

ITEM FOR FINANCE COMMITTEE

HEAD 42 – ELECTRICAL AND MECHANICAL SERVICES DEPARTMENT

Subhead 700 General non-recurrent New Item “Lift Modernisation Subsidy Scheme”

Members are invited to approve a new non-recurrent commitment of \$2.5 billion for implementing the Lift Modernisation Subsidy Scheme.

PROBLEM

To enhance lift safety and further safeguard safety of the public, we need to facilitate lift modernisation in the community through the provision of financial incentive with appropriate professional support to private building owners in need.

PROPOSAL

2. The Secretary for Development proposes the creation of a new non-recurrent commitment of \$2.5 billion for implementing the Lift Modernisation Subsidy Scheme (LIMSS) over six years starting from 2019-20.

JUSTIFICATION

Current Situation

3. Property owners should take primary responsibility for the proper upkeep of 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 advancements in recent years, modern lifts

/are

Encl. 1

Encl. 2

are equipped with more comprehensive safety devices than the aged ones¹. Therefore, aged lifts have room for improvement and enhancement. In view of this, the Electrical and Mechanical Services Department (EMSD) promulgated the “Guidelines for Modernising Existing Lifts” in 2011. These guidelines introduce measures to enhance safety of aged lifts and recommend retrofitting of safety devices. An extract of the guidelines is at Enclosure 1. As lift modernisation works are not mandatory, only about 5 600 aged lifts in the territory have been modernised so far. The proportion of lifts which are not equipped with modernisation items is set out in Enclosure 2.

Current Subsidy Schemes

4. 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. These include the Integrated Building Rehabilitation Assistance Scheme of the Urban Renewal Authority (URA), the Building Safety Loan Scheme of the Buildings Department and the Building Maintenance Grant Scheme for Elderly Owners of the Hong Kong Housing Society. We note that owners tend to make use of the financial support under these schemes to repair or improve other common areas of the buildings instead of modernising lifts. Moreover, some owners may face difficulties in carrying out lift modernisation works due to other problems such as lack of technical knowledge and organisation ability. We need to help speed up the progress.

Launching of LIMSS

5. Two recent serious lift incidents² have led to fatality and casualty. The lifts involved in both incidents were aged lifts not equipped with safety devices up to the latest standards. In view of the above, the Development Bureau (DEVB) and EMSD have formulated short-term³, medium-term and medium to long-term⁴

/measures

¹ Aged lifts refer to those lifts which were installed in earlier times according to the old design and safety standards.

² A lift incident happened on 8 April 2018 at Block 2 of Waterside Plaza in Tsuen Wan resulting in injury of two passengers while the other lift incident happened on 11 May 2018 at Paris Court of Sheungshui Town Centre resulting in fatality of one passenger.

³ 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, EMSD has incorporated the requirements of (i) special maintenance works and (ii) improved format of logbook into the Code of Practice for Lift Works and Escalator Works (2018 Edition), which will have to be fully implemented by the lift contractors and responsible persons for lifts before 1 February 2019.

⁴ DEVB and EMSD will study the feasibility of mandating lift modernisation works by phases. In this regard, reference will be made to overseas practices, and the impact on the community and the industry will be taken into account.

measures to enhance safety of aged lifts. Members of the Legislative Council (LegCo) Panel on Development were briefed on these proposed measures at the meetings on 29 May 2018 and 23 October 2018.

6. For the medium term, we propose to provide financial subsidy for owners in need through the 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)⁵. We propose to allocate \$2.5 billion for launching the LIMSS.

7. 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 10);
- (b) Safety-based: The LIMSS will focus on minimising the safety risk of aged lifts. Priority will be accorded to lifts which have not been installed with safety devices up to the latest standards (paragraph 8);
- (c) Resource-based: We propose to subsidise 60% of the cost of the modernisation works, subject to a cap of \$500,000 per lift⁶ with additional subsidy to elderly owner-occupiers⁷ of eligible buildings (paragraph 15);
- (d) Capacity-based: We target to modernise about 5 000 aged lifts within six years under the LIMSS having regard to the capacity of the industry without inflating the market prices for such works (paragraph 24); and
- (e) Streamlined procedures: We propose to partner with URA in implementing the LIMSS (paragraph 18).

/Scope

⁵ \$3.0 billion and \$2.0 billion have been allocated to the OBB 2.0 and the FSW Scheme respectively.

