

Feasibility Study for the Relocatable Modular Integrated Construction in Facilitating the Redevelopment of Public Rental Housing

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INTRODUCTION

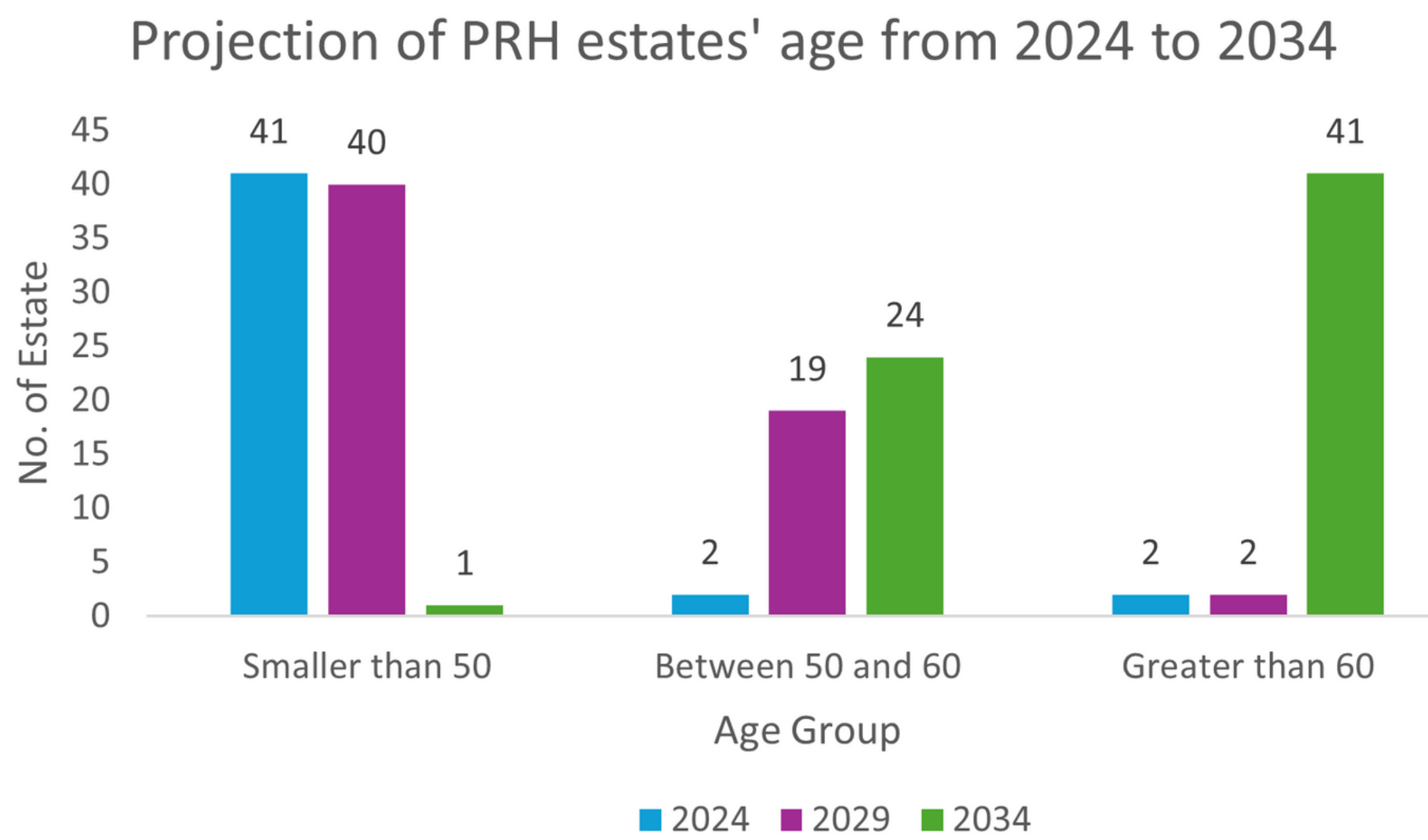


Fig 1: Projection for PRH estates' age from 2024 to 2034



Fig 2: Relocatable MiC module in Nam Cheong 220

