b>	<b>5,416,430</b>				<b>15,348</b>	<b>53,497</b>	<b>68,845</b>	<b>1.27</b>

Notes

- (1) The fiscal year FY91 runs from 7/1/90 - 6/30/91
- (2) From Exhibit A-2, Column (2)
- (3) The prior estimate loss rate is the selected rate of \$1.29 per \$100 of payroll for FY 06; detrended for each fiscal period
- (4) From Exhibit A-5, Column (4)
- (5) Calculated as 1.000 less the reciprocal of the factor in Column (4):  $1.000 - 1/(4)$
- (6) Calculated as the product of columns (2), (3) and (5)
- (7) From Exhibit A-5, Column (3)
- (8) Calculated as the sum of Columns (6) and (7)
- (9) Calculated as the quotient of columns (8) and (2); presented per \$100 of payroll

**City & County of Honolulu**  
 Captive Feasibility Study  
 Workers Compensation  
 Estimated Ultimate Losses  
 (Amounts are in thousands of dollars)

Exhibit A-8

Fiscal Period (1)	Estimated Ultimate Ind. Loss (2)	Estimated Ultimate Med. Loss (3)	Estimated Ultimate Loss (4)	Estimated Ultimate Ind. Loss (5)	Estimated Ultimate Med. Loss (6)	Estimated Ultimate Loss (7)	Average (8)
FY 91	6,494	4,264	10,758	6,493	4,197	10,690	10,724
FY 92	7,331	5,480	12,811	7,330	5,294	12,624	12,718
FY 93	6,452	4,918	11,370	6,452	4,821	11,273	11,322
FY 94	6,110	4,722	10,832	6,110	4,650	10,760	10,796
FY 95	5,720	4,661	10,381	5,721	4,602	10,323	10,352
FY 96	5,895	3,540	9,435	5,894	3,596	9,490	9,463
FY 97	4,895	3,218	8,113	4,909	3,335	8,244	8,179
FY 98	6,090	3,925	10,015	6,091	3,964	10,055	10,035
FY 99	6,709	4,724	11,433	6,677	4,624	11,301	11,367
FY 00	6,606	4,245	10,851	6,603	4,288	10,891	10,871
FY 01	7,537	5,224	12,761	7,426	5,068	12,494	12,628
FY 02	6,718	5,052	11,770	6,742	4,978	11,720	11,745
FY 03	7,678	4,777	12,455	7,520	4,842	12,362	12,409
FY 04	7,399	5,122	12,521	7,425	5,117	12,542	12,532
FY 05	8,142	5,612	13,754	7,945	5,469	13,414	13,584
Total	99,776	69,484	169,260	99,338	68,845	168,183	168,722

Notes

- (1) The fiscal year FY91 runs from 7/1/90 - 6/30/91
- (2) From Exhibit A-4, Column (5)
- (3) From Exhibit A-5, Column (5)
- (4) Sum of Columns (2) and (3)
- (5) From Exhibit A-6, Column (8)
- (6) From Exhibit A-7, Column (8)
- (7) Sum of Columns (5) and (6)
- (8) Average of Columns (4) and (7)

**City & County of Honolulu**  
 Captive Feasibility Study  
 Workers Compensation  
 Historical Loss Rates  
 (Amounts are in thousands of dollars)

Exhibit A-9

Fiscal Period (1)	Payroll (2)	Estimated Ultimate Loss (3)	Indicated Loss Rate (4)
FY 91	281,461	10,724	3.81
FY 92	304,346	12,718	4.18
FY 93	328,003	11,322	3.45
FY 94	336,348	10,796	3.21
FY 95	347,294	10,352	2.98
FY 96	332,739	9,463	2.84
FY 97	348,850	8,179	2.34
FY 98	363,869	10,035	2.76
FY 99	356,439	11,367	3.19
FY 00	388,209	10,871	2.80
FY 01	375,409	12,628	3.36
FY 02	394,696	11,745	2.98
FY 03	408,919	12,409	3.03
FY 04	415,547	12,532	3.02
FY 05	434,301	13,584	3.13
<b>Total</b>	<b>5,416,430</b>	<b>168,722</b>	<b>3.11</b>

**Notes**

- (1) The fiscal year FY91 runs from 7/1/90 - 6/30/91
- (2) From Exhibit A-2, Column (2)
- (3) From Exhibit A-8, Column (8)
- (9) Calculated as the quotient of columns (3) and (2); presented per \$100 of payroll

**City & County of Honolulu**

Exhibit A-10

Captive Feasibility Study

Workers Compensation

Estimated Ultimate Severity & Loss Trend Index

(Amounts are in thousands of dollars)

Fiscal Period (1)	Estimated Ultimate Loss (2)	Claim Counts (3)	Ultimate Severity (4)	Smoothed Severity (5)	% Change (6)	Cumulative Index (7)
FY 91	10,724	1,928	5.562	5.572		1.662
FY 92	12,718	2,045	6.219	5.651	1.4%	1.639
FY 93	11,322	2,000	5.661	5.736	1.5%	1.614
FY 94	10,796	2,005	5.385	5.840	1.8%	1.586
FY 95	10,352	1,879	5.509	5.948	1.9%	1.557
FY 96	9,463	1,809	5.231	6.058	1.9%	1.529
FY 97	8,179	1,713	4.774	6.174	1.9%	1.500
FY 98	10,035	1,793	5.597	6.294	1.9%	1.471
FY 99	11,367	1,779	6.390	6.458	2.6%	1.434
FY 00	10,871	1,694	6.417	6.781	5.0%	1.366
FY 01	12,628	1,689	7.476	7.120	5.0%	1.301
FY 02	11,745	1,713	6.856	7.476	5.0%	1.239
FY 03	12,409	1,594	7.785	7.850	5.0%	1.180
FY 04	12,532	1,593	7.867	8.242	5.0%	1.124
FY 05	13,584	1,538	8.832	8.654	5.0%	1.070
Total	168,722	26,772	6.302			
FY 06				9.260	7.0%	
FY 07				9.908	7.0%	

Notes

(1) The fiscal year FY91 runs from 7/1/90 - 6/30/91

(2) From Exhibit A-8, Column (8)

(3) From Exhibit A-3, Column (3)

(4) The quotient of Columns (2) and (3)

(5) Smoothed from the data in Column (4)

(6) Change in severity values between consecutive years in Column (5)

(7) Calculated as the factor in Column (6) multiplied by the subsequent year



**City & County of Honolulu**

Exhibit A-11

Captive Feasibility Study

Workers Compensation

Projected Losses Ten Year Period FY 07 - 16

(Amounts are in thousands of dollars)

Fiscal Period (1)	Payroll (2)	Projected Losses (3)	Projected Loss Rate (4)
FY 07	546,331	16,090	2.95
FY 08	562,720	16,664	2.96
FY 09	579,602	17,259	2.98
FY 10	596,990	17,875	2.99
FY 11	614,900	18,513	3.01
FY 12	633,347	19,173	3.03
FY 13	652,347	19,857	3.04
FY 14	671,918	20,566	3.06
FY 15	692,075	21,299	3.08
FY 16	712,837	22,059	3.09
Total	6,263,067	189,355	3.02

(1) The fiscal year FY07 runs from 7/1/06 - 6/30/07

(2) FY 07 estimate is from Exhibit A-2; subsequent years are projected at 103% of the prior year estimate

(3) FY 07 calculated by multiplying the FY 07 projected claim counts from Exhibit A-2 by the FY 07 projected average severity in Exhibit A-10 vocational rehabilitation benefits of \$80 are included (Exhibit A-12); subsequent years are trended for inflation

(4) Calculated as the quotient of Columns (3) and (2) presented per \$100 of payroll

**City & County of Honolulu**  
 Captive Feasibility Study  
 Workers Compensation  
 Vocational Rehabilitation Expenditures  
 (Amounts are in thousands of dollars)

Exhibit A-12

Period (1)	Payroll (2)	Voc Rehab (3)	Loss Rate (4)
FY 96	332,739	109	0.328
FY 97	348,850	84	0.241
FY 98	363,869	77	0.212
FY 99	356,439	59	0.166
FY 00	388,209	80	0.206
FY 01	375,409	32	0.085
FY 02	394,696	28	0.071
FY 03	408,919	104	0.254
FY 04	415,547	83	0.200
FY 05	434,301	62	0.143
Total	3,818,978	718	0.188
Average		72	0.190
Average Excluding Hi/Lo Selected		73 80	0.188

Notes

- (1) The fiscal year FY96 runs from 7/1/95 - 6/30/96
- (2) From Exhibit A-2, Column (2)
- (3) Provided by the Human Resources Department, Workers Compensation Division of the City & County of Honolulu
- (4) Calculated as the quotient of Columns (3) and (2); presented per \$1 million of payroll

**City & County of Honolulu**  
 Captive Feasibility Study  
 Workers Compensation  
 Special Compensation Fund  
 (Amounts are in thousands of dollars)

Exhibit A-13

Period (1)	Special Compensation Fund (2)
FY 96	838
FY 97	611
FY 98	608
FY 99	452
FY 00	825
FY 01	617
FY 02	778
FY 03	1,109
FY 04	1,040
FY 05	866
<b>Total</b>	<b>7,744</b>
Average	774
Average Excluding Hi/Lo	773
Three Year Average FY 03 - 05	1,005

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## **Appendix B**

### General Liability Projected Loss Exhibits

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**City & County of Honolulu**  
 Captive Feasibility Study  
 Projected General Liability Loss Payment Schedule  
 (Amounts are in thousands of dollars)

Exhibit B-1

Policy/ Fiscal Period (1)	Projected Losses (2)	FY 07 (3)	FY 08 (4)	FY09 (5)	FY 10 (6)	FY 11 (7)	FY 12 (8)	FY 13 (9)	FY 14 (10)	FY 15 (11)	FY 16 (12)
FY 07	4,902	560	675	791	647	482	357	280	168	72	74
FY 08	5,059		577	696	816	668	497	368	289	174	74
FY 09	5,221			596	719	843	689	513	380	298	179
FY 10	5,388				615	742	870	711	529	392	307
FY 11	5,560					635	765	897	734	546	405
FY 12	5,738						655	790	926	758	564
FY 13	5,922							676	815	956	782
FY 14	6,111								698	841	986
FY 15	6,307									720	868
FY 16	6,509										743
<b>Total</b>	<b>56,715</b>	<b>560</b>	<b>1,252</b>	<b>2,084</b>	<b>2,797</b>	<b>3,369</b>	<b>3,833</b>	<b>4,236</b>	<b>4,540</b>	<b>4,757</b>	<b>4,983</b>

Notes

- (1) Fiscal year 07 runs from 7/1/06 - 6/30/07
- (2) Projected losses are from Exhibit B-12, Column (3)
- (3) - (12) Based upon Insurance Industry loss payment patterns

**City & County of Honolulu**  
 Captive Feasibility Study  
 General Liability  
 Operating Budget and Exposure Trend  
 (Amounts are in thousands of dollars)

Exhibit B-2

Fiscal Period (1)	Operating Budget (2)	% Change Budget (3)	FTE (4)	% Change FTE (5)	Average Budget per FTE (6)
FY 95	897,739		10,041		
FY 96	963,999	7.4%	9,977	-0.6%	96.62
FY 97	968,655	0.5%	10,104	1.3%	95.87
FY 98	975,030	0.7%	10,104	0.0%	96.50
FY 99	980,644	0.6%	9,808	-2.9%	99.98
FY 00	930,213	-5.1%	10,082	2.8%	92.26
FY 01	932,434	0.2%	9,665	-4.1%	96.48
FY 02	994,235	6.6%	9,855	2.0%	100.89
FY 03	1,031,211	3.7%	9,921	0.7%	103.94
FY 04	1,090,934	5.8%	9,972	0.5%	109.40
FY 05	1,130,693	3.6%	9,993	0.2%	113.15
FY 06 est	1,264,687	11.9%	10,054	0.6%	125.79
Projected FY 07	1,302,628	3.0%	10,099	0.4%	128.99

Notes

- (1) The fiscal year FY95 runs from 7/1/94 - 6/30/95
- (2) Operating Budget figures are in thousands of dollars; FY 06 est and prior fiscal years provided by City & County of Honolulu; FY 07 projected as 103% of FY 06
- (3) Change in budget values between consecutive years in Column (2)
- (4) FTE provided by City & County of Honolulu
- (5) Change in FTE values between consecutive years in Column (4)
- (6) The quotient of Columns (2) and (4): (2)/(4)



**City & County of Honolulu**

Exhibit B-3

Captive Feasibility Study

General Liability

Claim Frequency

(Amounts are in thousands of dollars)

Fiscal Period (1)	Operating Budget (2)	Claim Counts with Cost (3)	Claim Frequency Budget Based (4)	FTE (5)	Claim Frequency FTE Based (6)
FY 95	897,739	312	0.035%	10,041	3.107%
FY 96	963,999	306	0.032%	9,977	3.067%
FY 97	968,655	339	0.035%	10,104	3.355%
FY 98	975,030	392	0.040%	10,104	3.880%
FY 99	980,644	252	0.026%	9,808	2.569%
FY 00	930,213	242	0.026%	10,082	2.400%
FY 01	932,434	351	0.038%	9,665	3.632%
FY 02	994,235	271	0.027%	9,855	2.750%
FY 03	1,031,211	275	0.027%	9,921	2.772%
FY 04	1,090,934	507	0.046%	9,972	5.084%
FY 05	1,130,693	368	0.033%	9,993	3.683%
<b>Total</b>	<b>10,895,787</b>	<b>3,615</b>	<b>0.033%</b>	<b>109,522</b>	<b>3.301%</b>
FY 06 est	1,264,687	354	0.028%	10,054	3.522%
Projected FY 07	1,302,628	365	0.028%	10,099	3.612%

Notes

(1) The fiscal year FY95 runs from 7/1/94 - 6/30/95

(2) From Exhibit B-2, Column (2)

(3) Claim counts data are for claims with an indemnity cost greater than zero; amounts are evaluated as of 6/30/2005; data provided by the City & County of Honolulu

(4) Calculated as the quotient of Columns (3) and (2): (3)/(2)

(5) From Exhibit B-2, Column (4)

(6) The quotient and Columns (3) and (5): (3)/(5)

**City & County of Honolulu**  
 Captive Feasibility Study  
 General Liability  
 Paid Loss Development Method  
 (Amounts are in thousands of dollars)

Exhibit B-4

Fiscal Period (1)	Operating Budget (2)	Paid Loss (3)	Excess Loss (4)	Limited Paid Loss (5)	Loss Development Factor (6)	Estimated Ultimate Loss (7)	Calculated Loss Rate (8)
FY 85		1,645	0	1,645	1.000	1,645	
FY 86		716	0	716	1.000	716	
FY 87		1,732	0	1,732	1.000	1,732	
FY 88		5,687	1,700	3,987	1.000	3,987	
FY 89		1,007	0	1,007	1.000	1,007	
FY 90		3,113	0	3,113	1.000	3,113	
FY 91		10,488	3,908	6,580	1.000	6,580	
FY 92		1,704	0	1,704	1.000	1,704	
FY 93		4,288	0	4,288	1.000	4,288	
FY 94		4,069	0	4,069	1.000	4,069	
FY 95	897,739	2,097	0	2,097	1.000	2,097	2.34
FY 96	963,999	2,866	0	2,866	1.194	3,422	3.55
FY 97	968,655	3,273	0	3,273	1.216	3,980	4.11
FY 98	975,030	3,393	0	3,393	1.238	4,201	4.31
FY 99	980,644	1,546	0	1,546	1.293	1,999	2.04
FY 00	930,213	4,619	424	4,195	1.396	5,064	5.44
FY 01	932,434	1,665	0	1,665	1.554	2,587	2.77
FY 02	994,235	1,517	0	1,517	1.834	2,782	2.80
FY 03	1,031,211	886	0	886	2.420	2,144	2.08
FY 04	1,090,934	381	0	381	3.971	1,513	1.39
FY 05	1,130,693	49	0	49	8.760	429	0.38
Total FY 95-05	10,895,787	22,292	424	21,868		30,218	2.77
Total FY 95-03	8,674,160					28,276	3.26

Notes

- (1) The fiscal year FY85 runs from 7/1/84 - 6/30/85
- (2) From Exhibit B-2, Column (2)
- (3) Paid loss data provided by the City & County of Honolulu; evaluated as of 6/30/2005
- (4) Excess losses are those amounts greater than a \$2 million per loss retention limit
- (5) Calculated as Column (3) less the excess loss amount in Column (4)
- (6) Loss development factors are Insurance Industry factors
- (7) Calculated as the product of columns (5) and (6)
- (8) Calculated as the quotient of columns (7) and (2); presented per \$1,000 of operating budget

**City & County of Honolulu**  
 Captive Feasibility Study  
 General Liability  
 Incurred Loss Development Method  
 (Amounts are in thousands of dollars)