⁶ Including subsidy for fees of consultants engaged by participating buildings.

⁷ 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.

Scope of Works/Services to be Covered

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

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

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

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

- Double brake system;
- unintended car movement protection device;
- ascending car overspeed protection device; and
- car door mechanical lock and door safety edge;

Optional safety devices

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

(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, and the works in (a)(i) above; or

(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 for follow-up services during defect liability period after completion of the works in (a) above, but exclusive of routine maintenance.

/(c)

- (c) Fee of the consultants engaged by 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) URA's administration fee for its electronic tendering (e-tendering) platform under the Smart Tender.
- (e) Expenses related to EMSD's relevant support services to URA.

Eligible Buildings

9. 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 8(a)(i) above.

10. 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 and Sha Tin, Kwai Tsing and Tsuen Wan districts; and \$124,000 per annum in the New Territories except 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 URA to tie in with changes in market values of properties.

11. 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

12. 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' corporations or owners' committees on a building-basis, save for elderly owner-occupiers mentioned in paragraph 14 below.

13. As there is already screening as to whether a participating building is eligible using the average RV, further asset or income means test is not recommended.

14. For public resources to be allocated to those in greater need, we recommend that additional subsidies be granted to elderly owner-occupiers aged 60 or above of eligible buildings, which will be disbursed to owners' corporations, owners' committees or the elderly owner-occupiers direct as appropriate.

Subsidy Level

15. 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 lift modernisation works (as listed in paragraphs 8(a) to (b)) and subsidise the fee of consultants engaged by participating buildings (at a cap of \$20,000 per lift as listed in paragraph 8(c)), subject to a total cap of \$500,000 per lift; and
- (b) subsidise elderly eligible owner-occupiers aged 60 or above the full cost that they need to contribute towards the lift modernisation works, subject to a cap of \$50,000 per domestic unit.

Transitional Arrangements Prior to Invitation of Applications

16. We plan to invite applications under the LIMSS by the end of the first quarter of 2019. To prevent deferral of lift modernisation works by owners of eligible buildings in order to obtain the subsidy under the LIMSS, on-going⁸ 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 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 8(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 URA.

/17.

⁸ 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.

17. Applications made pursuant to paragraph 16 will be assessed based on the same criteria that apply to other applications received.

Administration of the LIMSS

18. URA will serve as the administrative agent for the LIMSS. The detailed terms of partnership between the Government and URA will be stipulated by way of a memorandum of understanding. Moreover, a committee comprising representatives from DEVB, URA and 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”⁹.

Professional Support to Building Owners

19. Consultants will be engaged by 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 standard tender documents template, tendering through URA’s 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 consultants, at a cap of \$20,000 per lift, will be covered in the scope of subsidy of the LIMSS (paragraph 8(c)).

Measures to Prevent Bid-rigging

21. Participating buildings must use the e-tendering platform under 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 by URA to participating buildings to guide them in organising 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

⁹ These are buildings with no owners’ corporation or owners’ committee formed, nor property management company employed.

education materials. Moreover, police officers will be present at relevant meetings of owners' corporations or owners' committees on a need-basis during the tendering process for the lift modernisation works to give advice on the prevention of bid-rigging.

Monitoring of Quality of Works

23. Generally speaking, the URA's consultants assigned to the applicants or the consultants engaged by the applicants will monitor the progress and quality of the lift modernisation works. Further, it is a statutory requirement that such works must be carried out by a registered lift contractor (RLC) and be examined, following completion of works, by a registered lift engineer (RLE) to certify that the works are of good design and construction and in a safe working condition. EMSD will conduct sample inspections following receipt of an application from the applicant 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, 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, URA will arrange its consultants to conduct site visits to ensure that the claimed lift modernisation works have taken place. Moreover, in deciding the amount of subsidy to be disbursed, URA will make reference to the cost estimations made by its consultants.

Industry Capacity

24. 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 number of new workers and apprentices joining the industry in recent years. We assess that the industry should be able to gradually take up modernisation works for another 1 000 lifts per year without driving up the market prices. Therefore, we plan to grant subsidies for modernisation of about 5 000 lifts over six years, with 600 lifts initially in 2019-20, increasing to 800 lifts in 2020-21 and further to 900 lifts per year from 2021-22 to 2024-25. The estimated cash flow requirements and corresponding number of lifts to be modernised under LIMSS are shown in Enclosure 3.