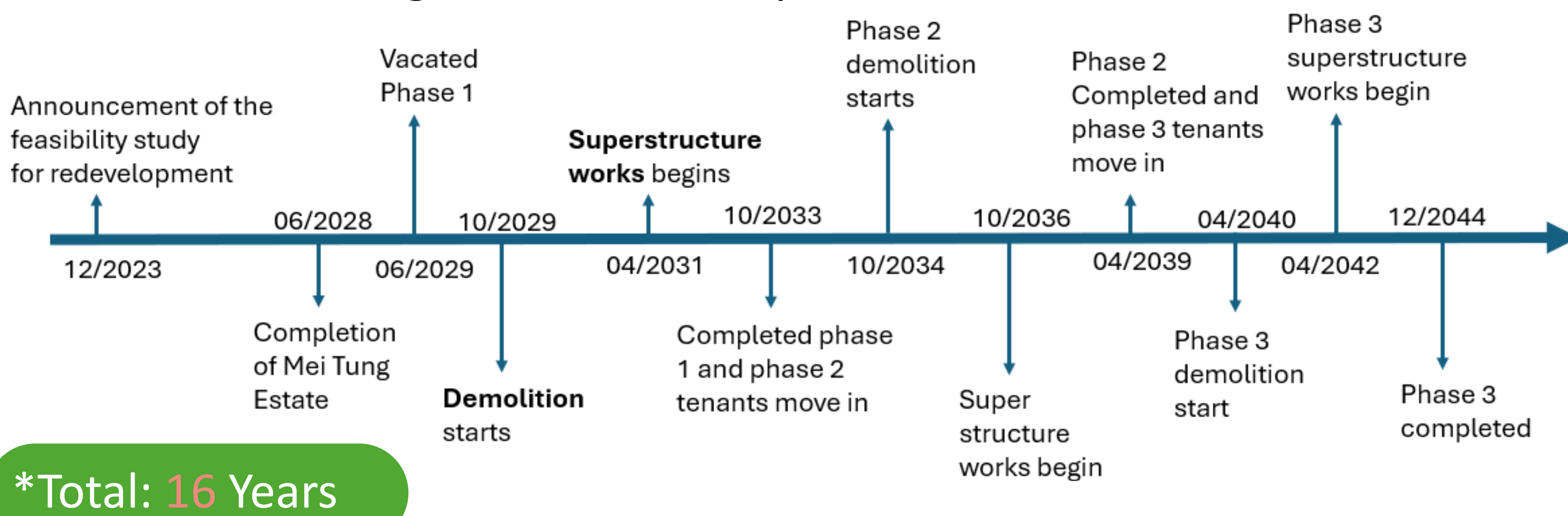
Aging of Public Rental Housing (PRH) Estate will become a critical problem in the next 10 years. However, slow progress of redevelopment is always criticized by public. Building relocatable modular integrated construction (MiC) in open spaces can facilitate the redevelopment process.

