For Discussion on
23 October 2018

LEGISLATIVE COUNCIL
PANEL ON DEVELOPMENT

Lift Modernisation Subsidy Scheme

PURPOSE

The Chief Executive announced in the 2018 Policy Address that the Government plans to launch a $2.5 billion "Lift Modernisation Subsidy Scheme" ("LIMSS") over six years starting from 2019-20 to promote lift modernisation in the community through provision of financial incentive with appropriate professional support to building owners in need, thereby enhancing lift safety. This paper serves to seek Members' views on the proposed LIMSS.

JUSTIFICATIONS

Current Situation

2. Property owners should take primary responsibility for proper upkeeping of their lifts. At present, there are about 66 000 lifts in Hong Kong and they are in general safe for use if there are proper periodic examinations and maintenance. With rapid technological advancement in recent years, modern lifts are equipped with more comprehensive safety devices than the aged ones. Therefore, aged lifts have room for improvement and enhancement. In view of this, the Electrical and Mechanical Services Department ("EMSD") promulgated in 2011 "the Guidelines for Modernising Existing Lifts" (see abstract at **Annex I**), introducing measures to enhance the safety of aged lifts and recommending retrofitting of safety devices. As the lift modernisation works are not mandatory, modernisation works have been carried out only to about 5 600 aged lifts in the territory so far (see **Annex II**). The progress of implementation is not significant.

Limitation of Current Subsidy Schemes

3. At present, the Government offers financial assistance through several schemes to owners of private buildings in need to repair/maintain buildings and facilities (including lifts) which are in dilapidated conditions. Such schemes include the "Integrated Building Rehabilitation Assistance Scheme" provided by the Urban Renewal Authority ("URA"), the "Building Safety Loan Scheme" provided by the Buildings Department and the "Building Maintenance Grant Scheme for Elderly Owners" administered by the Hong Kong Housing Society. We note that owners tend to use such financial support to repair or improve other

common areas of the buildings instead of modernising their lifts. Moreover, some owners may face difficulties in carrying out modernisation works due to problems of finance, technical knowledge and organisation ability.

LIFT MODERNISATION SUBSIDY SCHEME

4. In view of the above, the Development Bureau ("DEVB") and the EMSD have formulated short-term[1], medium-term and medium to long-term[2] measures to enhance the safety of aged lifts. Members of the Legislative Council ("LegCo") Panel on Development were briefed of these proposed measures at its meeting on 29 May 2018.

5. For the medium-term measure, we propose to provide financial subsidy for those owners in need through launching of a dedicated LIMSS which will be modelled on the on-going "Operation Building Bright 2.0 Scheme (OBB 2.0)" and "Fire Safety Improvement Works Subsidy Scheme (FSW Scheme)". Whilst $3.0 billion and $2.0 billion have been allocated to the OBB 2.0 and the FSW Scheme respectively, we propose to allocate $2.5 billion for launching the LIMSS.

6. The proposed LIMSS will comprise the following five core elements -

(a) Care-based: The LIMSS will focus on aged lifts at private residential and composite buildings with relatively low average rateable values ("RV") (paragraph 9);

(b) Safety-based: The LIMSS will focus on minimising the safety risk of aged lifts. Priority will be accorded to those lifts which have not been installed with the latest safety devices (paragraph 7);

(c) Resource-based: We propose to subsidise 60% of the cost of the modernisation works and the associated costs/fees, subject to a cap of $500,000 per lift with additional subsidy to elderly owner-occupiers[3] of eligible buildings (paragraph 14);

(d) Capacity-based: We target to modernise about 5 000 aged lifts within six years having regard to the capacity of the industry that can

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[1] The EMSD has stepped up its surveillance checks on the maintenance and examination of aged lifts, which have not yet been modernised, in particular those components that may affect the safe operation of lifts. Moreover, the EMSD has incorporated the requirements of the special maintenance works and improved format of logbook into the Code of Practice for Lift Works and Escalator Works (2018 Edition) of which the aforesaid measures came into effect via a gazette notice on 10 August 2018. The lift contractors and responsible persons for lifts have to fully implement the relevant measures before 1 February 2019.

[2] The DEVB and the EMSD will study the feasibility of mandating lift modernisation works in phases. In this regard, we will make reference to the practices of overseas countries, and take into account the impact on the community and the industry.