Exhibit B-5

Fiscal Period (1)	Operating Budget (2)	Incurred Loss (3)	Excess Loss (4)	Limited Incurred Loss (5)	Loss Development Factor (6)	Estimated Ultimate Loss (7)	Calculated Loss Rate (8)
FY 85		1,645	0	1,645	1.000	1,645	
FY 86		716	0	716	1.000	716	
FY 87		1,732	0	1,732	1.000	1,732	
FY 88		5,687	1,700	3,987	1.000	3,987	
FY 89		1,007	0	1,007	1.000	1,007	
FY 90		3,113	0	3,113	1.000	3,113	
FY 91		10,488	3,908	6,580	1.000	6,580	
FY 92		1,704	0	1,704	1.000	1,704	
FY 93		4,288	0	4,288	1.000	4,288	
FY 94		4,069	0	4,069	1.000	4,069	
FY 95	897,739	2,097	0	2,097	1.000	2,097	2.34
FY 96	963,999	2,951	0	2,951	1.077	3,178	3.30
FY 97	968,655	3,273	0	3,273	1.085	3,551	3.67
FY 98	975,030	4,369	0	4,369	1.093	4,775	4.90
FY 99	980,644	1,846	0	1,846	1.116	2,060	2.10
FY 00	930,213	5,576	424	5,152	1.155	5,641	6.06
FY 01	932,434	2,483	0	2,483	1.207	2,997	3.21
FY 02	994,235	1,943	0	1,943	1.297	2,520	2.53
FY 03	1,031,211	1,495	0	1,495	1.524	2,278	2.21
FY 04	1,090,934	3,590	0	3,590	1.997	7,169	6.57
FY 05	1,130,693	1,699	0	1,699	3.444	5,851	5.17
Total	10,895,787	31,322		30,898		42,117	3.87
Total FY 95-03	8,674,160					29,097	3.35

Notes

- (1) The fiscal year FY85 runs from 7/1/84 - 6/30/85
- (2) From Exhibit B-2, Column (2)
- (3) Incurred loss data provided by the City & County of Honolulu; evaluated as of 6/30/2005
- (4) Excess losses are those amounts greater than a \$2 million per loss retention limit
- (5) Calculated as Column (3) less the excess loss amount in Column (4)
- (6) Loss development factors are Insurance Industry factors
- (7) Calculated as the product of columns (5) and (6)
- (8) Calculated as the quotient of columns (7) and (2); presented per \$1,000 of operating budget

**City & County of Honolulu**  
 Captive Feasibility Study  
 General Liability  
 Expected Loss and Development Method - Paid Loss  
 (Amounts are in thousands of dollars)

Exhibit B-6

Fiscal Period (1)	Operating Budget (2)	Prior Estimate Loss Rate (3)	Loss Development Factor (4)	Expected % Unreported (5)	Expected Development (6)	Limited Paid Loss (7)	Estimated Ultimate Loss (8)	Indicated Loss Rate (9)
FY 95	897,739	3.20	1.000	0.0%	0	2,097	2,097	2.34
FY 96	963,999	3.23	1.194	16.2%	507	2,866	3,373	3.50
FY 97	968,655	3.27	1.216	17.8%	562	3,273	3,835	3.96
FY 98	975,030	3.30	1.238	19.2%	619	3,393	4,012	4.11
FY 99	980,644	3.34	1.293	22.7%	742	1,546	2,288	2.33
FY 00	930,213	3.38	1.396	28.4%	891	4,195	5,086	5.47
FY 01	932,434	3.41	1.554	35.6%	1,134	1,665	2,799	3.00
FY 02	994,235	3.45	1.834	45.5%	1,559	1,517	3,076	3.09
FY 03	1,031,211	3.49	2.420	58.7%	2,109	886	2,995	2.90
FY 04	1,090,934	3.52	3.971	74.8%	2,876	381	3,257	2.99
FY 05	1,130,693	3.56	8.760	88.6%	3,567	49	3,616	3.20
Total	10,895,787				14,566	21,868	36,434	3.34

Notes

- (1) The fiscal year FY95 runs from 7/1/94 - 6/30/95
- (2) From Exhibit B-2, Column (2)
- (3) The prior estimate loss rate is the selected rate of \$3.60 per \$1,000 of budget for fiscal year 06; detrended for each fiscal period
- (4) From Exhibit B-4, Column (6)
- (5) Calculated as 1.000 less the reciprocal of the factor in Column (4):  $1.000 - 1/(4)$
- (6) Calculated as the product of columns (2), (3) and (5), in thousands of dollars
- (7) From Exhibit B-4, Column (5)
- (8) Calculated as the sum of Columns (6) and (7)
- (9) Calculated as the quotient of columns (8) and (2); presented per \$1,000 of operating budget

**City & County of Honolulu**

Captive Feasibility Study

General Liability

Expected Loss and Development Method - Incurred Loss

(Amounts are in thousands of dollars)

Exhibit B-7

Fiscal Period (1)	Operating Budget (2)	Prior Estimate Loss Rate (3)	Loss Development Factor (4)	Expected % Unreported (5)	Expected Development (6)	Limited Incurred Loss (7)	Estimated Ultimate Loss (8)	Indicated Loss Rate (9)
FY 95	897,739	3.20	1.000	0.0%	0	2,097	2,097	2.34
FY 96	963,999	3.23	1.077	7.1%	223	2,951	3,174	3.29
FY 97	968,655	3.27	1.085	7.8%	248	3,273	3,521	3.63
FY 98	975,030	3.30	1.093	8.5%	274	4,369	4,643	4.76
FY 99	980,644	3.34	1.116	10.4%	340	1,846	2,186	2.23
FY 00	930,213	3.38	1.155	13.4%	421	5,152	5,573	5.99
FY 01	932,434	3.41	1.207	17.1%	546	2,483	3,029	3.25
FY 02	994,235	3.45	1.297	22.9%	785	1,943	2,728	2.74
FY 03	1,031,211	3.49	1.524	34.4%	1,236	1,495	2,731	2.65
FY 04	1,090,934	3.52	1.997	49.9%	1,919	3,590	5,509	5.05
FY 05	1,130,693	3.56	3.444	71.0%	2,858	1,699	4,557	4.03
Total	10,895,787				8,850	28,801	37,651	3.46

Notes

(1) The fiscal year FY95 runs from 7/1/94 - 6/30/95

(2) From Exhibit B-2, Column (2)

(3) The prior estimate loss rate is the selected rate of \$3.60 per \$1,000 of budget for fiscal year 06; detrended for each fiscal period

(4) From Exhibit B-5, Column (6)

(5) Calculated as 1.000 less the reciprocal of the factor in Column (4):  $1.000 - 1/(4)$

(6) Calculated as the product of columns (2), (3) and (5), in thousands of dollars

(7) From Exhibit B-5, Column (5)

(8) Calculated as the sum of Columns (6) and (7)

(9) Calculated as the quotient of columns (8) and (2); presented per \$1,000 of operating budget

**City & County of Honolulu**

Exhibit B-8

Captive Feasibility Study

General Liability

Estimated Ultimate Losses

(Amounts are in thousands of dollars)

Fiscal Period (1)	Estimated Ultimate Loss B-4 (2)	Estimated Ultimate Loss B-5 (3)	Estimated Ultimate Loss B-6 (4)	Estimated Ultimate Loss B-7 (5)	Average (6)	Selected (7)
FY 85	1,645	1,645			1,645	1,645
FY 86	716	716			716	716
FY 87	1,732	1,732			1,732	1,732
FY 88	3,987	3,987			3,987	3,987
FY 89	1,007	1,007			1,007	1,007
FY 90	3,113	3,113			3,113	3,113
FY 91	6,580	6,580			6,580	6,580
FY 92	1,704	1,704			1,704	1,704
FY 93	4,288	4,288			4,288	4,288
FY 94	4,069	4,069			4,069	4,069
FY 95	2,097	2,097	2,097	2,097	2,097	2,097
FY 96	3,422	3,178	3,373	3,174	3,287	3,287
FY 97	3,980	3,551	3,835	3,521	3,722	3,722
FY 98	4,201	4,775	4,012	4,643	4,408	4,408
FY 99	1,999	2,060	2,288	2,186	2,133	2,133
FY 00	5,064	5,641	5,086	5,573	5,341	5,341
FY 01	2,587	2,997	2,799	3,029	2,853	2,853
FY 02	2,782	2,520	3,076	2,728	2,777	2,777
FY 03	2,144	2,278	2,995	2,731	2,537	2,537
FY 04	1,513	7,169	3,257	5,509	4,362	5,312
FY 05	429	5,851	3,616	4,557	3,613	4,675
Total	59,059	70,958	36,434	39,748	65,970	67,981

Notes

- (1) The fiscal year FY85 runs from 7/1/84 - 6/30/85
- (2) From Exhibit B-4, Column (7)
- (3) From Exhibit B-5, Column (7)
- (4) From Exhibit B-6, Column (8)
- (5) From Exhibit B-7, Column (8)
- (6) The average of the amounts in Columns (2) - (5)

**City & County of Honolulu**

Exhibit B-9

Captive Feasibility Study

General Liability

Historical Loss Rates

(Amounts are in thousands of dollars)

Fiscal Period (1)	Operating Budget (2)	Estimated Ultimate Loss (3)	Indicated Loss Rate (4)
FY 95	897,739	2,097	2.34
FY 96	963,999	3,287	3.41
FY 97	968,655	3,722	3.84
FY 98	975,030	4,408	4.52
FY 99	980,644	2,133	2.18
FY 00	930,213	5,341	5.74
FY 01	932,434	2,853	3.06
FY 02	994,235	2,777	2.79
FY 03	1,031,211	2,537	2.46
FY 04	1,090,934	5,312	4.87
FY 05	1,130,693	4,675	4.13
Total	10,895,787	39,140	3.59

Notes

(1) The fiscal year FY95 runs from 7/1/94 - 6/30/95

(2) From Exhibit B-2, Column (2)

(3) From Exhibit B-8, Column (7)

(4) Calculated as the quotient of columns (3) and (2); presented per \$1,000 of operating budget

**City & County of Honolulu**  
 Captive Feasibility Study  
 General Liability  
 Estimated Ultimate Severity  
 (Amounts are in thousands of dollars)

Exhibit B-10

Fiscal Period (1)	Estimated Ultimate Loss (2)	Claim Counts (3)	Ultimate Severity (4)
FY 85	1,645	210	7.833
FY 86	716	201	3.562
FY 87	1,732	212	8.170
FY 88	3,987	237	16.823
FY 89	1,007	232	4.341
FY 90	3,113	236	13.191
FY 91	6,580	274	24.015
FY 92	1,704	211	8.076
FY 93	4,288	312	13.744
FY 94	4,069	324	12.559
FY 95	2,097	312	6.721
FY 96	3,287	306	10.741
FY 97	3,722	339	10.979
FY 98	4,408	392	11.244
FY 99	2,133	252	8.465
FY 00	5,341	242	22.070
FY 01	2,853	351	8.128
FY 02	2,777	271	10.245
FY 03	2,537	275	9.225
FY 04	5,312	507	10.477
FY 05	4,675	368	12.703
Total	67,981	6,064	11.211

Notes

- (1) The fiscal year FY85 runs from 7/1/84 - 6/30/85
- (2) From Exhibit B-8, Column (7)
- (3) Claim counts data are for claims with an indemnity cost greater than zero; amounts are evaluated as of 6/30/2005; data provided by the City & County of Honolulu
- (4) The quotient of Columns (2) and (3)



**City & County of Honolulu**  
 Captive Feasibility Study  
 General Liability  
 Selected Severity & Loss Trend Index  
 (Amounts are in thousands of dollars)

Exhibit B-11

Fiscal Period (1)	Ultimate Severity (2)	Smoothed Severity (3)	% Change (4)	Cumulative Index (5)
FY 85	7.833	6.721		1.938
FY 86	3.562	6.936	3.2%	1.878
FY 87	8.170	7.158	3.2%	1.819
FY 88	16.823	7.387	3.2%	1.763
FY 89	4.341	7.623	3.2%	1.708
FY 90	13.191	7.867	3.2%	1.655
FY 91	24.015	8.119	3.2%	1.604
FY 92	8.076	8.379	3.2%	1.554
FY 93	13.744	8.647	3.2%	1.506
FY 94	12.559	8.924	3.2%	1.459
FY 95	6.721	9.209	3.2%	1.414
FY 96	10.741	9.504	3.2%	1.370
FY 97	10.979	9.808	3.2%	1.328
FY 98	11.244	10.122	3.2%	1.287
FY 99	8.465	10.446	3.2%	1.247
FY 00	22.070	10.780	3.2%	1.208
FY 01	8.128	11.125	3.2%	1.171
FY 02	10.245	11.481	3.2%	1.134
FY 03	9.225	11.849	3.2%	1.099
FY 04	10.477	12.228	3.2%	1.065
FY 05	12.703	12.619	3.2%	1.032
FY 06 est		13.023	3.2%	
Projected FY 07		13.440	3.2%	

Notes

- (1) The fiscal year FY85 runs from 7/1/84 - 6/30/85
- (2) From Exhibit B-10, Column (4)
- (3) Smoothed from the data in Column (2)
- (4) Change in severity values between consecutive years in Column (3)
- (5) Calculated as the factor in Column (4) multiplied by the subsequent year

**City & County of Honolulu**

Exhibit B-12

Captive Feasibility Study

General Liability

Projected Losses Ten Year Period FY 07 - 16

(Amounts are in thousands of dollars)

Fiscal Period (1)	Operating Budget (2)	Projected Losses (3)	Projected Loss Rate (4)
FY 07	1,302,628	4,902	3.76
FY 08	1,341,706	5,059	3.77
FY 09	1,381,958	5,221	3.78
FY 10	1,423,416	5,388	3.79
FY 11	1,466,119	5,560	3.79
FY 12	1,510,102	5,738	3.80
FY 13	1,555,405	5,922	3.81
FY 14	1,602,068	6,111	3.81
FY 15	1,650,130	6,307	3.82
FY 16	1,699,634	6,509	3.83
Total	14,933,166	56,715	3.80

Notes

(1) The fiscal year FY07 runs from 7/1/06 - 6/30/07

(2) FY 07 estimate is from Exhibit B-2; subsequent years are projected at 103% of the prior year estimate

(3) FY 07 calculated by multiplying the FY 07 projected claim counts from Exhibit B-3 by the FY 07 projected severity in Exhibit B-11; subsequent years are trended by 3.2%

(4) Calculated as the quotient of Columns (3) and (2) presented per \$1,000 of operating budget

## **Appendix C**

### Automobile Liability Projected Loss Exhibits

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**City & County of Honolulu**  
 Captive Feasibility Study  
 Projected Auto Liability Loss Payment Schedule  
 (Amounts are in thousands of dollars)

Exhibit C-1

Policy/ Fiscal Period (1)	Projected Losses (2)	FY 07 (3)	FY 08 (4)	FY09 (5)	FY 10 (6)	FY 11 (7)	FY 12 (8)	FY 13 (9)	FY 14 (10)	FY 15 (11)	FY 16 (12)
FY 07	1,277	236	373	316	206	61	56	22	6	0	0
FY 08	1,315		243	384	325	213	63	58	23	7	0
FY 09	1,355			250	396	335	219	65	59	24	7
FY 10	1,396				258	408	345	226	67	61	24
FY 11	1,437					266	420	355	232	69	63
FY 12	1,481						274	433	366	239	71
FY 13	1,525							282	445	377	246
FY 14	1,571								290	459	388
FY 15	1,618									299	473
FY 16	1,666										308
<b>Total</b>	<b>14,641</b>	<b>236</b>	<b>616</b>	<b>950</b>	<b>1,185</b>	<b>1,282</b>	<b>1,376</b>	<b>1,440</b>	<b>1,490</b>	<b>1,534</b>	<b>1,580</b>

**Notes**

- (1) Fiscal year 07 runs from 7/1/06 - 6/30/07
- (2) Projected losses are from Exhibit C-11, Column (3)
- (3) - (12) Based upon Insurance Industry loss payment patterns

**City & County of Honolulu**  
 Captive Feasibility Study  
 Auto Liability  
 Operating Budget and Exposure Trend  
 (Amounts are in thousands of dollars)

Exhibit C-2

Fiscal Period (1)	Power Units (2)	% Change Budget (3)	FTE (4)	% Change FTE (5)	Average # Power Units per FTE (6)
FY 95	2,327		10,041		
FY 96	2,349	1.0%	9,977	-0.6%	0.24
FY 97	2,335	-0.6%	10,104	1.3%	0.23
FY 98	2,335	0.0%	10,104	0.0%	0.23
FY 99	2,430	4.1%	9,808	-2.9%	0.25
FY 00	2,400	-1.2%	10,082	2.8%	0.24
FY 01	2,617	9.0%	9,665	-4.1%	0.27
FY 02	2,712	3.6%	9,855	2.0%	0.28
FY 03	2,672	-1.5%	9,921	0.7%	0.27
FY 04	2,660	-0.4%	9,972	0.5%	0.27
FY 05	2,623	-1.4%	9,993	0.2%	0.26
FY 06 est	2,600	-0.9%	10,054	0.6%	0.26
Projected FY 07	2,600	0.0%	10,099	0.4%	0.26

Notes

- (1) The fiscal year FY95 runs from 7/1/94 - 6/30/95
- (2) Power units figures are in thousands of dollars; FY 06 est and prior fiscal years provided by City & County of Honolulu
- (3) Change in budget values between consecutive years in Column (2)
- (4) FTE provided by City & County of Honolulu
- (5) Change in FTE values between consecutive years in Column (4)
- (6) The quotient of Columns (2) and (4): (2)/(4)

**City & County of Honolulu**

Exhibit C-3

Captive Feasibility Study

Auto Liability

Claim Frequency

(Amounts are in thousands of dollars)