Encl. 3

IMPLEMENTATION PLAN

25. We intend to invite first-round applications by the end of the first quarter of 2019. 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

informing them of the details of the proposed LIMSS including the tentative implementation schedule. We plan to close the first-round applications in the third quarter of 2019 tentatively, with a view to announcing the priority (based on risk assessment) of the eligible applicants by around the fourth quarter of 2019.

26. 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 IMPLICATIONS

27. We estimate that a non-recurrent funding of \$2.5 billion will be required for launching the LIMSS over six years, as detailed below –

	\$ million
(a) Subsidy for lift modernisation including consultants' fees ¹⁰ (paragraphs 8(a) to (c) above)	2,449.8
(b) URA's administration fee for its e-tendering platform under the Smart Tender (paragraph 8(d) above)	30.0
(c) Expenses related to EMSD's relevant support services to URA (paragraph 8(e) above)	20.2
Total :	<u>2,500.0</u>

28. 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.

29. We will disburse the funding by installments to URA. The estimated expenditure in 2019-20 is about \$260 million. The estimated cash flow requirements together with the corresponding number of lifts to be modernised are shown in Enclosure 3.

/PUBLIC

¹⁰ With reference to past cases, the consultants' fees should be around 5% to 8% of the cost of modernisation works.

PUBLIC CONSULTATION

30. We consulted the LegCo Panel on Development on the details of the LIMSS on 23 October 2018. Members were in general supportive of the proposal. They passed two motions proposing: (i) relaxation of the average RV ceilings of the LIMSS; (ii) extension of the coverage of the LIMSS to elderly owner-occupiers of non-eligible buildings; (iii) a review of the retrospective period for applying the LIMSS; and (iv) ways to further attract new blood to join the lift and escalator industry. We explained at the meeting that we would review the effectiveness of the LIMSS two years after commencement, and we had been implementing a series of measures to attract more new blood to join the industry. We also issued a detailed response to the motions to the LegCo Panel on Development on 8 November 2018 (LC Paper No. CB(1)158/18-19(01) and CB(1)158/18-19(02)). Besides, we briefed the Lift and Escalator Safety Advisory Committee¹¹ of the preliminary framework of LIMSS at its meeting on 13 July 2018 and obtained the Committee's support.

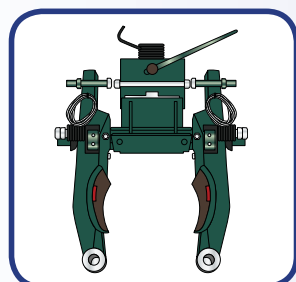
BACKGROUND

31. The Chief Executive announced in the 2018 Policy Address that the Government planned to launch a \$2.5 billion LIMSS to facilitate lift modernisation in the community through the provision of financial incentive with appropriate professional support to building owners in need, thereby enhancing lift safety and further safeguarding safety of the public.

Development Bureau
November 2018

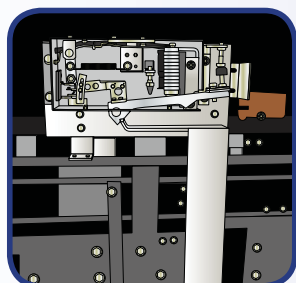
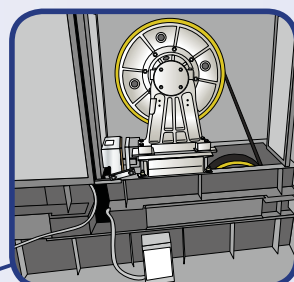
¹¹ Members of the Lift and Escalator Safety Advisory Committee include representatives from Hong Kong Institution of Engineers, Lift and Escalator Contractors Association, Registered Elevator and Escalator Contractors Association Limited, International Association of Elevator Engineers (Hong Kong - China Branch), Hong Kong General Union of Lift and Escalator Employees, Construction Industry Council, Vocational Training Council, Hong Kong Institute of Surveyors, Hong Kong Association of Property Management Companies, Building Services Operation and Maintenance Executives Society, Consumer Council and Hong Kong Housing Society.