[3] Owner-occupiers are defined to include occupiers who are themselves owners of the residential units, as well as owners of properties which are the primary residences of the owners' immediate family members. Immediate family members mean parents, children, dependent brothers and sisters, grandparents, grandchildren, stepparents, spouse's parents or stepparents.

handle the additional lift modernisation under the LIMSS without inflating the market prices for such works (paragraph 23); and

(e) Streamlined procedures: We propose to partner with the URA in implementing the LIMSS (paragraph 17).

Details are elaborated in the ensuing paragraphs.

Scope of Works/Services to be Covered

7. The proposed LIMSS shall cover the following items of modernisation works/services of an aged lift –

(a) Provision of subsidy to the construction cost of (i), (ii) or (iii) below –

(i) Retrofitting with the following additional safety devices and associated works –

<u>Essential safety devices, each of which must be included in the applications made under the LIMSS if such devices have not been installed in the lifts</u>

- Double brake system;
- Unintended car movement protection device;
- Ascending car overspeed protection device;
- Car door mechanical lock and door safety edge;

<u>Optional safety devices</u>

- Intercom and CCTV system;
- Obstruction switch to protect suspension ropes;
- Automatic rescue devices;

(ii) Lift drive replacement and associated works where it is technically necessary or more cost-effective to do so in order to retrofit the "essential safety devices" listed in (a)(i) above;

(iii) Complete replacement of lifts which have not been equipped with any or all of the "essential safety devices" listed in (a)(i) above.

(b) Provision of subsidy to follow-up services during defect liability period after completion of the works in (a) above but exclusive of routine maintenance.

(c) Fee of the consultants engaged by the URA to provide free services to the participating buildings of the LIMSS, or fee of consultants engaged by participating buildings on their own, if any, subject to a cap of $20,000 per lift.

(d) The URA's administration fee for its e-tendering platform under the

"Smart Tender".

(e) Expenses related to the EMSD's relevant support services to the URA.

Eligible Buildings

8. We propose that the LIMSS shall only cover lifts in private residential or composite buildings, which have not been installed with all the "essential safety devices" listed in paragraph 7(a)(i) above.

9. Making reference to the "OBB 2.0" and the "FSW Scheme", we also propose to set a ceiling on the average RV of domestic units in a participating building, which is $162,000 per annum in urban areas (including Sha Tin, Kwai Tsing and Tsuen Wan Districts) and $124,000 per annum in the New Territories (all New Territories districts excluding Sha Tin, Kwai Tsing and Tsuen Wan districts). We will review and where necessary update these average RV ceilings from time to time in conjunction with the URA to tie in with changes in market values of properties.

10. Based on the criteria mentioned above, we estimate that there will be about 13 000 lifts eligible for the LIMSS and we will offer subsidy to about 5 000 lifts with higher priority for implementing the modernisation works.

Target Beneficiaries

11. As lifts are communal facilities of a building, owners should coordinate among themselves to carry out the lift modernisation works. We therefore recommend the subsidy be disbursed to owners' corporation or owners' committees on a building-basis, save for elderly owner-occupiers mentioned in paragraph 13 below.

12. As there is already screening as to whether a participating building is eligible using the average RV and for ease of administration, we recommend that the subsidy recipients will not undergo any asset or income means test.

13. For public resources to be allocated to those in greater need, we recommend that additional subsidies be granted to elderly owner-occupiers of eligible buildings, which will be disbursed to owners' corporations, owners' committees or the elderly owner-occupiers direct as appropriate.

Subsidy Level

14. Making reference to the average cost for lift modernisation works, we propose that subsidies for lift modernisation works in eligible buildings be set as

follows –

(a) Subsidise 60% of the total cost of the modernisation works (as listed in paragraphs 7(a) to (b)) and the fee of consultants engaged by participating buildings (at a cap of $20,000 per lift as listed in paragraph 7(c)), subject to a cap of $500,000 per lift; and

(b) Subsidise elderly eligible owner-occupiers aged 60 or above the full cost that they have contributed towards the lift modernisation works, subject to a cap of $50,000 per domestic unit.