Fiscal Period (1)	Power Units (2)	Claim Counts with Cost (3)	Claim Frequency Budget Based (4)	FTE (5)	Claim Frequency FTE Based (6)
FY 95	2,327	230	9.884%	10,041	2.291%
FY 96	2,349	233	9.919%	9,977	2.335%
FY 97	2,335	219	9.379%	10,104	2.167%
FY 98	2,335	199	8.522%	10,104	1.970%
FY 99	2,430	156	6.420%	9,808	1.591%
FY 00	2,400	228	9.500%	10,082	2.261%
FY 01	2,617	217	8.292%	9,665	2.245%
FY 02	2,712	192	7.080%	9,855	1.948%
FY 03	2,672	199	7.448%	9,921	2.006%
FY 04	2,660	206	7.744%	9,972	2.066%
FY 05	2,623	195	7.434%	9,993	1.951%
<b>Total</b>	<b>27,460</b>	<b>2,274</b>	<b>8.281%</b>	<b>109,522</b>	<b>2.076%</b>
FY 06 est	2,600	196	7.542%	10,054	1.950%
Projected FY 07	2,600	196	7.542%	10,099	1.942%

Notes

(1) The fiscal year FY95 runs from 7/1/94 - 6/30/95

(2) From Exhibit C-2, Column (2)

(3) Claim counts data are for claims with an indemnity cost greater than zero; amounts are evaluated as of 6/30/2005; data provided by the City & County of Honolulu

(4) Calculated as the quotient of Columns (3) and (2): (3)/(2)

(5) From Exhibit C-2, Column (4)

(6) The quotient and Columns (3) and (5): (3)/(5)

**City & County of Honolulu**  
 Captive Feasibility Study  
 Auto Liability  
 Paid Loss Development Method  
 (Amounts are in thousands of dollars)

Exhibit C-4

Fiscal Period (1)	Power Units (2)	Paid Loss (3)	Excess Loss (4)	Limited Paid Loss (5)	Loss Development Factor (6)	Estimated Ultimate Loss (7)	Calculated Loss Rate (8)
FY 88		915	0	915	1.000	915	
FY 89		1,090	0	1,090	1.000	1,090	
FY 90		1,140	0	1,140	1.000	1,140	
FY 91		1,143	0	1,143	1.000	1,143	
FY 92		1,015	0	1,015	1.000	1,015	
FY 93		874	0	874	1.000	874	
FY 94		2,071	0	2,071	1.000	2,071	
FY 95	2,327	1,640	0	1,640	1.000	1,640	0.71
FY 96	2,349	2,195	0	2,195	1.000	2,195	0.93
FY 97	2,335	1,737	0	1,737	1.000	1,737	0.74
FY 98	2,335	2,467	0	2,467	1.000	2,467	1.06
FY 99	2,430	497	0	497	1.000	497	0.21
FY 00	2,400	548	0	548	1.058	580	0.24
FY 01	2,617	379	0	379	1.109	420	0.16
FY 02	2,712	908	0	908	1.220	1,108	0.41
FY 03	2,672	555	0	555	1.472	817	0.31
FY 04	2,660	376	0	376	2.095	788	0.30
FY 05	2,623	137	0	137	4.380	600	0.23
Total FY 95-05	27,460	11,439	0	11,439		12,849	0.47

Notes

- (1) The fiscal year FY88 runs from 7/1/87 - 6/30/88
- (2) From Exhibit C-2, Column (2)
- (3) Paid loss data provided by the City & County of Honolulu; evaluated as of 6/30/2005
- (4) Excess losses are those amounts greater than a \$2 million per loss retention limit
- (5) Calculated as Column (3) less the excess loss amount in Column (4)
- (6) Loss development factors are Insurance Industry factors
- (7) Calculated as the product of columns (5) and (6)
- (8) Calculated as the quotient of columns (7) and (2)



**City & County of Honolulu**

Exhibit C-5

Captive Feasibility Study

Auto Liability

Incurred Loss Development Method

(Amounts are in thousands of dollars)

Fiscal Period (1)	Power Units (2)	Incurred Loss (3)	Excess Loss (4)	Limited Incurred Loss (5)	Loss Development Factor (6)	Estimated Ultimate Loss (7)	Calculated Loss Rate (8)
FY 88		915	0	915	1.000	915	
FY 89		1,090	0	1,090	1.000	1,090	
FY 90		1,140	0	1,140	1.000	1,140	
FY 91		1,143	0	1,143	1.000	1,143	
FY 92		1,015	0	1,015	1.000	1,015	
FY 93		874	0	874	1.000	874	
FY 94		2,071	0	2,071	1.000	2,071	
FY 95	2,327	1,640	0	1,640	1.000	1,640	0.71
FY 96	2,349	2,195	0	2,195	1.000	2,195	0.93
FY 97	2,335	1,737	0	1,737	1.000	1,737	0.74
FY 98	2,335	2,467	0	2,467	1.000	2,467	1.06
FY 99	2,430	497	0	497	1.000	497	0.21
FY 00	2,400	1,658	0	1,658	1.016	1,685	0.70
FY 01	2,617	383	0	383	1.029	394	0.15
FY 02	2,712	913	0	913	1.059	967	0.36
FY 03	2,672	566	0	566	1.130	640	0.24
FY 04	2,660	432	0	432	1.300	562	0.21
FY 05	2,623	176	0	176	1.785	314	0.12
<b>Total</b>	<b>27,460</b>	<b>12,664</b>		<b>12,664</b>		<b>13,098</b>	<b>0.48</b>

Notes

(1) The fiscal year FY88 runs from 7/1/87 - 6/30/88

(2) From Exhibit C-2, Column (2)

(3) Incurred loss data provided by the City & County of Honolulu; evaluated as of 6/30/2005

(4) Excess losses are those amounts greater than a \$2 million per loss retention limit

(5) Calculated as Column (3) less the excess loss amount in Column (4)

(6) Loss development factors are Insurance Industry factors

(7) Calculated as the product of columns (5) and (6)

(8) Calculated as the quotient of columns (7) and (2)

**City & County of Honolulu**

Exhibit C-6

Captive Feasibility Study

Auto Liability

Expected Loss and Development Method - Paid Loss

(Amounts are in thousands of dollars)

Fiscal Period (1)	Power Units (2)	Prior Estimate Loss Rate (3)	Loss Development Factor (4)	Expected % Unreported (5)	Expected Development (6)	Limited Paid Loss (7)	Estimated Ultimate Loss (8)	Indicated Loss Rate (9)
FY 95	2,327	0.31	1.000	0.0%	0	1,640	1,640	0.71
FY 96	2,349	0.31	1.000	0.0%	0	2,195	2,195	0.93
FY 97	2,335	0.32	1.000	0.0%	0	1,737	1,737	0.74
FY 98	2,335	0.32	1.000	0.0%	0	2,467	2,467	1.06
FY 99	2,430	0.33	1.000	0.0%	0	497	497	0.21
FY 00	2,400	0.34	1.058	5.5%	44	548	592	0.25
FY 01	2,617	0.34	1.071	6.6%	60	379	439	0.17
FY 02	2,712	0.35	1.129	11.4%	109	908	1,017	0.38
FY 03	2,672	0.36	1.381	27.6%	264	555	819	0.31
FY 04	2,660	0.37	2.097	52.3%	508	376	884	0.33
FY 05	2,623	0.37	5.413	81.5%	797	137	934	0.36
<b>Total</b>	<b>27,460</b>				<b>1,782</b>	<b>11,439</b>	<b>13,221</b>	<b>0.48</b>

Notes

(1) The fiscal year FY95 runs from 7/1/94 - 6/30/95

(2) From Exhibit C-2, Column (2)

(3) The prior estimate loss rate is the selected rate of \$0.50; detrended for each fiscal period

(4) From Exhibit C-4, Column (6)

(5) Calculated as 1.000 less the reciprocal of the factor in Column (4):  $1.000 - 1/(4)$

(6) Calculated as the product of columns (2), (3) and (5)

(7) From Exhibit C-4, Column (5)

(8) Calculated as the sum of Columns (6) and (7)

(9) Calculated as the quotient of columns (8) and (2)

**City & County of Honolulu**

Captive Feasibility Study

Auto Liability

Expected Loss and Development Method - Incurred Loss

(Amounts are in thousands of dollars)

Exhibit C-7

Fiscal Period (1)	Power Units (2)	Prior Estimate Loss Rate (3)	Loss Development Factor (4)	Expected % Unreported (5)	Expected Development (6)	Limited Incurred Loss (7)	Estimated Ultimate Loss (8)	Indicated Loss Rate (9)
FY 95	2,327	0.31	1.000	0.0%	0	1,640	1,640	0.71
FY 96	2,349	0.31	1.000	0.0%	0	2,195	2,195	0.93
FY 97	2,335	0.32	1.000	0.0%	0	1,737	1,737	0.74
FY 98	2,335	0.32	1.000	0.0%	0	2,467	2,467	1.06
FY 99	2,430	0.33	1.000	0.0%	0	497	497	0.21
FY 00	2,400	0.34	1.016	1.6%	13	1,658	1,671	0.70
FY 01	2,617	0.34	1.029	2.8%	25	383	408	0.16
FY 02	2,712	0.35	1.059	5.6%	53	913	966	0.36
FY 03	2,672	0.36	1.130	11.5%	110	566	676	0.25
FY 04	2,660	0.37	1.300	23.1%	224	432	656	0.25
FY 05	2,623	0.37	1.785	44.0%	430	176	606	0.23
<b>Total</b>	<b>27,460</b>				<b>855</b>	<b>12,664</b>	<b>13,519</b>	<b>0.49</b>

Notes

(1) The fiscal year FY95 runs from 7/1/94 - 6/30/95

(2) From Exhibit C-2, Column (2)

(3) The prior estimate loss rate is the selected rate of \$0.50; detrended for each fiscal period

(4) From Exhibit C-5, Column (6)

(5) Calculated as 1.000 less the reciprocal of the factor in Column (4):  $1.000 - 1/(4)$

(6) Calculated as the product of columns (2), (3) and (5)

(7) From Exhibit C-5, Column (5)

(8) Calculated as the sum of Columns (6) and (7)

(9) Calculated as the quotient of columns (8) and (2)

**City & County of Honolulu**

Exhibit C-8

Captive Feasibility Study

Auto Liability

Estimated Ultimate Losses

(Amounts are in thousands of dollars)

Fiscal Period (1)	Estimated Ultimate Loss C-4 (2)	Estimated Ultimate Loss C-5 (3)	Estimated Ultimate Loss C-6 (4)	Estimated Ultimate Loss C-7 (5)	Average (6)	Selected (7)
FY 88	915	915			915	915
FY 89	1,090	1,090			1,090	1,090
FY 90	1,140	1,140			1,140	1,140
FY 91	1,143	1,143			1,143	1,143
FY 92	1,015	1,015			1,015	1,015
FY 93	874	874			874	874
FY 94	2,071	2,071			2,071	2,071
FY 95	1,640	1,640	1,640	1,640	1,640	1,640
FY 96	2,195	2,195	2,195	2,195	2,195	2,195
FY 97	1,737	1,737	1,737	1,737	1,737	1,737
FY 98	2,467	2,467	2,467	2,467	2,467	2,467
FY 99	497	497	497	497	497	497
FY 00	580	1,685	592	1,671	1,132	1,132
FY 01	420	394	439	408	415	415
FY 02	1,108	967	1,017	966	1,014	1,014
FY 03	817	640	819	676	738	738
FY 04	788	562	884	656	723	723
FY 05	600	314	934	606	613	613
Total	21,097	21,346	13,221	13,519	21,420	21,420

Notes

- (1) The fiscal year FY85 runs from 7/1/84 - 6/30/85
- (2) From Exhibit C-4, Column (7)
- (3) From Exhibit C-5, Column (7)
- (4) From Exhibit C-6, Column (8)
- (5) From Exhibit C-7, Column (8)
- (6) The average of the amounts in Columns (2) - (5)

**City & County of Honolulu**  
 Captive Feasibility Study  
 Auto Liability  
 Historical Loss Rates  
 (Amounts are in thousands of dollars)

Exhibit C-9

Fiscal Period (1)	Power Units (2)	Estimated Ultimate Loss (3)	Indicated Loss Rate (4)
FY 95	2,327	1,640	0.71
FY 96	2,349	2,195	0.93
FY 97	2,335	1,737	0.74
FY 98	2,335	2,467	1.06
FY 99	2,430	497	0.21
FY 00	2,400	1,132	0.47
FY 01	2,617	415	0.16
FY 02	2,712	1,014	0.37
FY 03	2,672	738	0.28
FY 04	2,660	723	0.27
FY 05	2,623	613	0.23
<b>Total</b>	<b>27,460</b>	<b>13,172</b>	<b>0.48</b>
Average FY 03-05			0.26

Notes

- (1) The fiscal year FY95 runs from 7/1/94 - 6/30/95
- (2) From Exhibit C-2, Column (2)
- (3) From Exhibit C-8, Column (7)

**City & County of Honolulu**  
 Captive Feasibility Study  
 Auto Liability  
 Estimated Ultimate Severity  
 (Amounts are in thousands of dollars)

Exhibit C-10

Fiscal Period (1)	Estimated Ultimate Loss (2)	Claim Counts (3)	Ultimate Severity (4)
FY 88	915	237	3.861
FY 89	1,090	232	4.698
FY 90	1,140	236	4.831
FY 91	1,143	274	4.172
FY 92	1,015	211	4.810
FY 93	874	312	2.801
FY 94	2,071	324	6.392
FY 95	1,640	312	5.256
FY 96	2,195	306	7.173
FY 97	1,737	339	5.124
FY 98	2,467	392	6.293
FY 99	497	252	1.972
FY 00	1,132	242	4.678
FY 01	415	351	1.183
FY 02	1,014	271	3.743
FY 03	738	275	2.684
FY 04	723	507	1.425
FY 05	613	368	1.667
Total	21,420	5,441	3.937

Notes

- (1) The fiscal year FY85 runs from 7/1/84 - 6/30/85
- (2) From Exhibit C-8, Column (7)
- (3) Claim counts data are for claims with an indemnity cost greater than zero; amounts are evaluated as of 6/30/2005; data provided by the City & County of Honolulu Risk Management Department
- (4) The quotient of Columns (2) and (3)

**City & County of Honolulu**

Exhibit C-11

Captive Feasibility Study

Auto Liability

Projected Losses Ten Year Period FY 07 - 16

(Loss amounts are in thousands of dollars)

Fiscal Period (1)	Power Units (2)	Projected Losses (3)	Projected Loss Rate (4)
FY 07	2,600	1,277	0.49
FY 08	2,600	1,315	0.51
FY 09	2,600	1,355	0.52
FY 10	2,600	1,396	0.54
FY 11	2,600	1,437	0.55
FY 12	2,600	1,481	0.57
FY 13	2,600	1,525	0.59
FY 14	2,600	1,571	0.60
FY 15	2,600	1,618	0.62
FY 16	2,600	1,666	0.64
Total	26,000	14,641	0.56

Notes

(1) The fiscal year FY07 runs from 7/1/06 - 6/30/07

(2) FY 07 estimate is from Exhibit C-2; subsequent years are projected at the same level

(3) FY 07 calculated by multiplying the FY 07 projected power units by the average loss rate in Exhibit C-9, trended to the FY 07 level and includes the HPD subfleet coverage projected loss from Exhibit C-12; subsequent years are trended 3.0% for inflation

(4) Calculated as the quotient of Columns (3) and (2)

**City & County of Honolulu**

Exhibit C-12

Captive Feasibility Study

Sub-Fleet

(Loss amounts are in thousands of dollars)

Fiscal Period (1)	Vehicle Count (2)	Incurred Loss (3)	Excess Loss (4)	Limited Loss (5)	Loss Development Factor (6)	Estimated Ultimate Loss (7)	Estimated Cost per Vehicle (8)
FY 03	2,672	578	136	443	1.130	500	187
FY 04	2,660	638	147	491	1.300	601	226
FY 05	2,623	373	35	338	1.785	573	218
Total	7,955	1,589	318	1,272		1,674	210
Selected for FY 07	2,600					572	220

Notes

(1) The fiscal year FY 03 runs from 7/1/02 - 6/30/03

(2)(3) Vehicle count and loss data provided by the City & County of Honolulu

(4) Individual losses are limited to \$25,000 per occurrence

(5) Calculated as the difference between Columns (3) and (4)

(6) Insurance industry loss development factors

(7) Calculated as the product of Columns (5) and (6); individual losses are limited to \$25,000 in total development

(8) Calculated as the quotient of Columns (7) and (2) adjusted to actual dollars



# **Appendix D**

## **Fund to Ultimate Pro Forma Financials**

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Fund to Ultimate Pro Formas

**City & County of Honolulu Captive  
Proforma Assumptions**

Investment return 3.50%  
Growth rate in administrative expenses 3.00%

Approximate premium to capital ratio - workers' compensation 4:1  
Approximate premium to capital ratio - general liability 5:1  
Approximate premium to capital ratio - automobile liability 5:1

No Federal income tax  
No Hawaii state premium tax

Claims administration done by present City and County staff  
Legal work done by City and County staff

Full reimbursement of administrative expenses

Projected losses and loss paid amounts per actuarial projections

City & County of Honolulu Captive  
 Total - in 000's of Dollars  
 10 Year Proforma Balance Sheet