OBJECTIVES

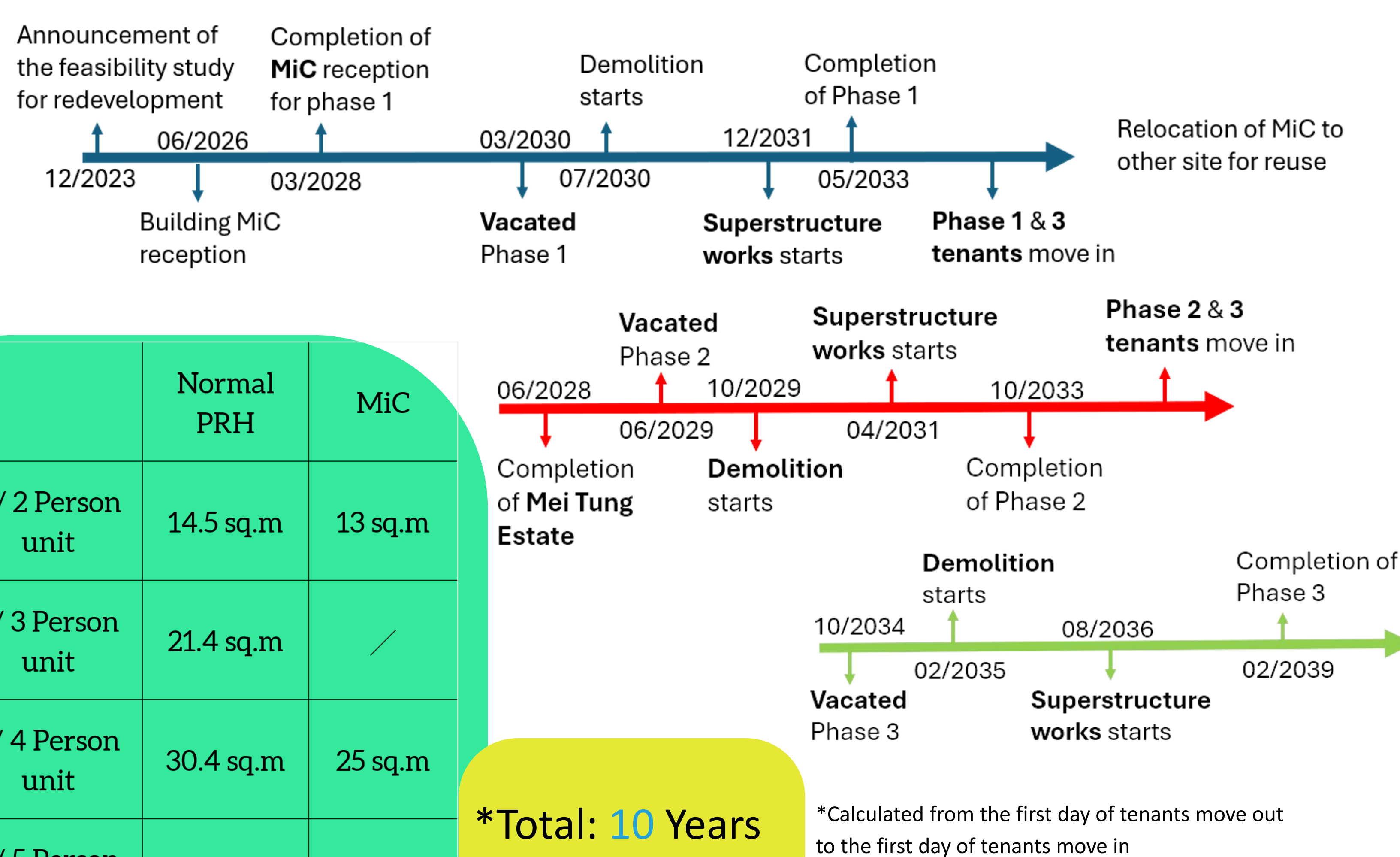
- (1) To identify the difficulties and challenges of redevelopment of PRH
- (2) To examine the demand of tenants in redevelopment
- (3) To investigate the applicability of relocatable and reusable MiC in the redevelopment of PRH estate in 4 aspects - (i) Time, (ii) Technical, (iii) Tenant Management and (iv) Cost Effectiveness

TIME

Choi Hung Estate Redevelopment Under Current Practice



Choi Hung Estate Redevelopment Under Proposed Practice



	Normal PRH	MiC
1 / 2 Person unit	14.5 sq.m	13 sq.m
2 / 3 Person unit	21.4 sq.m	25 sq.m
3 / 4 Person unit	30.4 sq.m	31 sq.m
4 / 5 Person unit	35 sq.m	31 sq.m



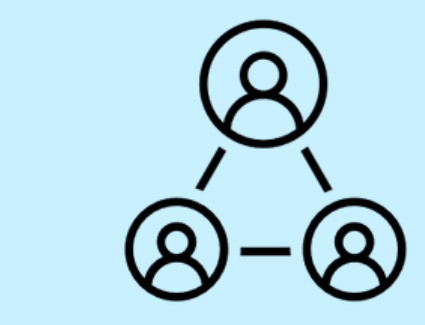
CASE STUDY

Selected Case	Reason
Nam Cheong 220	First relocatable MiC project in HK
Pak Tin Estate (Older Part)	Real redevelopment project for reference
Choi Hung Estate	Hypothetical project for the feasibility study