Transitional Arrangements Prior to Invitation of Applications

15. We plan to invite applications under the LIMSS by the end of 2019 Q1. To prevent deferral of lift modernisation works by owners of eligible buildings in order to obtain the subsidy under the LIMSS, on-going[4] lift modernisation works of such buildings will still be eligible for making applications under the LIMSS provided that –

(a) the Resumption Permit (i.e. Form LE8) allowing resumption of the use and operation of the lift undergoing the modernisation works has not been issued by the EMSD as at 10 October 2018 when the LIMSS was announced by the Chief Executive in her 2018 Policy Address;

(b) the lift modernisation works concerned must cover at least one of the "essential safety devices" as mentioned in paragraph 7(a); and

(c) the tendering process for procuring the modernisation works concerned must comply with the requirements of the Building Management Ordinance (Cap 344). In this connection, the applicants shall submit relevant documentary proof for vetting by the URA.

16. Applications made pursuant to paragraph 15 will be assessed based on the same set of criteria together with other applications received.

Administration of the LIMSS

17. The URA will serve as the administrative agent for the LIMSS. The detailed terms of partnership between the Government and the URA will be

[4] The lift modernisation works will be regarded as on-going if tender invitation has already been made or the works have already commenced as at the date when the first round applications under the LIMSS are invited.

stipulated by way of a memorandum of understanding (MoU). Moreover, a committee comprising representatives from the DEVB, the URA and the EMSD will be set up to vet applications received and prioritise subsidies for eligible buildings, and to deal with cases warranting special considerations such as the "three-nil buildings"[5].

Monitoring of Quality of Works

18. Generally speaking, the URA's consultants assigned to the applicants or the consultants appointed by the applicants will monitor the progress and quality of the lift modernisation works. Further, it is a statutory requirement that the modernisation works must be carried out by a registered lift contractor (RLC) and be examined, following works completion, by a registered lift engineer (RLE) to certify that the works are of good design and construction and in safe working condition. The EMSD will conduct sample inspections following receipt from the applicant of an application for resumption of the use and operation of the lift in question. If there are any irregularities found which result in contravention of the Lifts and Escalators Ordinance (Cap. 618) on the part of the RLC or the RLE, the EMSD may instigate appropriate regulatory actions, e.g. prosecution and/or disciplinary actions against the person(s) concerned. To ensure proper use of public funds, the URA will arrange its consultants to conduct site visits to ensure that the claimed lift modernisation works have taken place. Further, in deciding the amount of subsidy to be disbursed, the URA will make reference to the cost estimations made by its consultants.

Measures to Prevent Bid-rigging

19. Consultants will be engaged by the URA to provide free services to the participating buildings for pursuing the lift modernisation works. The services include scope assessment, cost estimation (for budgeting purpose), tender document preparation based on proforma standard tender documents, tendering through the URA's electronic tendering (e-tendering) platform, tender evaluation (limited to offering technical advice), works supervision and contract management associated with the lift modernisation works.

20. Alternatively, participating buildings may engage their own consultants. In this case, the cost of engaging the consultants, at a cap of $20,000 per lift, will be covered in the scope of the subsidy of the LIMSS (paragraph 7(c)).

21. Participating buildings must use the e-tendering platform under the URA's "Smart Tender" for engaging contractors whereby the identities of tenderers will remain anonymous until tender opening. A "DIY tool-kit" will also be provided

[5] Viz., buildings with no owners' corporation or owners' committee formed, or property management company employed.

by the URA to participating buildings to guide them in organizing the works.

22. All buildings joining the LIMSS will be automatically registered for the RenoSafe Scheme operated by the Police. Under the Scheme, officers of the Anti-Triad Squads would pay visits to participating buildings, offering them services including a hotline for enquiry and crime reporting as well as public education materials. Moreover, Police officers will be present at the meetings of owners' committees or owners' organisations on a need-basis during the works tendering process to give advice on bid-rigging.

Industry Capacity

23. Currently, the industry has a capacity of handling modernisation works for about 1 500 lifts each year, which is expected to steadily increase to about 2 500 lifts each year by 2025 taking account of the new workers and apprentices joining the industry in recent years. As such, the industry should be able to gradually take up modernisation works for another 1 000 lifts per year without jacking up the market prices. Therefore, we plan to grant subsidies for the modernisation of about 5 000 lifts over six years, with 600 lifts per year initially (2019-20) up to 900 lifts per year in 2024-25 (**Annex III**).

Implementation Plan

24. We intend to invite first-round applications in end March 2019 tentatively. In view of the lead time required for owners to reach a consensus, publicity materials will be sent to the eligible buildings in early 2019, informing them of the details of the proposed LIMSS including the tentative implementation schedule. We plan to close the first-round applications in Q3 2019 tentatively with a view to announcing the priority (based on risk assessment) of the eligible applicants by around 2019 Q4.