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
<b>Assets:</b>										
Cash and investments	24,024	38,061	49,721	59,563	68,502	77,026	85,508	94,204	103,242	112,658
<b>Total assets</b>	<b>24,024</b>	<b>38,061</b>	<b>49,721</b>	<b>59,563</b>	<b>68,502</b>	<b>77,026</b>	<b>85,508</b>	<b>94,204</b>	<b>103,242</b>	<b>112,658</b>
<b>Liabilities:</b>										
Loss reserves	17,991	30,960	41,110	49,073	55,809	61,830	67,517	73,122	78,764	84,467
<b>Total liabilities</b>	<b>17,991</b>	<b>30,960</b>	<b>41,110</b>	<b>49,073</b>	<b>55,809</b>	<b>61,830</b>	<b>67,517</b>	<b>73,122</b>	<b>78,764</b>	<b>84,467</b>
<b>Shareholder's Equity:</b>										
Paid in capital - initial	5,525	5,525	5,525	5,525	5,525	5,525	5,525	5,525	5,525	5,525
Retained earnings - prior year	0	508	1,576	3,086	4,965	7,168	9,671	12,466	15,557	18,953
Current year profit (loss)	508	1,068	1,510	1,880	2,203	2,503	2,795	3,091	3,396	3,713
<b>Total shareholders' equity</b>	<b>6,033</b>	<b>7,101</b>	<b>8,611</b>	<b>10,490</b>	<b>12,693</b>	<b>15,196</b>	<b>17,991</b>	<b>21,082</b>	<b>24,478</b>	<b>28,191</b>
<b>Total liabilities and shareholders' equity</b>	<b>24,024</b>	<b>38,061</b>	<b>49,721</b>	<b>59,563</b>	<b>68,502</b>	<b>77,026</b>	<b>85,508</b>	<b>94,204</b>	<b>103,242</b>	<b>112,658</b>

**City & County of Honolulu Captive  
Total - in 000's of Dollars  
10-year Statement of Operations**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
<b>Revenues</b>										
Loss funding	\$ 22,269	\$ 23,038	\$ 23,835	\$ 24,659	\$ 25,510	\$ 26,392	\$ 27,304	\$ 28,248	\$ 29,224	\$ 30,234
Management and administrative	200	207	215	223	231	240	248	257	267	275
Special fund assessment	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Premiums earned	23,469	24,245	25,050	25,882	26,741	27,632	28,552	29,505	30,491	31,509
<b>Losses:</b>										
Change in Outstanding Loss Reserves	22,269	23,038	23,835	24,659	25,510	26,392	27,304	28,248	29,224	30,234
Losses incurred	22,269	23,038	23,835	24,659	25,510	26,392	27,304	28,248	29,224	30,234
<b>Expenses:</b>										
Management and administrative	200	207	215	223	231	240	248	257	267	275
Special fund assessment	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Total expenses	1,200	1,207	1,215	1,223	1,231	1,240	1,248	1,257	1,267	1,275
Underwriting profit (loss)	0	0	0	0	0	0	0	0	0	0
Investment income	508	1,068	1,510	1,880	2,203	2,503	2,795	3,091	3,396	3,713
Net income	508	1,068	1,510	1,880	2,203	2,503	2,795	3,091	3,396	3,713

**City & County of Honolulu Captive  
Total - in 000's of Dollars  
10-year Cash Flow**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
Beginning cash & investments	5,525	24,024	38,061	49,721	59,563	68,502	77,026	85,508	94,205	103,242
Net premiums written	23,469	24,245	25,050	25,882	26,741	27,632	28,552	29,505	30,491	31,509
Losses paid	(4,278)	(10,069)	(13,685)	(16,696)	(18,774)	(20,371)	(21,617)	(22,642)	(23,583)	(24,531)
Expenses	(1,200)	(1,207)	(1,215)	(1,223)	(1,231)	(1,240)	(1,248)	(1,257)	(1,267)	(1,275)
(A) Ending cash before tax payments and investment income	23,516	36,993	48,211	57,684	66,299	74,523	82,713	91,114	99,846	108,945
Average cash balance	14,521	30,509	43,136	53,702	62,931	71,512	79,869	88,311	97,026	106,094
Investment return rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
(B) Investment income	508	1,068	1,510	1,880	2,203	2,503	2,795	3,091	3,396	3,713
Ending cash (A) + (B)	24,024	38,061	49,721	59,563	68,502	77,026	85,508	94,205	103,242	112,658

Specialty Insurance Company of Hawaii, Inc.  
 Captive Proforma - Total Loss Reserve

	Total Projected															
	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	Total Paid					
Paid																
FY 07	22,269	4,278	5,643	3,265	2,536	1,496	949	540	279	155	137	19,278				
FY 08	23,038		4,426	5,839	3,376	2,624	1,548	981	558	290	160	19,802				
FY 09	23,835			4,581	6,043	3,493	2,713	1,601	1,014	577	298	20,320				
FY 10	24,659				4,741	6,254	3,612	2,807	1,655	1,049	595	20,713				
FY 11	25,510					4,907	3,735	2,903	1,712	1,085	595	20,813				
FY 12	26,392						6,698	3,864	3,003	1,771	2,041	20,414				
FY 13	27,304						5,255	6,930	3,996	3,105	19,286					
FY 14	28,248							5,439	7,173	4,132	16,744					
FY 15	29,224								5,628	7,423	13,051					
FY 16	30,234									5,825	5,825					
Total paid	260,713	4,278	10,069	13,685	16,696	18,774	20,371	21,617	22,642	23,583	24,531	176,246				
Cumulative total		4,278	14,347	28,032	44,728	63,502	83,873	105,490	128,132	151,715	176,246					
Loss reserve and IBNR		17,991	12,348	9,083	6,547	5,051	4,102	3,562	3,282	3,127	2,990	68,083				
FY 07																
FY 08			18,612	12,773	9,397	6,773	5,225	4,244	3,686	3,397	3,237	67,344				
FY 09				19,254	13,211	9,718	7,005	5,404	4,390	3,813	3,515	66,310				
FY 10					19,918	13,664	10,052	7,245	5,590	4,541	3,946	64,956				
FY 11						20,603	14,132	10,397	7,494	5,782	4,697	63,105				
FY 12							21,314	14,616	10,752	7,749	5,978	60,409				
FY 13								22,049	15,119	11,123	8,018	56,309				
FY 14									22,809	15,636	11,504	49,949				
FY 15										23,596	16,173	39,769				
FY 16											24,409	24,409				
Total loss reserve and IBNR	0	17,991	30,960	41,110	49,073	55,809	61,830	67,517	73,122	78,764	84,467	560,643				
Total paid and change in loss reserve	260,713	22,269	41,029	54,795	65,769	74,583	82,201	89,134	95,764	102,347	108,998	736,889				
Cumulative total		17,991	48,951	90,061	139,134	194,943	256,773	324,290	397,412	476,176	560,643					

**City & County of Honolulu Captive  
Workers' Compensation - in 000's of Dollars  
10 Year Proforma Balance Sheet**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
<b>Assets:</b>										
Cash and investments	16,969	26,174	33,812	40,247	46,125	51,821	57,619	63,656	69,962	76,573
<b>Total assets</b>	<b>16,969</b>	<b>26,174</b>	<b>33,812</b>	<b>40,247</b>	<b>46,125</b>	<b>51,821</b>	<b>57,619</b>	<b>63,656</b>	<b>69,962</b>	<b>76,573</b>
<b>Liabilities:</b>										
Loss reserves - FY 07	12,608	8,013	5,855	4,172	3,219	2,683	2,445	2,340	2,257	2,194
Loss reserves - FY 08		13,058	8,299	6,064	4,321	3,333	2,778	2,532	2,423	2,337
Loss reserves - FY 09			13,524	8,596	6,281	4,476	3,453	2,878	2,623	2,511
Loss reserves - FY 10				14,007	8,903	6,506	4,636	3,577	2,981	2,717
Loss reserves - FY 11					14,507	9,221	6,738	4,801	3,704	3,087
Loss reserves - FY 12						15,024	9,549	6,977	4,971	3,835
Loss reserves - FY 13							15,560	9,890	7,227	5,150
Loss reserves - FY 14								16,115	10,242	7,484
Loss reserves - FY 15									16,690	10,608
Loss reserves - FY 16										17,285
<b>Total liabilities</b>	<b>12,608</b>	<b>21,071</b>	<b>27,678</b>	<b>32,839</b>	<b>37,231</b>	<b>41,243</b>	<b>45,159</b>	<b>49,110</b>	<b>53,118</b>	<b>57,208</b>
<b>Shareholder's Equity:</b>										
Paid in capital - initial	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
Retained earnings - prior year	0	361	1,103	2,134	3,408	4,894	6,578	8,460	10,546	12,844
Current year profit (loss)	361	742	1,032	1,274	1,486	1,685	1,882	2,086	2,298	2,520
<b>Total shareholders' equity</b>	<b>4,361</b>	<b>5,103</b>	<b>6,134</b>	<b>7,408</b>	<b>8,894</b>	<b>10,578</b>	<b>12,460</b>	<b>14,546</b>	<b>16,844</b>	<b>19,365</b>
<b>Total liabilities and shareholders' equity</b>	<b>16,969</b>	<b>26,174</b>	<b>33,812</b>	<b>40,247</b>	<b>46,125</b>	<b>51,821</b>	<b>57,619</b>	<b>63,656</b>	<b>69,962</b>	<b>76,573</b>



**City & County of Honolulu Captive  
Workers' Compensation - in 000's of Dollars  
10-year Statement of Operations**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
<b>Revenues</b>										
Loss funding	\$ 16,090	\$ 16,664	\$ 17,259	\$ 17,875	\$ 18,513	\$ 19,173	\$ 19,857	\$ 20,566	\$ 21,299	\$ 22,059
Management and administrative	130	135	139	144	149	154	160	165	171	177
Special fund assessment	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Premiums earned	17,220	17,799	18,398	19,019	19,662	20,327	21,017	21,731	22,470	23,236
<b>Losses:</b>										
Change in Outstanding Loss Reserves	16,090	16,664	17,259	17,875	18,513	19,173	19,857	20,566	21,299	22,059
Losses incurred	16,090	16,664	17,259	17,875	18,513	19,173	19,857	20,566	21,299	22,059
<b>Expenses:</b>										
Management and administrative	130	135	139	144	149	154	160	165	171	177
Special fund assessment	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Total expenses	1,130	1,135	1,139	1,144	1,149	1,154	1,160	1,165	1,171	1,177
Underwriting profit (loss)	0	0	0	0	0	0	0	0	0	0
Investment income	361	742	1,032	1,274	1,486	1,685	1,882	2,086	2,298	2,520
Net income	361	742	1,032	1,274	1,486	1,685	1,882	2,086	2,298	2,520

City & County of Honolulu Captive  
 Workers' Compensation - in 000's of Dollars  
 10-year Cash Flow

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
Beginning cash & investments	4,000	16,969	26,174	33,812	40,247	46,125	51,821	57,619	63,656	69,962
Net premiums written	17,220	17,799	18,398	19,019	19,662	20,327	21,017	21,731	22,470	23,236
Losses paid	(3,482)	(8,201)	(10,652)	(12,714)	(14,121)	(15,161)	(15,941)	(16,615)	(17,291)	(17,969)
Expenses	(1,130)	(1,135)	(1,139)	(1,144)	(1,149)	(1,154)	(1,160)	(1,165)	(1,171)	(1,177)
(A) Ending cash before tax payments and investment income	16,608	25,432	32,781	38,973	44,639	50,137	55,737	61,570	67,664	74,052
Average cash balance	10,304	21,200	29,477	36,393	42,443	48,131	53,779	59,595	65,660	72,007
Investment return rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
(B) Investment income	361	742	1,032	1,274	1,486	1,685	1,882	2,086	2,298	2,520
Ending cash (A) + (B)	16,969	26,174	33,812	40,247	46,125	51,821	57,619	63,656	69,962	76,573

Specialty Insurance Company of Hawaii, Inc.  
 Captive Proforma - WC Loss Reserve

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	Total Paid
<b>Total Projected Losses</b>											
Paid											
FY 07	16,090	3,482	4,595	2,158	1,683	953	238	105	83	63	13,896
FY 08	16,664		4,759	2,235	1,743	988	555	246	109	86	14,327
FY 09	17,259	3,606	3,735	4,928	2,315	1,805	1,023	575	255	112	14,748
FY 10	17,875			3,868	5,104	2,397	1,870	1,059	596	264	15,158
FY 11	18,513				4,006	5,286	2,483	1,937	1,097	617	15,426
FY 12	19,173					4,149	5,475	2,572	2,006	1,136	15,338
FY 13	19,857						4,297	5,670	2,663	2,077	14,707
FY 14	20,566							4,451	5,873	2,758	13,082
FY 15	21,299								4,609	6,082	10,691
FY 16	22,059									4,774	4,774
<b>Total paid</b>	<b>189,355</b>	<b>3,482</b>	<b>8,201</b>	<b>10,652</b>	<b>12,714</b>	<b>14,121</b>	<b>15,161</b>	<b>16,615</b>	<b>17,291</b>	<b>17,969</b>	<b>132,147</b>
<b>Cumulative total</b>	<b>189,355</b>	<b>11,883</b>	<b>22,335</b>	<b>35,049</b>	<b>49,170</b>	<b>64,331</b>	<b>80,272</b>	<b>96,887</b>	<b>114,178</b>	<b>132,147</b>	<b>0</b>
<b>Loss reserve and IBNR</b>											
FY 07	12,608	8,013	5,855	4,172	3,219	2,683	2,445	2,340	2,257	2,194	45,786
FY 08		13,058	8,299	6,064	4,321	3,333	2,778	2,532	2,423	2,337	45,145
FY 09			13,524	8,596	6,281	4,476	3,453	2,878	2,623	2,511	44,342
FY 10				14,007	8,903	6,506	4,636	3,577	2,981	2,717	43,327
FY 11					14,507	9,221	6,738	4,801	3,704	3,087	42,058
FY 12						15,024	9,549	6,977	4,971	3,835	40,356
FY 13							15,560	9,890	7,227	5,150	37,827
FY 14								16,115	10,242	7,484	33,841
FY 15									16,690	10,608	27,298
FY 16										17,285	17,285
<b>Total loss reserve and IBNR</b>	<b>0</b>	<b>12,608</b>	<b>21,071</b>	<b>27,678</b>	<b>32,839</b>	<b>37,231</b>	<b>41,243</b>	<b>45,159</b>	<b>53,118</b>	<b>57,208</b>	<b>377,265</b>
<b>Total paid and change in loss reserve</b>	<b>189,355</b>	<b>16,090</b>	<b>29,272</b>	<b>38,330</b>	<b>45,553</b>	<b>51,352</b>	<b>56,404</b>	<b>61,100</b>	<b>70,409</b>	<b>75,177</b>	<b>509,412</b>
<b>Cumulative total</b>	<b>12,608</b>	<b>33,679</b>	<b>61,357</b>	<b>94,196</b>	<b>131,427</b>	<b>172,670</b>	<b>217,829</b>	<b>266,939</b>	<b>320,057</b>	<b>377,265</b>	

**City & County of Honolulu Captive  
General Liability - in 000's of Dollars  
10 Year Proforma Balance Sheet**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
<b>Assets:</b>										
Cash and investments	5,686	9,758	13,293	16,395	19,197	21,807	24,287	26,736	29,249	31,827
<b>Total assets</b>	<b>5,686</b>	<b>9,758</b>	<b>13,293</b>	<b>16,395</b>	<b>19,197</b>	<b>21,807</b>	<b>24,287</b>	<b>26,736</b>	<b>29,249</b>	<b>31,827</b>
<b>Liabilities:</b>										
Loss reserves - FY 07	4,342	3,667	2,876	2,229	1,747	1,390	1,110	942	870	796
Loss reserves - FY 08	0	4,482	3,786	2,970	2,302	1,805	1,437	1,148	974	900
Loss reserves - FY 09	0	0	4,625	3,906	3,063	2,374	1,861	1,481	1,183	1,004
Loss reserves - FY 10	0	0	0	4,773	4,031	3,161	2,450	1,921	1,529	1,222
Loss reserves - FY 11	0	0	0	0	4,925	4,160	3,263	2,529	1,983	1,578
Loss reserves - FY 12	0	0	0	0	0	5,083	4,293	3,367	2,609	2,045
Loss reserves - FY 13	0	0	0	0	0	0	5,246	4,431	3,475	2,693
Loss reserves - FY 14	0	0	0	0	0	0	0	5,413	4,572	3,586
Loss reserves - FY 15	0	0	0	0	0	0	0	0	5,587	4,719
Loss reserves - FY 16	0	0	0	0	0	0	0	0	0	5,766
<b>Total liabilities</b>	<b>4,342</b>	<b>8,149</b>	<b>11,287</b>	<b>13,878</b>	<b>16,088</b>	<b>17,973</b>	<b>19,660</b>	<b>21,232</b>	<b>22,782</b>	<b>24,309</b>
<b>Shareholder's Equity:</b>										
Paid in capital - initial	1,225	1,225	1,225	1,225	1,225	1,225	1,225	1,225	1,225	1,225
Retained earnings - prior year	0	119	384	781	1,292	1,904	2,609	3,402	4,279	5,242
Current year profit (loss)	119	266	396	511	612	705	793	878	963	1,050
<b>Total shareholders' equity</b>	<b>1,344</b>	<b>1,609</b>	<b>2,006</b>	<b>2,517</b>	<b>3,129</b>	<b>3,834</b>	<b>4,627</b>	<b>5,504</b>	<b>6,467</b>	<b>7,518</b>
<b>Total liabilities and shareholders' equity</b>	<b>5,686</b>	<b>9,758</b>	<b>13,293</b>	<b>16,395</b>	<b>19,197</b>	<b>21,807</b>	<b>24,287</b>	<b>26,736</b>	<b>29,249</b>	<b>31,827</b>