Applicable Solutions for Enhancing Existing Lifts

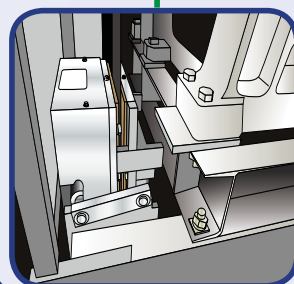


1. Install a double brake system

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



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



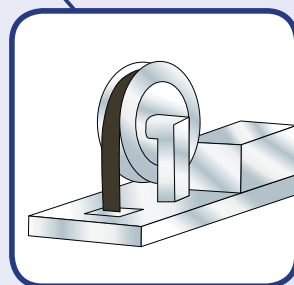
3. Install an ascending car overspeed protection device



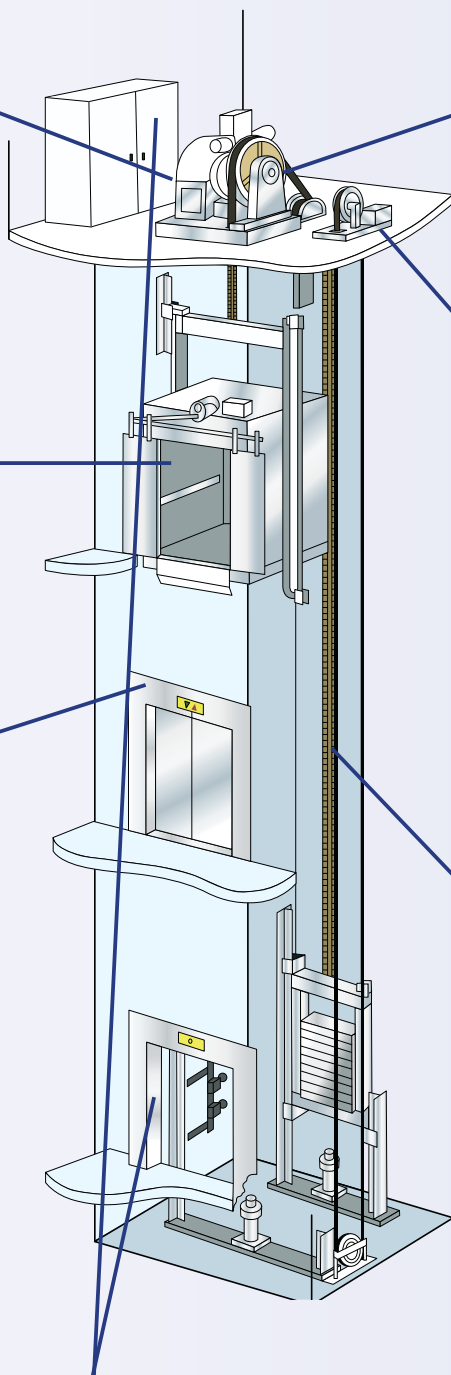
5. Add an intercom & CCTV system



6. Install an obstruction switch to protect suspension ropes



7. Add automatic rescue devices



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 existing lifts shown on page 7 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. Responsible Persons (RPs) should consider installing such system.

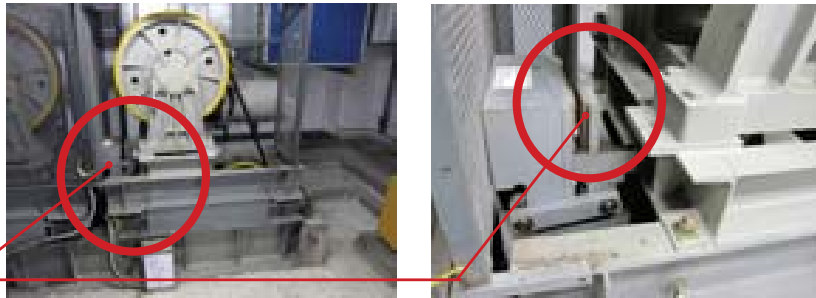
► ***Solution 2: Install an Unintended Car Movement Protection Device***

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.