25. To allow more lead time for those buildings which require more time in coordinating and reaching consensus amongst owners for taking part in the LIMSS, we plan to invite second-round applications for the LIMSS in the second half of 2019.

FINANCIAL IMPLICATION

26. We estimate that a non-recurrent funding of $2.5 billion will be required for launching the LIMSS over six years covering subsidies to the works/services and other related expenses mentioned in paragraph 7, broken down as follows -

		$ million
(a)	Subsidy for lift modernisation including consultants' fees[6] (paragraphs 7(a) to (c) above)	2,449.8
(b)	Administration fee for the LIMSS (paragraphs 7(d) to (e) above)	50.2
	Total:	2,500.0

27. It is our intention to expend the $2.5 billion in full. In other words, if there are funds left unspent upon completion of the modernisation works of the first 5 000 lifts under the LIMSS, we may select more lifts for granting subsidies.

28. We will disburse the funding by installments to the URA. The estimated expenditure in 2019-20 is about $0.26 billion. The estimated cash flow requirements together with the corresponding number of lifts to be modernised are at **Annex III**.

ADVICE SOUGHT

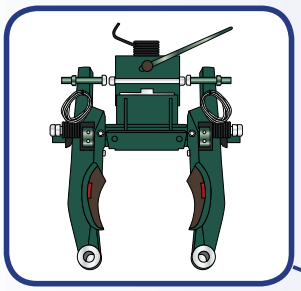
29. Members are invited to comment on the proposal. Subject to Members' views, we will seek the necessary funding approval from the Finance Committee of the Legislative Council in accordance with the established mechanism.

Development Bureau
Electrical and Mechanical Services Department

October 2018

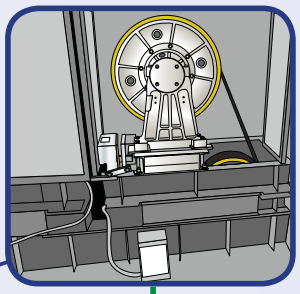
[6] The consultants' fees are around 5% to 8% of the cost of modernisation works

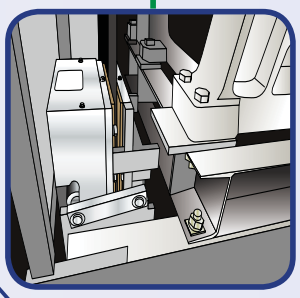
Applicable Solutions for Enhancing Requirements of Existing Lifts

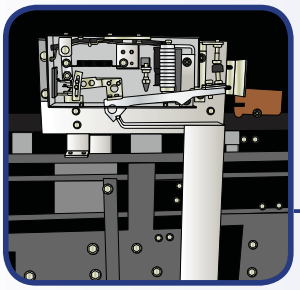


1. Install a double brake system

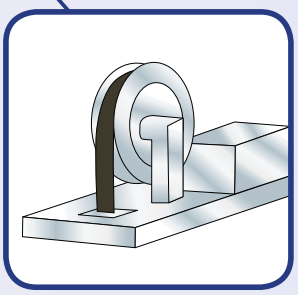
2. Install an unintended car movement protection device on the brake system