**City & County of Honolulu Captive  
General Liability - in 000's of Dollars  
10-year Statement of Operations**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
<b>Revenues</b>										
Loss funding	\$ 4,902	\$ 5,059	\$ 5,221	\$ 5,388	\$ 5,560	\$ 5,738	\$ 5,922	\$ 6,111	\$ 6,307	\$ 6,509
Management and administrative	35	36	38	39	41	43	44	46	48	48
Special fund assessment										
Premiums earned	4,937	5,095	5,259	5,427	5,601	5,781	5,966	6,157	6,355	6,557
<b>Losses:</b>										
Change in Outstanding Loss Reserves	4,902	5,059	5,221	5,388	5,560	5,738	5,922	6,111	6,307	6,509
Losses incurred	4,902	5,059	5,221	5,388	5,560	5,738	5,922	6,111	6,307	6,509
<b>Expenses:</b>										
Management and administrative	35	36	38	39	41	43	44	46	48	48
Special fund assessment										
Total expenses	35	36	38	39	41	43	44	46	48	48
Underwriting profit (loss)	0	0	0	0	0	0	0	0	0	0
Investment income	119	266	396	511	612	705	793	878	963	1,050
Net income	119	266	396	511	612	705	793	878	963	1,050

**City & County of Honolulu Captive  
General Liability - in 000's of Dollars  
10-year Cash Flow**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
Beginning cash & investments	1,225	5,686	9,758	13,293	16,395	19,197	21,807	24,287	26,736	29,249
Net premiums written	4,937	5,095	5,259	5,427	5,601	5,781	5,966	6,157	6,355	6,557
Losses paid	(560)	(1,252)	(2,083)	(2,797)	(3,370)	(3,833)	(4,235)	(4,539)	(4,757)	(4,982)
Expenses	(35)	(36)	(38)	(39)	(41)	(43)	(44)	(46)	(48)	(48)
(A) Ending cash before tax payments and investment income	5,567	9,493	12,896	15,884	18,585	21,102	23,494	25,859	28,286	30,776
Average cash balance	3,396	7,589	11,327	14,588	17,490	20,149	22,650	25,073	27,511	30,013
Investment return rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
(B) investment income	119	266	396	511	612	705	793	878	963	1,050
Ending cash (A) + (B)	5,686	9,758	13,293	16,395	19,197	21,807	24,287	26,736	29,249	31,827

Specialty Insurance Company of Hawaii, Inc.  
 Captive Proforma - GL Loss Reserve

	Total Projected															
	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	Total Paid					
Paid																
FY 07	560	675	791	647	482	357	280	168	72	74	4,106					
FY 08		577	696	816	668	497	368	289	174	74	4,159					
FY 09			596	719	843	689	513	380	298	179	4,217					
FY 10				615	742	870	711	529	392	307	4,166					
FY 11					635	765	897	734	546	405	3,982					
FY 12						655	790	926	758	564	3,693					
FY 13							676	815	956	782	3,229					
FY 14								698	841	986	2,525					
FY 15									720	868	1,588					
FY 16										743	743					
Total paid	56,717	1,252	2,083	2,797	3,370	3,833	4,235	4,539	4,757	4,982	32,408					
Cumulative total	560	1,812	3,895	6,692	10,062	13,895	18,130	22,669	27,426	32,408						
Loss reserve and IBNR																
FY 07	4,342	3,667	2,876	2,229	1,747	1,390	1,110	942	870	796	19,969					
FY 08		4,482	3,786	2,970	2,302	1,805	1,437	1,148	974	900	19,804					
FY 09			4,625	3,906	3,063	2,374	1,861	1,481	1,183	1,004	19,497					
FY 10				4,773	4,031	3,161	2,450	1,921	1,529	1,222	19,087					
FY 11					4,925	4,160	3,263	2,529	1,983	1,578	18,438					
FY 12						5,083	4,293	3,367	2,609	2,045	17,397					
FY 13							5,246	4,431	3,475	2,693	15,845					
FY 14								5,413	4,572	3,586	13,571					
FY 15									5,587	4,719	10,306					
FY 16										5,766	5,766					
Total loss reserve and IBNR	0	4,342	8,149	11,287	13,878	16,068	17,973	19,660	21,232	22,782	24,309					
Total paid and change in loss reserve	56,717	4,902	9,401	13,370	16,675	19,438	21,806	23,895	25,771	27,539	29,291					
Cumulative total	4,342	12,491	23,778	37,656	53,724	71,697	91,357	112,589	135,371	159,680	192,088					

**City & County of Honolulu Captive  
Automobile - in 000's of Dollars  
10 Year Proforma Balance Sheet**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
<b>Assets:</b>										
Cash and investments	1,370	2,129	2,615	2,922	3,181	3,398	3,602	3,812	4,031	4,259
<b>Total assets</b>	<b>1,370</b>	<b>2,129</b>	<b>2,615</b>	<b>2,922</b>	<b>3,181</b>	<b>3,398</b>	<b>3,602</b>	<b>3,812</b>	<b>4,031</b>	<b>4,259</b>
<b>Liabilities:</b>										
Loss reserves - FY 07	1,041	668	352	146	85	29	7	0	0	0
Loss reserves - FY 08	0	1,072	688	363	150	87	29	6	0	0
Loss reserves - FY 09	0	0	1,105	709	374	155	90	31	7	0
Loss reserves - FY 10	0	0	0	1,138	730	385	159	92	31	7
Loss reserves - FY 11	0	0	0	0	1,171	751	396	164	95	32
Loss reserves - FY 12	0	0	0	0	0	1,207	774	408	169	98
Loss reserves - FY 13	0	0	0	0	0	0	1,243	798	421	175
Loss reserves - FY 14	0	0	0	0	0	0	0	1,281	822	434
Loss reserves - FY 15	0	0	0	0	0	0	0	0	1,319	846
Loss reserves - FY 16	0	0	0	0	0	0	0	0	0	1,358
<b>Total liabilities</b>	<b>1,041</b>	<b>1,740</b>	<b>2,145</b>	<b>2,356</b>	<b>2,510</b>	<b>2,614</b>	<b>2,598</b>	<b>2,780</b>	<b>2,864</b>	<b>2,950</b>
<b>Shareholder's Equity:</b>										
Paid in capital - initial	300	300	300	300	300	300	300	300	300	300
Retained earnings - prior year	0	29	89	170	266	371	484	604	732	867
Current year profit (loss)	29	60	82	95	105	113	120	128	135	143
<b>Total shareholders' equity</b>	<b>329</b>	<b>389</b>	<b>470</b>	<b>566</b>	<b>671</b>	<b>784</b>	<b>904</b>	<b>1,032</b>	<b>1,167</b>	<b>1,309</b>
<b>Total liabilities and shareholders' equity</b>	<b>1,370</b>	<b>2,129</b>	<b>2,615</b>	<b>2,922</b>	<b>3,181</b>	<b>3,398</b>	<b>3,602</b>	<b>3,812</b>	<b>4,031</b>	<b>4,259</b>



**City & County of Honolulu Captive  
Auto - in 000's of Dollars  
10-year Statement of Operations**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
<i>Revenues</i>										
Loss funding	\$ 1,277	\$ 1,315	\$ 1,355	\$ 1,396	\$ 1,437	\$ 1,481	\$ 1,525	\$ 1,571	\$ 1,618	\$ 1,666
Management and administrative	35	36	38	39	41	43	44	46	48	50
Special fund assessment										
Premiums earned	1,312	1,351	1,393	1,435	1,478	1,524	1,569	1,617	1,666	1,716
<i>Losses:</i>										
Change in Outstanding Loss Reserves	1,277	1,315	1,355	1,396	1,437	1,481	1,525	1,571	1,618	1,666
Losses incurred	1,277	1,315	1,355	1,396	1,437	1,481	1,525	1,571	1,618	1,666
<i>Expenses:</i>										
Management and administrative	35	36	38	39	41	43	44	46	48	50
Special fund assessment										
Total expenses	35	36	38	39	41	43	44	46	48	50
Underwriting profit (loss)	0	0	0	0	0	0	0	0	0	0
Investment income	29	60	82	95	105	113	120	128	135	143
Net income	29	60	82	95	105	113	120	128	135	143

**City & County of Honolulu Captive  
Auto - in 000's of Dollars  
10-year Cash Flow**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
Beginning cash & investments	300	1,370	2,129	2,615	2,922	3,181	3,398	3,602	3,813	4,031
Net premiums written	1,312	1,351	1,393	1,435	1,478	1,524	1,569	1,617	1,666	1,716
Losses paid	(236)	(616)	(950)	(1,185)	(1,283)	(1,377)	(1,441)	(1,488)	(1,535)	(1,580)
Expenses	(35)	(36)	(38)	(39)	(41)	(43)	(44)	(46)	(48)	(50)
(A) Ending cash before tax payments and investment income	1,341	2,069	2,534	2,826	3,076	3,285	3,482	3,685	3,896	4,117
Average cash balance	821	1,719	2,331	2,721	2,999	3,233	3,440	3,644	3,854	4,074
Investment return rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
(B) Investment income	29	60	82	95	105	113	120	128	135	143
Ending cash (A) + (B)	1,370	2,129	2,615	2,922	3,181	3,398	3,602	3,813	4,031	4,259

Specialty Insurance Company of Hawaii, Inc.  
 Captive Proforma - Auto Loss Reserve

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	Total Paid
<b>Total Projected Losses</b>											
Paids	1,277	236	373	316	206	61	56	22	6	0	1,276
FY 08	1,315	243	243	384	325	213	63	58	23	7	1,316
FY 09	1,355			250	396	335	219	65	59	24	1,355
FY 10	1,396			258	408	408	345	226	67	61	1,389
FY 11	1,437				266	266	420	355	232	69	1,405
FY 12	1,481					274	433	366	377	71	1,383
FY 13	1,525						282	445	377	246	1,350
FY 14	1,571							290	459	388	1,137
FY 15	1,618								299	473	772
FY 16	1,666									308	308
<b>Total paid</b>	<b>14,641</b>	<b>236</b>	<b>616</b>	<b>950</b>	<b>1,185</b>	<b>1,283</b>	<b>1,377</b>	<b>1,441</b>	<b>1,488</b>	<b>1,535</b>	<b>11,691</b>
<b>Cumulative total</b>	<b>236</b>	<b>852</b>	<b>1,802</b>	<b>2,987</b>	<b>4,270</b>	<b>4,270</b>	<b>5,647</b>	<b>7,088</b>	<b>8,576</b>	<b>10,111</b>	<b>11,691</b>
<b>Loss reserve and IBNR</b>											
FY 07	1,041				146	85	29	7	0	0	2,328
FY 08		668		352	363	150	87	29	6	0	2,395
FY 09		1,072		688	709	374	155	90	31	7	2,471
FY 10				1,105	1,138	730	385	159	92	31	2,542
FY 11						1,171	751	396	164	95	2,609
FY 12							1,207	774	408	169	2,656
FY 13								1,243	798	421	2,637
FY 14									1,281	822	2,537
FY 15										1,319	846
FY 16											1,358
<b>Total loss reserve and IBNR</b>	<b>0</b>	<b>1,041</b>	<b>1,740</b>	<b>2,145</b>	<b>2,356</b>	<b>2,510</b>	<b>2,614</b>	<b>2,698</b>	<b>2,780</b>	<b>2,864</b>	<b>23,698</b>
<b>Total paid and change in loss reserve</b>	<b>14,641</b>	<b>1,277</b>	<b>2,356</b>	<b>3,095</b>	<b>3,541</b>	<b>3,793</b>	<b>3,991</b>	<b>4,139</b>	<b>4,268</b>	<b>4,399</b>	<b>35,389</b>
<b>Cumulative total</b>	<b>1,041</b>	<b>2,781</b>	<b>4,926</b>	<b>7,282</b>	<b>9,792</b>	<b>15,104</b>	<b>17,884</b>	<b>20,748</b>	<b>23,698</b>	<b>23,698</b>	<b>23,698</b>

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# **Appendix E**

## **Loan Back Pro Forma Financials**

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Loan Back Pro Formas

**City & County of Honolulu Captive  
Proforma Assumtions**

Investment return 3.50%  
Growth rate in administrative expenses 3.00%

Approximate premium to capital ratio - workers' compensation 4:1  
Approximate premium to capital ratio - general liability 5:1  
Approximate premium to capital ratio - automobile liability 5:1

No Federal income tax  
No Hawaii state premium tax

Claims administration done by present City and County staff  
Legal work done by City and County staff

Full reimbursement of administrative expenses

Projected losses and loss paid amounts per actuarial projections

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**City & County of Honolulu Captive  
Total - in 000's of Dollars  
10 Year Proforma Balance Sheet**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
<b>Assets:</b>										
Cash and investments	5,736	5,955	6,181	6,416	6,659	6,911	7,172	10,692	7,722	8,011
Loan to Parent	17,991	30,960	41,110	49,073	55,809	61,830	67,517	73,123	78,764	84,467
<b>Total assets</b>	<b>23,727</b>	<b>36,915</b>	<b>47,291</b>	<b>55,489</b>	<b>62,468</b>	<b>68,741</b>	<b>74,689</b>	<b>83,815</b>	<b>86,486</b>	<b>92,478</b>
<b>Liabilities:</b>										
Loss reserves - FY 07	17,991	12,348	9,083	6,547	5,051	4,102	3,562	3,282	3,127	2,990
Loss reserves - FY 08	0	18,612	12,773	9,397	6,773	5,225	4,244	3,686	3,397	3,237
Loss reserves - FY 09	0	0	19,254	13,211	9,718	7,005	5,404	4,390	3,813	3,515
Loss reserves - FY 10	0	0	0	19,918	13,664	10,052	7,245	5,590	4,541	3,946
Loss reserves - FY 11	0	0	0	0	20,603	14,132	10,397	7,494	5,782	4,697
Loss reserves - FY 12	0	0	0	0	0	21,314	14,616	10,752	7,749	5,978
Loss reserves - FY 13	0	0	0	0	0	0	22,049	15,119	11,123	8,018
Loss reserves - FY 14	0	0	0	0	0	0	0	22,809	15,636	11,504
Loss reserves - FY 15	0	0	0	0	0	0	0	0	23,596	16,173
Loss reserves - FY 16	0	0	0	0	0	0	0	0	0	24,409
<b>Total liabilities</b>	<b>17,991</b>	<b>30,960</b>	<b>41,110</b>	<b>49,073</b>	<b>55,809</b>	<b>61,830</b>	<b>67,517</b>	<b>73,122</b>	<b>78,764</b>	<b>84,467</b>
<b>Shareholder's Equity:</b>										
Paid in capital - initial	5,525	5,525	5,525	5,525	5,525	5,525	5,525	5,525	5,525	5,525
Retained earnings - prior year	0	211	430	656	891	1,134	1,386	1,647	1,917	2,197
Current year profit (loss)	211	219	227	235	243	252	261	270	280	290
<b>Total shareholders' equity</b>	<b>5,736</b>	<b>5,955</b>	<b>6,181</b>	<b>6,416</b>	<b>6,659</b>	<b>6,911</b>	<b>7,172</b>	<b>7,442</b>	<b>7,722</b>	<b>8,011</b>
<b>Total liabilities and shareholders equity</b>	<b>23,727</b>	<b>36,915</b>	<b>47,291</b>	<b>55,489</b>	<b>62,468</b>	<b>68,741</b>	<b>74,689</b>	<b>80,564</b>	<b>86,486</b>	<b>92,478</b>



**City & County of Honolulu Captive  
Total - in 000's of Dollars  
10-year Statement of Operations**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
<i>Revenues</i>										
Loss funding	\$ 22,269	\$ 23,038	\$ 23,835	\$ 24,659	\$ 25,510	\$ 26,392	\$ 27,304	\$ 28,248	\$ 29,224	\$ 30,234
Management and administrative	200	207	215	223	231	240	248	257	267	275
Special fund assessment	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Premiums earned	23,469	24,245	25,050	25,882	26,741	27,632	28,552	29,505	30,491	31,509
<i>Losses:</i>										
Change in Outstanding Loss Reserves	22,269	23,038	23,835	24,659	25,510	26,392	27,304	28,248	29,224	30,234
Losses incurred	22,269	23,038	23,835	24,659	25,510	26,392	27,304	28,248	29,224	30,234
<i>Expenses:</i>										
Management and administrative	200	207	215	223	231	240	248	257	267	275
Special fund assessment	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Total expenses	1,200	1,207	1,215	1,223	1,231	1,240	1,248	1,257	1,267	1,275
Underwriting profit (loss)	0	0	0	0	0	0	0	0	0	0
Investment income	211	219	227	235	243	252	261	270	280	290
Net income	211	219	227	235	243	252	261	270	280	290

City & County of Honolulu Captive  
 Total - in 000's of Dollars  
 10-year Cash Flow

