



INCLUSIVE DEVELOPMENTS:

DESIGNING DELIVERY SPACES WITHIN MIXED DEVELOPMENTS

1.0 Objectives of Residential Delivery Spaces in Mixed Developments

There is an increasing trend of mixed or integrated developments incorporating a residential component. Partly accelerated by the COVID situation, there is also a higher demand for food, grocery and furniture deliveries to end-consumers. Designers have to adapt and cater to these trends. Designing for delivery spaces in a pure residential development is straightforward. However, designing for such spaces within mixed developments is more complex and careful planning is required to minimize causing disamenities downstream.

This quick guide helps Architects, Engineers and Builders to design spaces for bulky deliveries to residential units within the mixed developments. Such design considerations can be incorporated into early stages of design, before the issuance of the DC clearance. This helps to prevent protracted layout changes in downstream submissions to LTA. This quick guide also share good practices of mixed developments with strategically positioned L/UL bays and optimized driveway layouts for bulky deliveries.

2.0 Design Criteria for Residential Delivery Spaces in Mixed Developments

2.1 Critical Design Elements to follow

The key design criteria for delivery spaces a.k.a Loading/Unloading (L/UL) bays for residential component in all new mixed developments are as follows:

| S/N | Design Criteria in Residential Component | Criteria to meet |
|-----|--|--|
| 1. | Headroom clearance from access point to L/UL bay | 4.2 metres (min) |
| 2 | No. of L/UL bay | At least 1 no. dedicated to serve Residential users |
| 3 | Location of L/UL bay | Ground level. |
| 4 | L/UL bay size | To be in accordance to prevailing Vehicle Parking COP Edition 2019 for L/UL bays |
| 5. | Accessway width leading to L/UL bay | |
| 6. | Inner-turning radius of accessway leading to L/UL bay | |
| 7. | Maximum gradient of accessway ramp leading to L/UL bay | |

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2.2 Special Design Considerations (subject to evaluation)

Given that space is not abundantly available, some smaller sites may be faced with constraints. Designers can look into space optimization by double-using other available space within the development. However, its use shall have to be properly controlled by the eventual MCST.

| S/N | Special Design Considerations by LTA in Residential Component | Agencies to seek approval from |
|-----|---|---|
| 1. | Along peripheral driveway for Fire Engine Accessway (FEA) | SCDF To note: Developer/MCST must manage the activities in the event of emergencies. |
| 2. | Outside bin centre meant for Refuse Trucks | NEA To note: Developer/MCST must manage L/UL activities to prevent any disruption to refuse removal. |
| 3. | Space in front of ESS / Consumer switchroom | SPPG To note: Developer/MCST must manage the L/UL activities in the event of emergencies. |

3.0 Good Practices on Design of Residential Delivery Spaces in Mixed Developments

3.1 For Mixed Developments with Independent Block(s) of Residential separated from Commercial Component

For developments with differentiated block(s) of residential from commercial, it would be recommended to designate L/UL bay(s) right under or near to the residential block(s), with barrier-free paths leading directly to the lift lobby. The L/UL bay should not affect the operations of the commercial component.



Figure 1 - Mixed development with separate residential tower

3.2 For Mixed Developments with Multiple Uses where Blocks of Residential are Overlaid on the Commercial / Others components

For developments with multiple uses where blocks of residential are on top of the commercial podium, it would be recommended for a shared common access at the ground level.

For developments with multiple uses where blocks of residential are on top of the commercial podium, it would be recommended for a shared common access at the ground level. Internally, that access would branch out with driveways to the respective residential, commercial and others components. Clear directional signages should be erected at the common access point to direct the L/UL vehicles to their respective destination to conduct L/UL activities.

It is important to set aside a separate, dedicated residential L/UL bay from the commercial L/UL bay so that the furniture delivery vehicles would not:

- 1)Resort to conduct L/UL in public carriageway
- 2)Resort to conduct L/UL within developments' internal driveways, which may cause an internal traffic pileup.

A good example of planning for residential L/UL bay can be by grouping them together with the commercial L/UL bays. However, clear demarcation must be made on the dedicated residential L/UL bay to ensure that it is reserved for mover/residential delivery vehicles only.

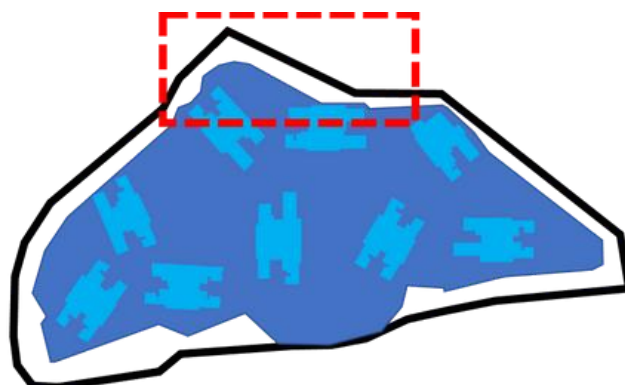


Figure 2 - Example of residential component overlaid on commercial / other components

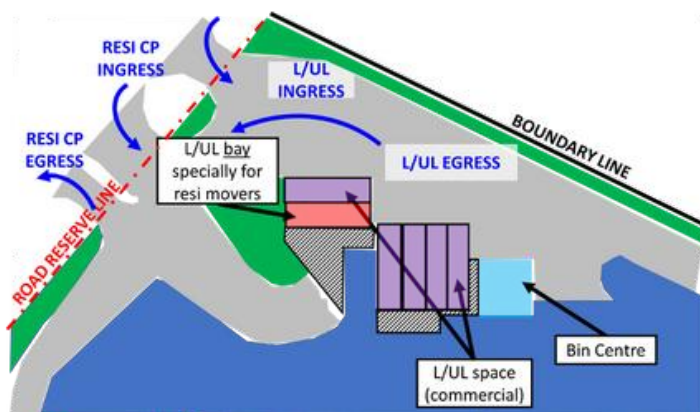


Figure 3 - Zoomed in view of loading bay provision

ABOUT THIS SERIES

With effect from April 2020, LTA has published a series of quick guides to broaden and consolidate understanding of LTA's building plan regulations and processes. The guides feature in-depth explanation of the principles behind specific requirements, coupled with examples of good practices & common mistakes.

Topics for each guide are carefully curated based on LTA's observations of prevailing trends. All publications are made available at LTA's corporate website, under:

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