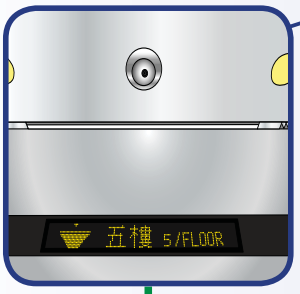




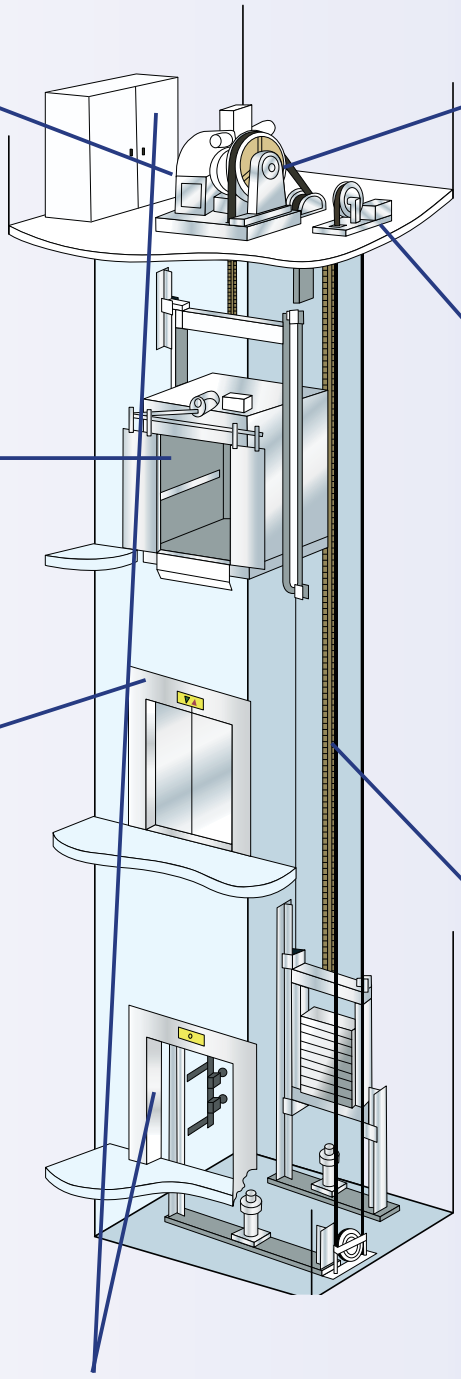
4. Install advanced car door mechanical lock and door safety edge



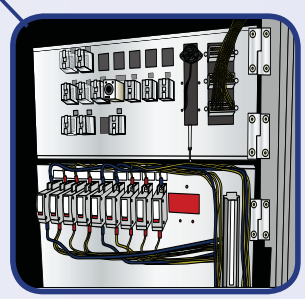
3. Install an ascending car overspeed protection device



5. Add an intercom & CCTV system



7. Add automatic rescue devices



6. Install an obstruction switch to protect suspension ropes

Seven Solutions for Enhancement of Older Lifts

Seven solutions have been identified with the greatest potential benefit for safety, reliability and comfort enhancement in older lifts. The first four solutions should be considered with priority, whereas the remaining three solutions should be considered according to the actual situation or individual need. The applicable solutions for enhancing requirements of existing lifts shown on page 5 are elaborated as follows:-

Solution 1: *Install a Double Brake System*

Older lifts may be fitted with only one brake and so the failure of parts could cause a lift car to stop ineffectively. Installing a redundant braking system can enhance safety as it has all the main brake parts in two sets, so that in the event of one set of parts fails, the other set of parts will ensure the safe operation of the lift.

A modern double brake system has two independent braking systems, each of which is normally electrically monitored.

Lifts installed before 2002 may not be up to this technical level. RPs should consider installing such system.

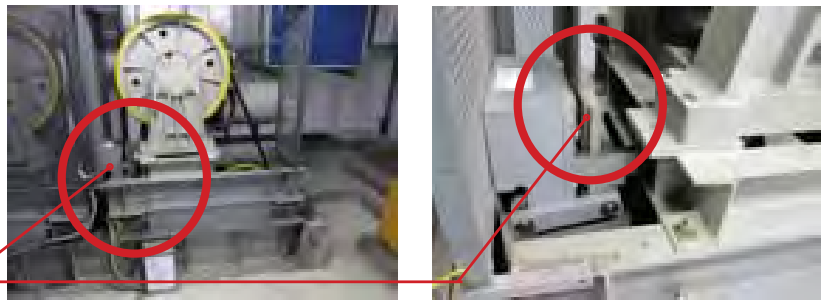
Solution 2: *Install an Unintended Car Movement Protection Device*

Unintended movement of the lift car whilst the doors are open and passengers are entering or exiting the lift car could result in injuries. To prevent unintended car movement, lift owners are advised to upgrade the braking system with built-in redundancy and self-monitoring features,

such as rope gripper. Such devices can protect the lift car from any unintended movement away from the landing position, thus enhancing passenger safety.