DESKTOP STUDY

- Webinar by professional institutes in the related topic
- Project data from the authority
- Facts from news and reports by scholars



INTERVIEW

- Maintenance Surveyors from Housing Department
- 1 Project Manager from POLYU JCDISI
- Rounds of Interview conducted if necessary

FINDINGS & DISCUSSION

Technical Considerations

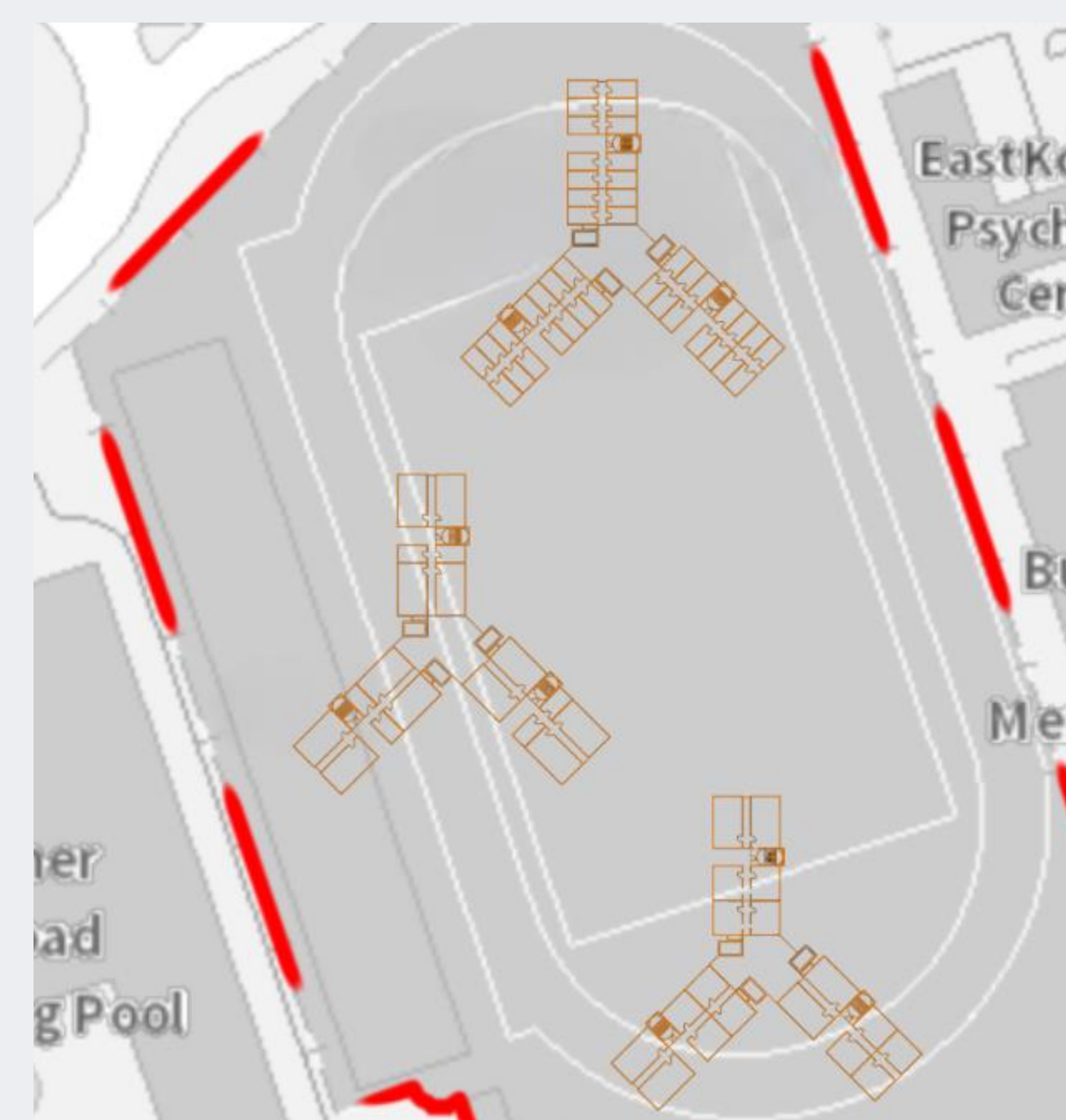
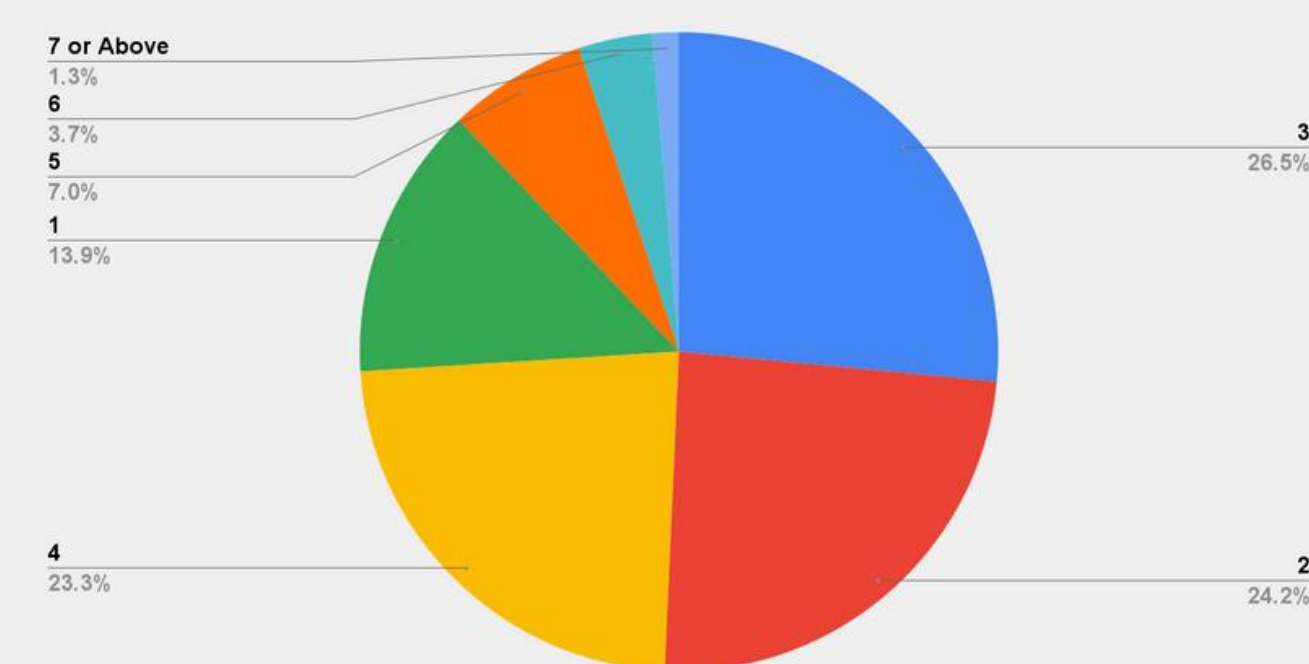


Fig 3: Layout for hypothetical case's MiC reception in Fu Shan Sports Ground

- Assumptions:
- (1) Fu Shan Sports Ground can be replaced by Kai Tak Sports park
 - (2) The number of affected family is similar with Pak Tin Estate
 - (3) Divide into 3 phases; each phase 2,500 units

Proportion of Affected Family Number and Family Size in Pak Tin Redevelopment



Unit Type	Proposed Unit to Provide at Each Block	Total Unit Provided
1/2	289	2,142
3/4	204	
4/5	221	

POTENTIAL BENEFITS

- Building foundation can be reused for future new sports stadium or other development
- Large extent of building parts are relocatable

DIFFICULTIES AND LIMITATIONS



Objection by Public in Use of Open Space



Deep Foundation but Temporary Use



Construction Noise for Tenants

OTHER POSSIBLE WAY TO FACILITATE PRH REDEVELOPMENT

REDEVELOPMENT



1. Lower discount of Home Ownership Scheme
2. Free rent for elderly who are 65-years old above if they agreed to move
3. Stronger check on tenants' assets

CONCLUSION

To conclude, relocatable MiC is feasible and able to speed up the time for redevelopment of PRH. However, there are still issues which may require further research.