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
Beginning cash & investments	5,525	5,736	5,955	6,181	6,416	6,659	6,911	7,172	7,442	7,722
Net premiums written	23,469	24,245	25,050	25,882	26,741	27,632	28,552	29,505	30,491	31,509
Losses paid	(4,278)	(10,069)	(13,685)	(16,696)	(18,774)	(20,371)	(21,617)	(22,642)	(23,583)	(24,531)
Expenses	(1,200)	(1,207)	(1,215)	(1,223)	(1,231)	(1,240)	(1,248)	(1,257)	(1,267)	(1,275)
Loan to Parent	17,991	12,969	10,150	7,963	6,736	6,021	5,687	5,606	5,641	5,703
(A) Ending cash before tax payments and investment income	5,525	5,736	5,955	6,181	6,416	6,659	6,911	7,172	7,442	7,722
Average cash balance	6,031	6,247	6,472	6,705	6,945	7,194	7,451	7,718	7,994	8,279
Investment return rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
(B) Investment income	211	219	227	235	243	252	261	270	280	290
Ending cash (A) + (B)	5,736	5,955	6,181	6,416	6,659	6,911	7,172	7,442	7,722	8,011

Specialty Insurance Company of Hawaii, Inc.  
 Captive Proforma - Total Loss Reserve

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	Total Paid
<b>Total Projected</b>											
<b>Losses</b>	22,269	5,643	3,265	2,536	1,496	949	540	279	155	137	19,278
FY 07	4,278	4,426	5,839	3,376	2,624	1,548	981	558	290	160	19,802
FY 08		4,426	5,839	3,376	2,624	1,548	981	558	290	160	19,802
FY 09			4,581	6,043	3,493	2,713	1,601	1,014	577	298	20,320
FY 10				4,741	6,254	3,612	2,807	1,655	1,049	595	20,713
FY 11					4,907	6,471	3,735	2,903	1,712	1,085	20,813
FY 12						5,078	6,698	3,864	3,003	1,771	20,414
FY 13							5,255	6,930	3,996	3,105	19,286
FY 14								5,439	7,173	4,132	16,744
FY 15									5,628	7,423	13,051
FY 16										5,825	5,825
<b>Total paid</b>	260,713	4,278	10,069	16,696	18,774	20,371	21,617	22,642	23,583	24,531	176,246
<b>Cumulative total</b>											
<b>Loss reserve and IBNR</b>	17,991	12,348	9,083	6,547	5,051	4,102	3,562	3,282	3,127	2,990	68,063
FY 07											0
FY 08											68,063
FY 09											67,344
FY 10											66,310
FY 11											64,956
FY 12											63,105
FY 13											60,409
FY 14											56,309
FY 15											49,949
FY 16											39,769
<b>Total loss reserve and IBNR</b>	0	17,991	30,960	41,110	49,073	55,809	61,830	67,517	73,122	78,764	84,467
<b>Total paid and change in loss reserve</b>	260,713	22,269	41,029	54,795	65,769	74,583	82,201	89,134	95,764	102,347	108,998
<b>Cumulative total</b>	17,991	48,951	90,061	139,134	194,943	256,773	324,290	397,412	476,176	560,643	736,889

**City & County of Honolulu Captive  
Workers' Compensation - in 000's of Dollars  
10 Year Proforma Balance Sheet**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
<b>Assets:</b>										
Cash and investments	4,140	4,285	4,435	4,590	4,751	4,917	5,089	5,267	5,452	5,642
Loan to Parent	12,608	21,071	27,678	32,839	37,231	41,243	45,159	49,110	53,118	57,208
<b>Total assets</b>	<b>16,748</b>	<b>25,356</b>	<b>32,113</b>	<b>37,429</b>	<b>41,982</b>	<b>46,160</b>	<b>50,248</b>	<b>54,377</b>	<b>58,570</b>	<b>62,850</b>
<b>Liabilities:</b>										
Loss reserves - FY 07	12,608	8,013	5,855	4,172	3,219	2,683	2,445	2,340	2,257	2,194
Loss reserves - FY 08		13,058	8,299	6,064	4,321	3,333	2,778	2,532	2,423	2,337
Loss reserves - FY 09			13,524	8,596	6,281	4,476	3,453	2,878	2,623	2,511
Loss reserves - FY 10				14,007	8,903	6,506	4,636	3,577	2,981	2,717
Loss reserves - FY 11					14,507	9,221	6,738	4,801	3,704	3,087
Loss reserves - FY 12						15,024	9,549	6,977	4,971	3,835
Loss reserves - FY 13							15,560	9,890	7,227	5,150
Loss reserves - FY 14								16,115	10,242	7,484
Loss reserves - FY 15									16,690	10,608
Loss reserves - FY 16										17,285
<b>Total liabilities</b>	<b>12,608</b>	<b>21,071</b>	<b>27,678</b>	<b>32,839</b>	<b>37,231</b>	<b>41,243</b>	<b>45,159</b>	<b>49,110</b>	<b>53,118</b>	<b>57,208</b>
<b>Shareholder's Equity:</b>										
Paid in capital - initial	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
Retained earnings - prior year	0	140	285	435	590	751	917	1,089	1,267	1,452
Current year profit (loss)	140	145	150	155	161	166	172	178	184	191
<b>Total shareholders' equity</b>	<b>4,140</b>	<b>4,285</b>	<b>4,435</b>	<b>4,590</b>	<b>4,751</b>	<b>4,917</b>	<b>5,089</b>	<b>5,267</b>	<b>5,452</b>	<b>5,642</b>
<b>Total liabilities and shareholders' equity</b>	<b>16,748</b>	<b>25,356</b>	<b>32,113</b>	<b>37,429</b>	<b>41,982</b>	<b>46,160</b>	<b>50,248</b>	<b>54,377</b>	<b>58,570</b>	<b>62,850</b>

**City & County of Honolulu Captive  
Workers' Compensation - in 000's of Dollars  
10-year Statement of Operations**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
<i>Revenues</i>										
Loss funding	\$ 16,090	\$ 16,664	\$ 17,259	\$ 17,875	\$ 18,513	\$ 19,173	\$ 19,857	\$ 20,566	\$ 21,299	\$ 22,059
Management and administrative	130	135	139	144	149	154	160	165	171	177
Special fund assessment	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Premiums earned	17,220	17,799	18,398	19,019	19,662	20,327	21,017	21,731	22,470	23,236
<i>Losses:</i>										
Change in Outstanding Loss Reserves	16,090	16,664	17,259	17,875	18,513	19,173	19,857	20,566	21,299	22,059
Losses incurred	16,090	16,664	17,259	17,875	18,513	19,173	19,857	20,566	21,299	22,059
<i>Expenses:</i>										
Management and administrative	130	135	139	144	149	154	160	165	171	177
Special fund assessment	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Total expenses	1,130	1,135	1,139	1,144	1,149	1,154	1,160	1,165	1,171	1,177
Underwriting profit (loss)	0	0	0	0	0	0	0	0	0	0
Investment income	140	145	150	155	161	166	172	178	184	191
Net income	140	145	150	155	161	166	172	178	184	191

**City & County of Honolulu Captive  
Workers' Compensation - in 000's of Dollars  
10-year Cash Flow**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
Beginning cash & investments	4,000	4,140	4,285	4,435	4,590	4,751	4,917	5,089	5,267	5,452
Net premiums written	17,220	17,799	18,398	19,019	19,662	20,327	21,017	21,731	22,470	23,236
Losses paid	(3,482)	(8,201)	(10,652)	(12,714)	(14,121)	(15,161)	(15,941)	(16,615)	(17,291)	(17,969)
Expenses	(1,130)	(1,135)	(1,139)	(1,144)	(1,149)	(1,154)	(1,160)	(1,165)	(1,171)	(1,177)
Loan to Parent	12,608	8,463	6,607	5,161	4,392	4,012	3,916	3,951	4,008	4,090
(A) Ending cash before tax payments and investment income	4,000	4,140	4,285	4,435	4,590	4,751	4,917	5,089	5,267	5,452
Average cash balance	4,000	4,140	4,285	4,435	4,590	4,751	4,917	5,089	5,267	5,452
Investment return rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
(B) Investment income	140	145	150	155	161	166	172	178	184	191
Ending cash (A) + (B)	4,140	4,285	4,435	4,590	4,751	4,917	5,089	5,267	5,452	5,642

Specialty Insurance Company of Hawaii, Inc.  
 Captive Proforma - WC Loss Reserve

	Total Projected															
	Losses															
	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	Total Paid					
Paid	16,090	3,482	4,595	2,158	1,683	963	536	238	105	83	63	13,896				
FY 07	16,090	3,482	4,595	2,158	1,683	963	536	238	105	83	63	13,896				
FY 08	16,664	3,606	4,759	2,235	1,743	988	555	246	109	109	86	14,327				
FY 09	17,259	3,735	4,928	2,315	1,805	1,023	575	255	112	112	112	14,748				
FY 10	17,875	3,868	5,104	2,397	1,870	1,059	596	264	109	109	112	15,158				
FY 11	18,513	4,006	5,286	2,483	1,937	1,097	617	15,426	1,097	1,097	617	15,426				
FY 12	19,173	4,149	5,475	2,572	2,006	2,006	1,136	15,338	2,006	2,006	1,136	15,338				
FY 13	19,857	4,297	5,670	2,663	2,077	2,663	2,077	14,707	2,663	2,663	2,077	14,707				
FY 14	20,566	4,451	5,873	2,758	2,758	2,758	13,082	13,082	2,758	2,758	13,082	13,082				
FY 15	21,299	4,609	6,082	10,691	6,082	6,082	10,691	10,691	6,082	6,082	10,691	10,691				
FY 16	22,059	4,774	4,774	4,774	4,774	4,774	4,774	4,774	4,774	4,774	4,774	4,774				
Total paid	189,355	3,482	8,201	10,652	12,714	14,121	15,161	15,941	16,615	17,291	17,969	132,147				
Cumulative total	3,482	11,683	22,335	35,049	49,170	64,331	80,272	96,887	114,178	132,147	132,147	0				
Loss reserve and IBNR	12,608	8,013	5,855	4,172	3,219	2,683	2,445	2,340	2,257	2,194	2,194	45,786				
FY 07	12,608	8,013	5,855	4,172	3,219	2,683	2,445	2,340	2,257	2,194	2,194	45,786				
FY 08	13,058	8,299	6,064	4,321	3,333	3,333	2,778	2,532	2,423	2,337	2,337	45,145				
FY 09	13,524	8,596	6,281	4,476	3,453	3,453	2,878	2,623	2,511	2,423	2,423	44,342				
FY 10	14,007	8,903	6,506	4,636	3,577	3,577	2,981	2,717	2,623	2,511	2,511	43,327				
FY 11	14,507	9,221	6,738	4,801	3,704	3,704	3,087	2,807	2,717	2,623	2,623	42,058				
FY 12	15,024	9,549	7,049	5,024	3,977	3,977	3,355	3,087	2,981	2,807	2,807	40,356				
FY 13	15,560	9,890	7,381	5,299	4,264	4,264	3,640	3,355	3,257	3,163	3,163	37,827				
FY 14	16,115	10,242	7,727	5,560	4,553	4,553	3,925	3,640	3,546	3,452	3,452	33,841				
FY 15	16,690	10,608	8,082	5,839	4,839	4,839	4,110	3,835	3,741	3,647	3,647	27,298				
FY 16	17,285	11,000	8,421	6,115	5,110	5,110	4,385	4,110	4,016	3,922	3,922	17,285				
Total loss reserve and IBNR	0	12,608	21,071	27,678	32,839	37,231	41,243	45,159	49,110	53,118	57,208	377,265				
Total paid and change in loss reserve	189,355	16,090	29,272	38,330	45,553	56,404	61,100	65,725	70,409	75,177	75,177	509,412				
Cumulative total	12,608	33,679	61,357	94,196	131,427	172,670	217,829	266,939	320,057	377,265	377,265	0				

**City & County of Honolulu Captive  
General Liability - in 000's of Dollars  
10 Year Proforma Balance Sheet**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
<b>Assets:</b>										
Cash and investments	1,268	1,312	1,358	1,406	1,455	1,506	1,559	1,613	1,670	1,728
Loan to Parent	4,342	8,149	11,287	13,878	16,068	17,973	19,660	21,232	22,782	24,309
<b>Total assets</b>	<b>5,610</b>	<b>9,461</b>	<b>12,645</b>	<b>15,284</b>	<b>17,523</b>	<b>19,479</b>	<b>21,219</b>	<b>22,845</b>	<b>24,452</b>	<b>26,037</b>
<b>Liabilities:</b>										
Loss reserves - FY 07	4,342	3,667	2,876	2,229	1,747	1,390	1,110	942	870	796
Loss reserves - FY 08	0	4,482	3,786	2,970	2,302	1,805	1,437	1,148	974	900
Loss reserves - FY 09	0	0	4,625	3,906	3,063	2,374	1,861	1,481	1,183	1,004
Loss reserves - FY 10	0	0	0	4,773	4,031	3,161	2,450	1,921	1,529	1,222
Loss reserves - FY 11	0	0	0	0	4,925	4,160	3,263	2,529	1,983	1,578
Loss reserves - FY 12	0	0	0	0	0	5,083	4,293	3,367	2,609	2,045
Loss reserves - FY 13	0	0	0	0	0	0	5,246	4,431	3,475	2,693
Loss reserves - FY 14	0	0	0	0	0	0	0	5,413	4,572	3,586
Loss reserves - FY 15	0	0	0	0	0	0	0	0	5,587	4,719
Loss reserves - FY 16	0	0	0	0	0	0	0	0	0	5,766
<b>Total liabilities</b>	<b>4,342</b>	<b>8,149</b>	<b>11,287</b>	<b>13,878</b>	<b>16,068</b>	<b>17,973</b>	<b>19,660</b>	<b>21,232</b>	<b>22,782</b>	<b>24,309</b>
<b>Shareholder's Equity:</b>										
Paid in capital - initial	1,225	1,225	1,225	1,225	1,225	1,225	1,225	1,225	1,225	1,225
Retained earnings - prior year	0	43	87	133	181	230	281	334	388	445
Current year profit (loss)	43	44	46	48	49	51	53	55	56	58
<b>Total shareholders' equity</b>	<b>1,268</b>	<b>1,312</b>	<b>1,358</b>	<b>1,406</b>	<b>1,455</b>	<b>1,506</b>	<b>1,559</b>	<b>1,613</b>	<b>1,670</b>	<b>1,728</b>
<b>Total liabilities and shareholders' equity</b>	<b>5,610</b>	<b>9,461</b>	<b>12,645</b>	<b>15,284</b>	<b>17,523</b>	<b>19,479</b>	<b>21,219</b>	<b>22,845</b>	<b>24,452</b>	<b>26,037</b>



City & County of Honolulu Captive  
 General Liability - in 000's of Dollars  
 10-year Statement of Operations

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
<i>Revenues</i>										
Loss funding	\$ 4,902	\$ 5,059	\$ 5,221	\$ 5,388	\$ 5,560	\$ 5,738	\$ 5,922	\$ 6,111	\$ 6,307	\$ 6,509
Management and administrative	35	36	38	39	41	43	44	46	48	48
Special fund assessment										
Premiums earned	4,937	5,095	5,259	5,427	5,601	5,781	5,966	6,157	6,355	6,557
<i>Losses:</i>										
Change in Outstanding Loss Reserves	4,902	5,059	5,221	5,388	5,560	5,738	5,922	6,111	6,307	6,509
Losses incurred	4,902	5,059	5,221	5,388	5,560	5,738	5,922	6,111	6,307	6,509
<i>Expenses:</i>										
Management and administrative	35	36	38	39	41	43	44	46	48	48
Special fund assessment										
Total expenses	35	36	38	39	41	43	44	46	48	48
Underwriting profit (loss)	0	0	0	0	0	0	0	0	0	0
Investment income	43	44	46	48	49	51	53	55	56	58
Net income	43	44	46	48	49	51	53	55	56	58

**City & County of Honolulu Captive  
General Liability - in 000's of Dollars  
10-year Cash Flow**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
Beginning cash & investments	1,225	1,268	1,312	1,358	1,406	1,455	1,506	1,559	1,613	1,670
Net premiums written	4,937	5,095	5,259	5,427	5,601	5,781	5,966	6,157	6,355	6,557
Losses paid	(560)	(1,252)	(2,083)	(2,797)	(3,370)	(3,833)	(4,235)	(4,539)	(4,757)	(4,982)
Expenses	(35)	(36)	(38)	(39)	(41)	(43)	(44)	(46)	(48)	(48)
Loan to Parent	4,342	3,807	3,138	2,591	2,190	1,905	1,687	1,572	1,550	1,527
(A) Ending cash before tax payments and investment income	1,225	1,268	1,312	1,358	1,406	1,455	1,506	1,559	1,613	1,670
Average cash balance	1,225	1,268	1,312	1,358	1,406	1,455	1,506	1,559	1,613	1,670
Investment return rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
(B) investment income	43	44	46	48	49	51	53	55	56	58
Ending cash (A) + (B)	1,268	1,312	1,358	1,406	1,455	1,506	1,559	1,613	1,670	1,728

Specialty Insurance Company of Hawaii, Inc.  
 Captive Proforma - GL Loss Reserve