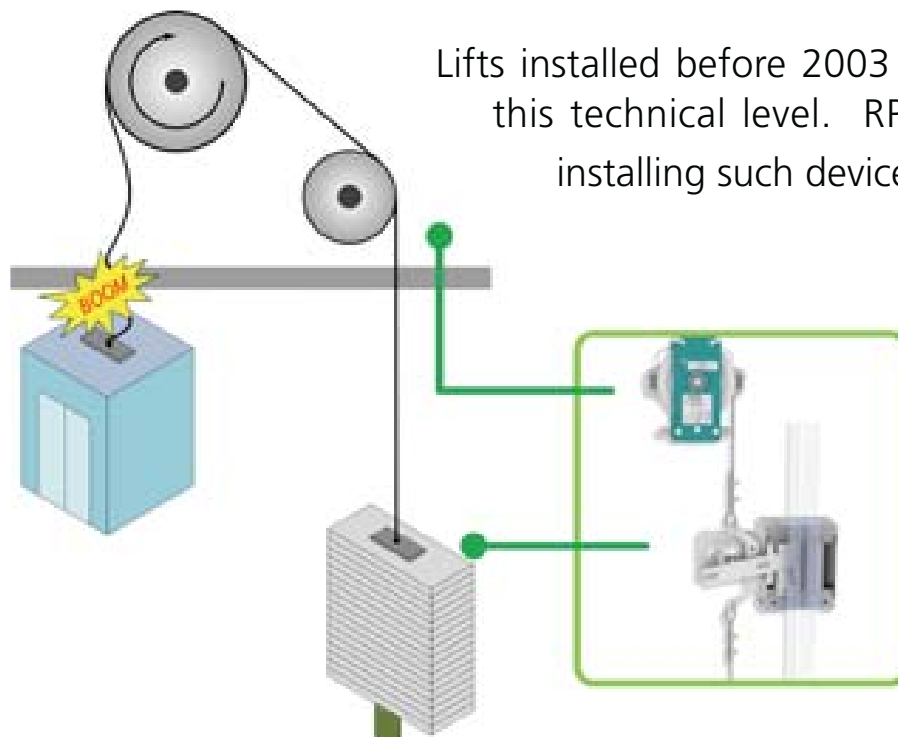
Lifts installed before 2007 may not be up to this technical level. RPs should consider installing such device.

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.

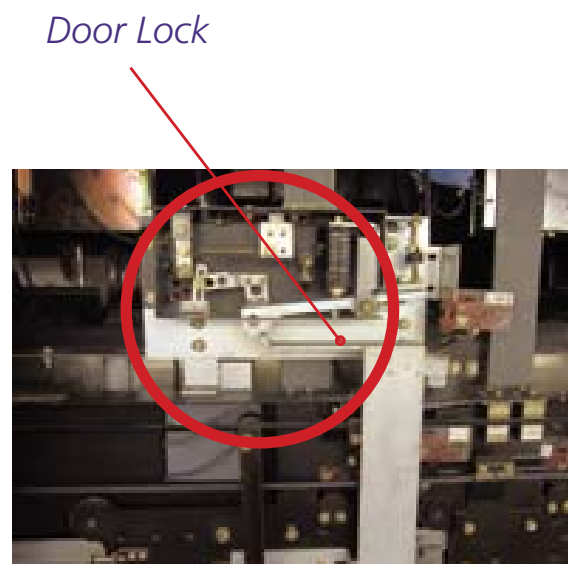
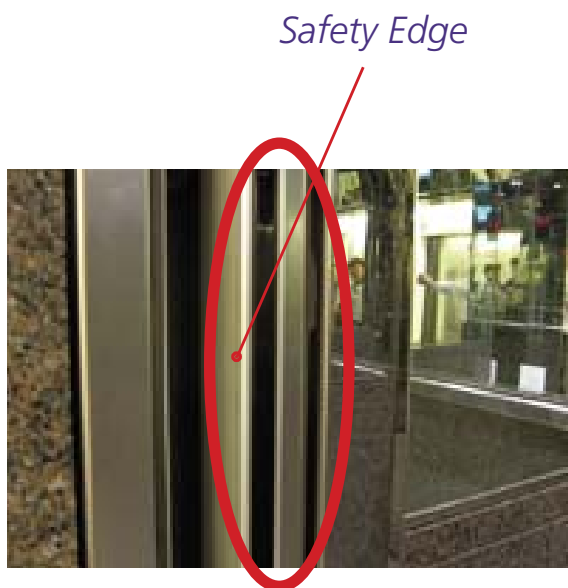


Lifts installed before 2003 may not be up to this technical level. RPs should consider installing such device.

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.



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.

RP's 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.

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

*CCTV
system*



Intercom



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 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.

**Proportion of Lifts
Which Have Not Been Equipped with Modernisation Items**

Modernisation items for lifts	Proportion of 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%

**Estimated Cash Flow Requirements and
Corresponding Number of Lifts to be Modernised
under Lift Modernisation Subsidy Scheme (LIMSS)**

Year	Estimated Number of Lifts to be Modernised	Estimated Cash Flow Requirement^{Note} (\$ 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

Note:

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