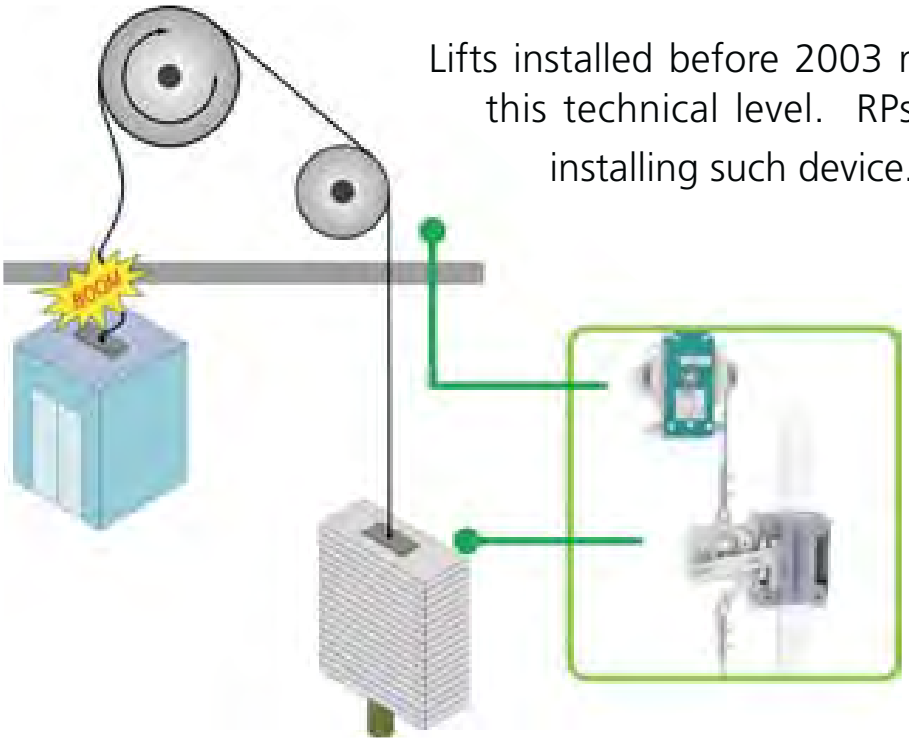
Lifts installed before 2007 may not be up to this technical level. RPs should consider installing such device.

Diagram showing the operation of rope gripper: if unintended car movement is detected, the rope gripper will be activated to stop the lift.



Solution 3: *Install an Ascending Car Overspeed Protection Device*

Installing an ascending car overspeed protection device can protect an ascending car from accidentally overspeeding. This can reduce the risk of the ascending lift car from accidentally hitting the top of the lift well, and thus protecting passengers from injuries. The protection device detects and stops any overspeed movement of the ascending lift car.



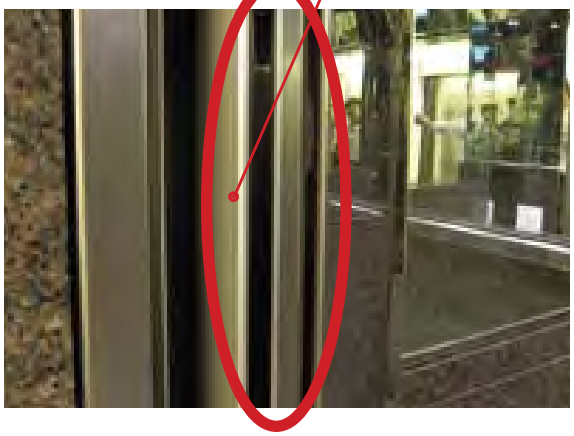
Lifts installed before 2003 may not be up to this technical level. RPs should consider installing such device.

Solution 4: *Install Car Door Mechanical Lock and Door Safety Edge*

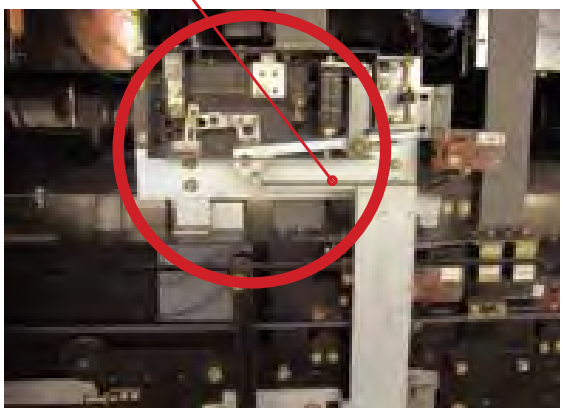
The benefit of installing car door mechanical lock in older lift doors is to prevent passengers inside the lift car from forcibly opening the lift doors, which can be dangerous. The benefit of installing the door safety edge is to automatically initiate re-opening of the door should a passenger be struck by the door as it is closing.

Lifts installed before 1984 may not be up to this technical level, and RPs are recommended to install such device.