	Total Projected															
	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	Total Paid					
Paid	4,902	560	675	791	647	482	357	280	168	72	74	4,106				
FY 07	5,059	577	696	816	668	497	368	289	174	174	74	4,159				
FY 08	5,221	596	719	843	689	513	380	298	179	179	74	4,217				
FY 09	5,388	615	742	870	711	529	392	307	307	307	307	4,166				
FY 10	5,560	635	765	897	734	546	405	3,982	564	564	564	3,982				
FY 11	5,738	655	790	926	758	564	405	3,693	564	564	564	3,693				
FY 12	5,922	676	815	956	782	566	405	3,229	566	566	566	3,229				
FY 13	6,111	698	841	986	841	986	841	2,525	986	986	986	2,525				
FY 14	6,307	720	868	988	868	988	868	1,588	988	988	988	1,588				
FY 15	6,509	743	882	982	882	982	882	743	982	982	982	743				
FY 16	56,717	560	1,252	2,083	3,370	3,833	4,235	4,539	4,757	4,982	4,982	32,408				
Total paid	560	1,812	3,895	6,692	10,062	13,895	18,130	22,669	27,426	32,408	32,408					
Cumulative total																
Loss reserve and IBNR	4,342	3,667	2,876	2,229	1,747	1,390	1,110	942	870	796	796	19,969				
FY 07	4,482	3,786	3,063	2,374	1,861	1,437	1,148	974	900	800	800	19,804				
FY 08	4,625	4,031	3,161	2,450	1,921	1,529	1,222	1,004	1,183	1,004	1,004	19,497				
FY 09	4,773	4,925	4,160	3,263	2,529	1,983	1,578	1,222	1,222	1,222	1,222	19,087				
FY 10	4,925	5,083	4,431	3,367	2,609	2,045	1,578	1,222	1,222	1,222	1,222	18,438				
FY 11	5,083	5,246	4,431	3,367	2,609	2,045	1,578	1,222	1,222	1,222	1,222	17,397				
FY 12	5,246	5,413	4,431	3,367	2,609	2,045	1,578	1,222	1,222	1,222	1,222	15,845				
FY 13	5,413	5,587	4,431	3,367	2,609	2,045	1,578	1,222	1,222	1,222	1,222	13,571				
FY 14	5,587	5,766	4,431	3,367	2,609	2,045	1,578	1,222	1,222	1,222	1,222	10,306				
FY 15	5,766	5,945	4,431	3,367	2,609	2,045	1,578	1,222	1,222	1,222	1,222	5,766				
FY 16	5,945	6,124	4,431	3,367	2,609	2,045	1,578	1,222	1,222	1,222	1,222	5,766				
Total loss reserve and IBNR	0	4,342	8,149	11,287	13,878	16,068	17,973	19,660	21,232	22,782	24,309	159,680				
Total paid and change in loss reserve	56,717	4,902	9,401	13,370	16,675	19,438	21,806	23,895	25,771	27,539	29,291	192,088				
Cumulative total	4,342	12,491	23,778	37,656	53,724	71,697	91,357	112,589	135,371	159,680	159,680					

**City & County of Honolulu Captive  
Automobile - in 000's of Dollars  
10 Year Proforma Balance Sheet**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
<b>Assets:</b>										
Cash and investments	328	358	388	420	453	488	524	3,812	600	641
Loan to Parent	1,041	1,740	2,145	2,356	2,510	2,614	2,698	2,781	2,864	2,950
<b>Total assets</b>	<b>1,369</b>	<b>2,098</b>	<b>2,533</b>	<b>2,776</b>	<b>2,963</b>	<b>3,102</b>	<b>3,222</b>	<b>6,593</b>	<b>3,464</b>	<b>3,591</b>
<b>Liabilities:</b>										
Loss reserves - FY 07	1,041	668	352	146	85	29	7	0	0	0
Loss reserves - FY 08	0	1,072	688	363	150	87	29	6	0	0
Loss reserves - FY 09	0	0	1,105	709	374	155	90	31	7	0
Loss reserves - FY 10	0	0	0	1,138	730	385	159	92	31	7
Loss reserves - FY 11	0	0	0	0	1,171	751	396	164	95	32
Loss reserves - FY 12	0	0	0	0	0	1,207	774	408	169	98
Loss reserves - FY 13	0	0	0	0	0	0	1,243	798	421	175
Loss reserves - FY 14	0	0	0	0	0	0	0	1,281	822	434
Loss reserves - FY 15	0	0	0	0	0	0	0	0	1,319	846
Loss reserves - FY 16	0	0	0	0	0	0	0	0	0	1,358
<b>Total liabilities</b>	<b>1,041</b>	<b>1,740</b>	<b>2,145</b>	<b>2,356</b>	<b>2,510</b>	<b>2,614</b>	<b>2,698</b>	<b>2,780</b>	<b>2,864</b>	<b>2,950</b>
<b>Shareholder's Equity:</b>										
Paid in capital - initial	300	300	300	300	300	300	300	300	300	300
Retained earnings - prior year	0	28	58	88	120	153	188	224	261	300
Current year profit (loss)	28	29	31	32	33	35	36	37	39	41
<b>Total shareholders' equity</b>	<b>328</b>	<b>358</b>	<b>388</b>	<b>420</b>	<b>453</b>	<b>488</b>	<b>524</b>	<b>561</b>	<b>600</b>	<b>641</b>
<b>Total liabilities and shareholders' equity</b>	<b>1,369</b>	<b>2,098</b>	<b>2,533</b>	<b>2,776</b>	<b>2,963</b>	<b>3,102</b>	<b>3,222</b>	<b>3,341</b>	<b>3,464</b>	<b>3,591</b>

**City & County of Honolulu Captive  
Auto - in 000's of Dollars  
10-year Statement of Operations**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
<b>Revenues</b>										
Loss funding	\$ 1,277	\$ 1,315	\$ 1,355	\$ 1,396	\$ 1,437	\$ 1,481	\$ 1,525	\$ 1,571	\$ 1,618	\$ 1,666
Management and administrative	35	36	38	39	41	43	44	46	48	50
Special fund assessment										
Premiums earned	1,312	1,351	1,393	1,435	1,478	1,524	1,569	1,617	1,666	1,716
<b>Losses:</b>										
Change in Outstanding Loss Reserves	1,277	1,315	1,355	1,396	1,437	1,481	1,525	1,571	1,618	1,666
Losses incurred	1,277	1,315	1,355	1,396	1,437	1,481	1,525	1,571	1,618	1,666
<b>Expenses:</b>										
Management and administrative	35	36	38	39	41	43	44	46	48	50
Special fund assessment										
Total expenses	35	36	38	39	41	43	44	46	48	50
Underwriting profit (loss)	0	0	0	0	0	0	0	0	0	0
Investment income	28	29	31	32	33	35	36	37	39	41
Net income	28	29	31	32	33	35	36	37	39	41

**City & County of Honolulu Captive  
Auto - in 000's of Dollars  
10-year Cash Flow**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
Beginning cash & investments	300	328	358	388	420	453	488	524	561	600
Net premiums written	1,312	1,351	1,393	1,435	1,478	1,524	1,569	1,617	1,666	1,716
Losses paid	(236)	(616)	(950)	(1,185)	(1,283)	(1,377)	(1,441)	(1,488)	(1,535)	(1,580)
Expenses	(35)	(36)	(38)	(39)	(41)	(43)	(44)	(46)	(48)	(50)
Loan to Parent	1,041	699	405	211	154	104	84	83	83	86
(A) Ending cash before tax payments and investment income	300	328	358	388	420	453	488	524	561	600
Average cash balance	806	840	875	912	949	989	1,028	1,070	1,114	1,158
Investment return rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
(B) Investment income	28	29	31	32	33	35	36	37	39	41
Ending cash (A) + (B)	328	358	388	420	453	488	524	561	600	641

Specialty Insurance Company of Hawaii, Inc.  
 Captive Proforma - Auto Loss Reserve

	Total Projected											
	Losses	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	Total Paid
Paid												
FY 07	1,277	236	373	316	206	61	56	22	6	0	0	1,276
FY 08	1,315		243	384	325	213	63	58	23	7	0	1,316
FY 09	1,355			250	396	335	219	65	59	24	7	1,355
FY 10	1,396				258	408	345	226	67	61	24	1,389
FY 11	1,437					266	420	355	232	69	63	1,405
FY 12	1,481						274	433	366	239	71	1,383
FY 13	1,525							282	445	377	246	1,350
FY 14	1,571								290	459	388	1,137
FY 15	1,618									299	473	772
FY 16	1,666										308	308
Total paid	14,641	236	616	950	1,185	1,283	1,377	1,441	1,488	1,535	1,580	11,651
Cumulative total		236	852	1,802	2,987	4,270	5,647	7,088	8,576	10,111	11,691	
Loss reserve and IBNR		1,041	668	352	146	85	29	7	0	0	0	0
FY 07												2,328
FY 08			1,072	688	363	150	87	29	6	0	0	2,395
FY 09				1,105	709	374	155	90	31	7	0	2,471
FY 10					1,138	730	385	159	92	31	7	2,542
FY 11						1,171	751	396	164	95	32	2,609
FY 12							1,207	774	408	169	98	2,656
FY 13								1,243	798	421	175	2,637
FY 14									1,281	422	434	2,537
FY 15										1,319	846	2,165
FY 16											1,358	1,358
Total loss reserve and IBNR	0	1,041	1,740	2,145	2,356	2,510	2,614	2,698	2,780	2,864	2,950	23,698
Total paid and change in loss reserve	14,641	1,277	2,356	3,095	3,541	3,793	3,991	4,139	4,268	4,399	4,530	35,389
Cumulative total		1,041	2,781	4,926	7,282	9,792	12,406	15,104	17,884	20,748	23,698	

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## **Appendix F**

### **General Liability and Auto Liability Pro Forma Financials Scenario 1**

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GL and Auto Liability Pro Formas - Scenario 1

**City & County of Honolulu Captive  
Proforma Assumptions**

**Fund to Ultimate  
GENERAL LIABILITY & AUTO  
LIABILITY COMBINED  
(Recommended Approach)**

---

Invesment return	3.50%
Growth rate in administrative expenses	3.00%
Approximate premium to capital ratio - general liability	5:1
Approximate premium to capital ratio -- automobile liability	5:1
No Federal income tax	
No Hawaii state premium tax	
Claims administration done by present City and County staff	
Legal work done by City and County staff	
Full reimbursement of administrative expenses	
Projected losses and loss paid amounts per actuarial projections	

**City & County of Honolulu Captive  
GL & Auto - in 000's of Dollars  
10 Year Proforma Balance Sheet**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
<b>Assets:</b>										
Cash and investments	7,056	11,887	15,908	19,316	22,377	25,205	27,889	30,548	33,280	36,086
<b>Total assets</b>	<b>7,056</b>	<b>11,887</b>	<b>15,908</b>	<b>19,316</b>	<b>22,377</b>	<b>25,205</b>	<b>27,889</b>	<b>30,548</b>	<b>33,280</b>	<b>36,086</b>
<b>Liabilities:</b>										
Loss reserves - FY 07	5,383	4,335	3,228	2,375	1,832	1,419	1,117	942	870	796
Loss reserves - FY 08	0	5,554	4,474	3,333	2,452	1,892	1,466	1,154	974	900
Loss reserves - FY 09	0	0	5,730	4,615	3,437	2,529	1,951	1,512	1,190	1,004
Loss reserves - FY 10	0	0	0	5,911	4,761	3,546	2,609	2,013	1,560	1,229
Loss reserves - FY 11	0	0	0	0	6,096	4,911	3,659	2,693	2,078	1,610
Loss reserves - FY 12	0	0	0	0	0	6,290	5,067	3,775	2,778	2,143
Loss reserves - FY 13	0	0	0	0	0	0	6,489	5,229	3,896	2,868
Loss reserves - FY 14	0	0	0	0	0	0	0	6,694	5,394	4,020
Loss reserves - FY 15	0	0	0	0	0	0	0	0	6,906	5,565
Loss reserves - FY 16	0	0	0	0	0	0	0	0	0	7,124
<b>Total liabilities</b>	<b>5,383</b>	<b>9,889</b>	<b>13,432</b>	<b>16,234</b>	<b>18,578</b>	<b>20,587</b>	<b>22,358</b>	<b>24,012</b>	<b>25,646</b>	<b>27,259</b>
<b>Shareholder's Equity:</b>										
Paid in capital - initial	1,525	1,525	1,525	1,525	1,525	1,525	1,525	1,525	1,525	1,525
Retained earnings - prior year	0	148	473	951	1,557	2,274	3,093	4,006	5,011	6,109
Current year profit (loss)	148	326	478	606	717	818	913	1,005	1,098	1,193
<b>Total shareholders' equity</b>	<b>1,673</b>	<b>1,998</b>	<b>2,476</b>	<b>3,082</b>	<b>3,799</b>	<b>4,618</b>	<b>5,531</b>	<b>6,536</b>	<b>7,634</b>	<b>8,827</b>
<b>Total liabilities and shareholders equity</b>	<b>7,056</b>	<b>11,887</b>	<b>15,908</b>	<b>19,316</b>	<b>22,377</b>	<b>25,205</b>	<b>27,889</b>	<b>30,548</b>	<b>33,280</b>	<b>36,086</b>

**City & County of Honolulu Captive  
GL & Auto - in 000's of Dollars  
10-year Statement of Operations**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
<i>Revenues</i>										
Loss funding	6,179	6,374	6,576	6,784	6,997	7,219	7,447	7,682	7,925	8,175
Management and administrative	70	72	76	78	82	86	88	92	96	98
Special fund assessment										
Premiums earned	6,249	6,446	6,652	6,862	7,079	7,305	7,535	7,774	8,021	8,273
<i>Losses:</i>										
Change in Outstanding Loss Reserves	6,179	6,374	6,576	6,784	6,997	7,219	7,447	7,682	7,925	8,175
Losses incurred	6,179	6,374	6,576	6,784	6,997	7,219	7,447	7,682	7,925	8,175
<i>Expenses:</i>										
Management and administrative	70	72	76	78	82	86	88	92	96	98
Special fund assessment										
Total expenses	70	72	76	78	82	86	88	92	96	98
Underwriting profit (loss)	0	0	0	0	0	0	0	0	0	0
Investment income	148	326	478	606	717	818	913	1,005	1,098	1,193
Net income	148	326	478	606	717	818	913	1,005	1,098	1,193

**City & County of Honolulu Captive  
GL & Auto - in 000's of Dollars  
10-year Cash Flow**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
Beginning cash & investments	1,525	7,056	11,887	15,908	19,316	22,377	25,205	27,889	30,549	33,280
Net premiums written	6,249	6,446	6,652	6,862	7,079	7,305	7,535	7,774	8,021	8,273
Losses paid	(796)	(1,868)	(3,033)	(3,982)	(4,653)	(5,210)	(5,676)	(6,027)	(6,292)	(6,562)
Expenses	(70)	(72)	(76)	(78)	(82)	(86)	(88)	(92)	(96)	(98)
(A) Ending cash before tax payments and investment income	6,908	11,562	15,430	18,710	21,660	24,386	26,976	29,544	32,182	34,893
Average cash balance	4,217	9,309	13,659	17,309	20,488	23,382	26,090	28,716	31,365	34,086
Investment return rate	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%
(B) Investment income	148	326	478	606	717	818	913	1,005	1,098	1,193
Ending cash (A) + (B)	7,056	11,887	15,908	19,316	22,377	25,205	27,889	30,549	33,280	36,086

**Specialty Insurance Company of Hawaii, Inc.  
 Captive Proforma - GL & Auto Loss Reserve**

	Total Projected											
	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	Total Paid	
Paid												
FY 07	6,179	1,048	1,107	853	543	413	302	174	72	74	5,382	
FY 08	6,374	820	1,080	1,141	881	560	426	312	181	74	5,475	
FY 09	6,576		846	1,115	1,178	908	578	439	322	186	5,572	
FY 10	6,784			873	1,150	1,215	937	596	453	331	5,555	
FY 11	6,997				901	1,185	1,252	966	615	468	5,387	
FY 12	7,219					929	1,223	1,292	997	635	5,076	
FY 13	7,447						958	1,260	1,333	1,028	4,579	
FY 14	7,682							988	1,300	1,374	3,662	
FY 15	7,925								1,019	1,341	2,360	
FY 16	8,175									1,051	1,051	
<b>Total paid</b>	<b>71,358</b>	<b>1,868</b>	<b>3,033</b>	<b>3,982</b>	<b>4,653</b>	<b>5,210</b>	<b>5,676</b>	<b>6,027</b>	<b>6,292</b>	<b>6,562</b>	<b>44,099</b>	
Cumulative total												
Loss reserve and IBNR	796	2,664	5,697	9,679	14,332	19,542	25,218	31,245	37,537	44,099		
FY 07	5,383	4,335	3,228	2,375	1,832	1,419	1,117	942	870	796	22,297	0
FY 08		5,554	4,474	3,333	2,452	1,892	1,466	1,154	974	900	22,199	
FY 09			5,730	4,615	3,437	2,529	1,951	1,512	1,190	1,004	21,968	
FY 10				5,911	4,761	3,546	2,609	2,013	1,560	1,229	21,629	
FY 11					6,096	4,911	3,659	2,693	2,078	1,610	21,047	
FY 12						6,290	5,067	3,775	2,778	2,143	20,053	
FY 13							6,489	5,229	3,896	2,868	18,482	
FY 14								6,694	5,394	4,020	16,108	
FY 15									6,906	5,565	12,471	
FY 16										7,124	7,124	
<b>Total loss reserve and IBNR</b>	<b>0</b>	<b>5,383</b>	<b>9,889</b>	<b>16,234</b>	<b>18,578</b>	<b>20,587</b>	<b>22,358</b>	<b>24,012</b>	<b>25,646</b>	<b>27,259</b>	<b>183,378</b>	
<b>Total paid and change in loss reserve</b>	<b>71,358</b>	<b>6,179</b>	<b>11,737</b>	<b>16,465</b>	<b>23,231</b>	<b>25,797</b>	<b>28,034</b>	<b>30,039</b>	<b>31,938</b>	<b>33,821</b>	<b>227,477</b>	
<b>Cumulative total</b>	<b>5,383</b>	<b>15,272</b>	<b>28,704</b>	<b>44,938</b>	<b>63,516</b>	<b>84,103</b>	<b>106,461</b>	<b>130,473</b>	<b>156,119</b>	<b>183,378</b>		

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## **Appendix G**

### **General Liability and Auto Liability Pro Forma Financials Scenario 2**

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**City & County of Honolulu Captive  
Proforma Assumptions**

**Loan Back Scenario  
GENERAL LIABILITY & AUTO  
(Recommended Approach)**

---

Invesment return	3.50%
Growth rate in administrative expenses	3.00%
Approximate premium to capital ratio - general liability	5:1
Approximate premium to capital ratio -- automobile liability	5:1
No Federal income tax	
No Hawaii state premium tax	
Claims administration done by present City and County staff	
Legal work done by City and County staff	
Full reimbursement of administrative expenses	
Projected losses and loss paid amounts per actuarial projections	

**City & County of Honolulu Captive  
GL & Auto - in 000's of Dollars  
10 Year Proforma Balance Sheet**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
<b>Assets:</b>										
Cash and investments	1,596	1,670	1,746	1,826	1,908	1,994	2,082	5,425	2,270	2,369
Loan to Parent	5,383	9,889	13,432	16,234	18,578	20,587	22,358	24,013	25,646	27,259
<b>Total assets</b>	<b>6,979</b>	<b>11,559</b>	<b>15,178</b>	<b>18,060</b>	<b>20,486</b>	<b>22,581</b>	<b>24,440</b>	<b>29,438</b>	<b>27,916</b>	<b>29,628</b>
<b>Liabilities:</b>										
Loss reserves - FY 07	5,383	4,335	3,228	2,375	1,832	1,419	1,117	942	870	796
Loss reserves - FY 08	0	5,554	4,474	3,333	2,452	1,892	1,466	1,154	974	900
Loss reserves - FY 09	0	0	5,730	4,615	3,437	2,529	1,951	1,512	1,190	1,004
Loss reserves - FY 10	0	0	0	5,911	4,761	3,546	2,609	2,013	1,560	1,229
Loss reserves - FY 11	0	0	0	0	6,096	4,911	3,659	2,693	2,078	1,610
Loss reserves - FY 12	0	0	0	0	0	6,290	5,067	3,775	2,778	2,143
Loss reserves - FY 13	0	0	0	0	0	0	6,489	5,229	3,886	2,868
Loss reserves - FY 14	0	0	0	0	0	0	0	6,694	5,394	4,020
Loss reserves - FY 15	0	0	0	0	0	0	0	0	6,906	5,565
Loss reserves - FY 16	0	0	0	0	0	0	0	0	0	7,124
<b>Total liabilities</b>	<b>5,383</b>	<b>9,889</b>	<b>13,432</b>	<b>16,234</b>	<b>18,578</b>	<b>20,587</b>	<b>22,358</b>	<b>24,012</b>	<b>25,646</b>	<b>27,259</b>
<b>Shareholder's Equity:</b>										
Paid in capital - initial	1,525	1,525	1,525	1,525	1,525	1,525	1,525	1,525	1,525	1,525
Retained earnings - prior year	0	71	145	221	301	383	469	557	650	745
Current year profit (loss)	71	74	77	79	82	86	89	92	95	99
<b>Total shareholders' equity</b>	<b>1,596</b>	<b>1,670</b>	<b>1,746</b>	<b>1,826</b>	<b>1,908</b>	<b>1,994</b>	<b>2,082</b>	<b>2,175</b>	<b>2,270</b>	<b>2,369</b>
<b>Total liabilities and shareholders' equity</b>	<b>6,979</b>	<b>11,559</b>	<b>15,178</b>	<b>18,060</b>	<b>20,486</b>	<b>22,581</b>	<b>24,440</b>	<b>26,187</b>	<b>27,916</b>	<b>29,628</b>

**City & County of Honolulu Captive  
GL & Auto - in 000's of Dollars  
10-year Statement of Operations**

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
<i>Revenues</i>										
Loss funding	6,179	6,374	6,576	6,784	6,997	7,219	7,447	7,682	7,925	8,175
Management and administrative	70	72	76	78	82	86	88	92	96	98
Special fund assessment										
Premiums earned	6,249	6,446	6,652	6,862	7,079	7,305	7,535	7,774	8,021	8,273
<i>Losses:</i>										
Change in Outstanding Loss Reserves	6,179	6,374	6,576	6,784	6,997	7,219	7,447	7,682	7,925	8,175
Losses incurred	6,179	6,374	6,576	6,784	6,997	7,219	7,447	7,682	7,925	8,175
<i>Expenses:</i>										
Management and administrative	70	72	76	78	82	86	88	92	96	98
Special fund assessment										
Total expenses	70	72	76	78	82	86	88	92	96	98
Underwriting profit (loss)	0	0	0	0	0	0	0	0	0	0
Investment income	71	74	77	79	82	86	89	92	95	99
Net income	71	74	77	79	82	86	89	92	95	99

City & County of Honolulu Captive  
 GL & Auto - in 000's of Dollars  
 10-year Cash Flow

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16
Beginning cash & investments	1,525	1,596	1,670	1,746	1,826	1,908	1,994	2,082	2,175	2,270
Net premiums written	6,249	6,446	6,652	6,862	7,079	7,305	7,535	7,774	8,021	8,273
Losses paid	(796)	(1,868)	(3,033)	(3,982)	(4,653)	(5,210)	(5,676)	(6,027)	(6,292)	(6,562)
Expenses	(70)	(72)	(76)	(78)	(82)	(86)	(88)	(92)	(96)	(98)
Loan to Parent	5,383	4,506	3,543	2,802	2,344	2,009	1,771	1,655	1,633	1,613
(A) Ending cash before tax payments and investment income	1,525	1,596	1,670	1,746	1,826	1,908	1,994	2,082	2,175	2,270
Average cash balance	2,031	2,107	2,188	2,270	2,355	2,444	2,534	2,629	2,727	2,828
Investment return rate	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%
(B) Investment income	71	74	77	79	82	86	89	92	95	99
Ending cash (A) + (B)	1,596	1,670	1,746	1,826	1,908	1,994	2,082	2,175	2,270	2,369

**Specialty Insurance Company of Hawaii, Inc.  
Captive Proforma - GL & Auto Loss Reserve**

	<b>Total Projected</b>															
	<b>Losses</b>	<b>FY 07</b>	<b>FY 08</b>	<b>FY 09</b>	<b>FY 10</b>	<b>FY 11</b>	<b>FY 12</b>	<b>FY 13</b>	<b>FY 14</b>	<b>FY 15</b>	<b>FY 16</b>	<b>Total Paid</b>				
<b>Paid</b>																
FY 07	6,179	796	1,048	1,107	853	543	413	302	174	72	74	5,382				
FY 08	6,374	820	820	1,080	1,141	881	560	426	312	181	74	5,475				
FY 09	6,576			846	1,115	1,178	908	578	439	322	186	5,572				
FY 10	6,784				873	1,150	1,215	937	596	453	331	5,555				
FY 11	6,997				901	901	1,185	1,252	966	615	468	5,387				
FY 12	7,219						929	1,223	1,292	997	635	5,076				
FY 13	7,447							958	1,260	1,333	1,028	4,579				
FY 14	7,682								988	1,300	1,374	3,662				
FY 15	7,925									1,019	1,341	2,360				
FY 16	8,175										1,051	1,051				
<b>Total paid</b>	<b>71,358</b>	<b>796</b>	<b>1,868</b>	<b>3,033</b>	<b>3,982</b>	<b>4,653</b>	<b>5,210</b>	<b>5,676</b>	<b>6,027</b>	<b>6,292</b>	<b>6,562</b>	<b>44,099</b>				
<b>Cumulative total</b>																
<b>Loss reserve and IBNR</b>																
FY 07		796	2,664	5,697	9,679	14,332	19,542	25,218	31,245	37,537	44,099	0				
FY 08		5,383	4,335	3,228	2,375	1,832	1,419	1,117	942	870	796	22,297				
FY 09			5,554	4,474	3,333	2,452	1,892	1,466	1,154	974	900	22,199				
FY 10				5,730	4,615	3,437	2,529	1,951	1,512	1,190	1,004	21,968				
FY 11					5,911	4,761	3,546	2,609	2,013	1,560	1,229	21,629				
FY 12						6,096	4,911	3,659	2,693	2,078	1,610	21,047				
FY 13							6,290	5,067	3,775	2,778	2,143	20,053				
FY 14								6,489	5,229	3,896	2,868	18,482				
FY 15									6,694	5,394	4,020	16,108				
FY 16										6,906	5,565	12,471				
											7,124	7,124				
<b>Total loss reserve and IBNR</b>	<b>0</b>	<b>5,383</b>	<b>9,889</b>	<b>13,432</b>	<b>16,234</b>	<b>18,578</b>	<b>20,587</b>	<b>22,358</b>	<b>24,012</b>	<b>25,646</b>	<b>27,259</b>	<b>183,378</b>				
<b>Total paid and change in loss reserve</b>	<b>71,358</b>	<b>6,179</b>	<b>11,757</b>	<b>16,465</b>	<b>20,216</b>	<b>23,231</b>	<b>25,797</b>	<b>28,034</b>	<b>30,039</b>	<b>31,938</b>	<b>33,821</b>	<b>227,477</b>				
<b>Cumulative total</b>																
		<b>5,383</b>	<b>15,272</b>	<b>28,704</b>	<b>44,938</b>	<b>63,516</b>	<b>84,103</b>	<b>106,461</b>	<b>130,473</b>	<b>156,119</b>	<b>183,378</b>					

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**OFFICE OF THE CITY AUDITOR**  
**CITY AND COUNTY OF HONOLULU**  
1000 ULUOHIA STREET, SUITE 120, KAPOLEI, HAWAII 96707 / PHONE: (808) 692-5134 / FAX: (808) 692-5135

LESLIE I. TANAKA, CPA  
CITY AUDITOR

May 5, 2006

*COPY*

Ms. Mary Patricia Waterhouse  
Director  
Department of Budget and Fiscal Services  
530 South King Street, Room 208  
Honolulu, Hawaii 96813

Dear Ms. Waterhouse:

Enclosed for your review are two copies (numbers 12 and 13) of our confidential draft report, *Captive Insurance Study for the City and County of Honolulu*. This study was conducted pursuant to Resolution 05-070. If you choose to submit a written response to our draft report, your comments will generally be included in the final report. However, we ask that you submit your response to us no later than 12:00 noon on Monday, May 22, 2006.

For your information, the mayor, acting managing director, and each councilmember have also been provided copies of this **confidential** draft report.

Finally, since this report is still in draft form and changes may be made to it, access to this draft report should be restricted. Public release of the final report will be made by my office after the report is published in its final form.

Sincerely,

A handwritten signature in cursive script, appearing to read "Leslie I. Tanaka".

Leslie I. Tanaka, CPA  
City Auditor

Enclosures

DEPARTMENT OF BUDGET AND FISCAL SERVICES  
**CITY AND COUNTY OF HONOLULU**  
 530 SOUTH KING STREET, ROOM 208 • HONOLULU, HAWAII 96813  
 PHONE: (808) 523-4616 • FAX: (808) 523-4771 • INTERNET: www.honolulu.gov

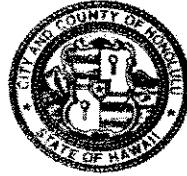
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C & C OF HONOLULU  
 CITY AUDITOR

MARY PATRICIA WATERHOUSE  
 DIRECTOR

PATRICK T. KUBOTA  
 DEPUTY DIRECTOR

MUFI HANNEMANN  
 MAYOR



May 19, 2006

Mr. Leslie I. Tanaka, CPA  
 City Auditor  
 Office of the City Auditor  
 City and County of Honolulu  
 1000 Uluohia Street, Suite 120  
 Kapolei, Hawaii 96707

Dear Mr. Tanaka:

Subject: Draft Report, *Captive Insurance Study for the City and County of Honolulu*  
 Report No. 06-04, May 2006

We appreciate the opportunity to review and respond to the draft report titled *Captive Insurance Study for the City and County of Honolulu*. We are constantly evaluating ways to better the process of managing the City's risks and welcome any constructive input and comments that may assist us in this process. While the draft report contains some inaccuracies and misunderstandings of City operations, it presents four primary recommendations for consideration. These recommendations address issues that have been recognized and reviewed by the City in the past, and we will continue to evaluate these recommendations as we move forward in our effort to add value to the City's risk management program.

The primary recommendation of the study is that the City should form a captive insurance company to address its risk and liability obligations. The City has been evaluating the practical aspects and analyzing the value of implementing a captive for more than 10 years. This study reiterates theoretical issues and benefits related to captives generally.

We believe it is important to point out that a captive insurance company is a risk financing option and does not shield the City from any liability. In addition, the only way a captive insurance company can generate investment income is if the City provides significant funding to the captive. Furthermore, all captive insurance companies in Hawaii are regulated by the State of Hawaii Insurance Division, Captive Insurance Branch which dictates the captive set-up, capitalization and funding plans.

The study identifies significant start-up (\$100,000) and annual operating (\$200,000 per year) costs associated with implementing and operating a captive insurance company. The only potential benefit discussed at length in the study requires the City to provide the captive funding of approximately \$17,000,000 for the opportunity to earn incremental investment income. The upfront funding of a captive is contrary to the long-standing City policy of funding liabilities on a "pay as you go" basis and would require a significant transfer of funds from the general fund to the captive insurance company. The study further assumes that the captive would be able to invest in higher yielding instruments compared to the

Mr. Leslie I. Tanaka, CPA  
May 19, 2006  
Page 2

City's current investment options. It is unclear as to whether such higher-yield investments would be available to a City-owned captive and we will consult with the Corporation Counsel on this issue. The study also does not discuss the impact of additional State regulation associated with implementing and operating a captive insurance company.

This draft study is consistent with our past analyses and does not identify any clear benefits that outweigh the significant added costs associated with setting up and operating a captive insurance company.

We would also like to address the other three recommendations included in the draft report. These recommendations do not directly relate to the captive insurance company issue.

- *Centralize oversight of the risk management program.* This concept is currently being analyzed and evaluated with the goal to maximize accountability, proactive risk control and efficiency of operations. We are currently implementing a consolidated computerized information system that will centralize loss and exposure information. The expected completion date for the consolidated information system is June 30, 2006.
- *Purchase excess workers' compensation insurance.* We will evaluate the risks, probabilities, costs and benefits associated with this recommendation.
- *Contract with an outside agency for an audit of workers' compensation claims handling.* We concur that there is value in periodic independent workers' compensation claims handling audits. Currently, internal claims handling reviews are performed by supervisory personnel and annually the external auditors include tests of specific workers' compensation claims as part of the year end financial audit. However, next fiscal year we plan to begin a more comprehensive program of periodic independent workers' compensation claims handling audits.

Again, thank you for the opportunity to review and comment on the Captive Insurance Study for the City and County of Honolulu draft report.

Sincerely,



MARY PATRICIA WATERHOUSE  
Director of Budget & Fiscal Services

APPROVED:



WAYNE M. HASHIRO, P.E.  
ACTING MANAGING DIRECTOR

MPW.bb



First Risk Management Services, Inc.  
A subsidiary of First Insurance Company of Hawaii, Ltd.

1100 WARD AVE SUITE 715, HONOLULU, HI 96814  
P.O. BOX 135027, HONOLULU, HI 96801

May 26, 2006

'06 MAY 26 P2:38

Mr. Leslie I. Tanaka, CPA  
Office of the City Auditor  
City and County of Honolulu  
1000 Uluohia Street, Suite 120  
Kapolei, Hawaii 96707

C & C OF HONOLULU  
CITY AUDITOR

RE: Draft Report, *Captive Insurance Study for the City and County of Honolulu*

Dear Mr. Tanaka:

We appreciate the opportunity to review and respond to the questions raised by the Department of Budget & Fiscal Services (BFS) about our draft report, titled *Captive Insurance Study for the City and County of Honolulu*. We continue to believe that our study does identify clear benefits that outweigh the costs associated with setting up and operating a captive insurance company.

Please note that the start-up costs, ongoing expenses and loss reserve funding identified by BFS in its response apply if the captive includes workers compensation, general liability and auto liability. However, our recommendation is that the City initially only fund its general liability and auto liability risks in the captive. We have added some additional exhibits/pro formas to the study that clarify what the estimated costs and accounting would look like under this scenario.

BFS is correct that "all captive insurance companies in Hawaii are regulated by the State of Hawaii Insurance Division, Captive Insurance Branch which dictates the captive set-up, capitalization and funding plans". Furthermore, Article 431:19-110, Legal investments, states that "Each captive insurance company shall be subject to the restrictions on allowable investments provided under sections 431:6-101 to 431:6-501; provided that the commissioner may approve other investments and investment provisions as the commissioner deems appropriate for each captive insurance company licensed under this article." BFS might consult with Corporation Counsel for its opinion but it appears that whether or not the City would be eligible for higher-yielding investment returns under the captive laws is up to the Insurance Commissioner and/or the Attorney General. Assuming the Commissioner sees no reason to disallow such investments (at a higher interest rate), we can think of no reason why the City would seek a ruling that disputes this decision.

Thank you again for the opportunity to respond to BFS's comments. We stand by the accuracy of our captive insurance study.

Sincerely,

Peter F. Junker  
Program Manager