Safety Edge



Door Lock



To ensure the lift is more reliable and comfortable for riding, RPs are also recommended to consider the following solutions while carrying out the lift modernisation works.

Solution 5: Add an Intercom and CCTV System

If trapped in a lift, passengers can always press the alarm bell for help, but experience shows that it is not the best option. Installing an intercom system makes it possible for trapped passengers to communicate directly with management office staff who can take speedy action to call Fire Services Department and lift contractor. Some advanced intercom systems also allow passengers to directly contact a 24-hour call centre of the registered lift contractor for assistance.

RPs may also consider installing a closed-circuit television (CCTV) system which comprises a camera in the lift car and an emergency alarm push button with buzzer (or alarm bell), all connected to the building management office. Management office staff can also monitor the CCTV video captured round the clock and take speedy action during emergency.

Intercom

Lifts installed before 1997 may not be equipped with such intercom and CCTV system. Lift owners are desired to install such system.

CCTV system

Solution 6: Install an Obstruction Switch to Protect Suspension Ropes

Excessive wear and tear of suspension ropes is a major cause of ropes breakages. The provision of an obstruction switch can prevent the excessive wear and tear of the suspension ropes and sheaves during breakdown, which can happen when the movement of the lift car or counterweight is obstructed while the motor is still in operation.

Obstruction Switch installed in the Control Panel

Lifts installed before 1984 may not satisfy this requirement. Lift owners are desired to install such device.

Solution 7: Add Automatic Rescue Devices

Passengers may be trapped inside a lift car in case of power failure. If an advanced automatic rescue device is installed, it can maintain the lift in a momentary operation for the safe exit of passengers, and prevent them from being trapped. When normal power supply fails, the device detects the voltage dip, uses back-up battery power to move the lift to the nearest landing floor and opens the doors to release the passengers. The lift will then remain out of service until normal power supply is resumed.

Summary of Seven Enhancement Solutions

	Enhancement Solution	Benefit
1.	Install a redundant brake system	Older lifts with one brake may lead to ineffective braking should the brake fail. If a redundant brake system is installed, the lift will be able to stop safely even if one set of the brake fails.
2.	Install an unintended car movement protection device on the brake system	It can prevent any unintended lift car movement, passengers will be safer as they go in and out of a lift.
3.	Install an ascending car overspeed protection device	Prevent overspeed of an ascending lift car. Increased safety and reliability of lift operation.
4.	Install car door mechanical lock and door safety edge	Prevent passengers inside the lift cars from forcibly opening the lift door, and from being struck by the lift door as it is closing. Passengers will be safer as they enter and exit the lift.
5.	Add an intercom and CCTV system	It enables trapped lift passengers to communicate instantly with management staff, speedy rescue action for trapped passengers.
6.	Install an obstruction switch to protect the suspension ropes	When the movement of the lift car or counterweight is obstructed while the motor is still in operation, it will cause excessive wear and tear of the suspension ropes and sheaves. This enhancement solution prevents from excessive wear and tear of suspension ropes and sheaves, so that the lift is more safe and reliable for riding.
7.	Add automatic rescue device	Prevent passengers from being trapped in case of power failure. Increased reliability of lift operation.

Annex II

Lifts which have not been equipped with modernisation items

Modernisation items for lifts	Percentage of total lifts which have not been equipped with modernisation items
Items 1 to 4 (Implementation should be considered with priority)	
1 Install Double Brake System	**58%**
2 Install Unintended Car Movement Protection Device	**79%**
3 Install Ascending Car Overspeed Protection Device	**76%**
4 Install Car Door Mechanical Lock and Door Safety Edge	**37%**
Items 5 to 7 (Implementation should be considered according to the actual situation or individual need)	
5 Add Intercom and CCTV System	**18%**
6 Install Obstruction Switch to Protect Suspension Ropes	**18%**
7 Add Automatic Rescue Devices	**82%**

Annex III

Estimated Cash Flow Requirements & Corresponding Number of Lifts to be Modernised under LIMSS

Year	Estimated no. of Lifts to be Modernised	Estimated Cash Flow Requirement [Remark] ($ million)
2019-20	600	260
2020-21	800	360
2021-22	900	430
2022-23	900	460
2023-24	900	480
2024-25	900	510
Total:	**5 000**	**2,500**

Remark:
The estimated cash flow includes the subsidy for lift modernisation, the consultants' fees and the administration fee for the LIMSS.