Our approach to being a responsible and sustainable business requires that we take a long-term view of our operations. Given the long asset lives of our railway and our properties, what we build today will have lasting implications for decades to come. While it is impossible to predict the future, having a perspective of how the future will look, and building the flexibility around our operations so that we can respond or adapt to the possible changes is of utmost importance. Furthermore, being part of the community, we are concerned about the well-being of our stakeholders at present and in the future.
INTRODUCTION

In this section, we provide an introduction to the planned improvements of our current services, new railway projects and property developments underway in Hong Kong, and new opportunities for business expansion in the Mainland of China, Europe and Australia. We will also discuss some of the findings and implications from our Foresight study.
Global Context

In a recent study launched in 2016, about 54.5% of the world’s population lived in urban areas, but this proportion is expected to increase to 60% by 2030. According to the 2016 edition of a United Nations Department of Economic and Social Affairs (UN DESA) biennial study the majority of population growth is expected to take place in and around the cities of Asia and Africa. While there were 10 mega-cities with 10 million inhabitants worldwide in 1990, there could be as many as 41 mega-cities of this size by 2030.

In this context, the UN points out that sustainable urbanisation—involving the creation of appropriate urban infrastructure, such as public transport and housing—is key to continued economic and social development in many regions of our planet.

This is why in 2016, we identified alignment with three of the 17 United Nation’s Sustainable Development Goals (SDGs), and informed the Sustainable Development Goal Secretariat of our overall support of these goals.

We believe that as a company providing rail and property services, we contribute to the sustainability of the communities in which we operate by fulfilling our vision to connect and grow communities. We focus on three SDGs at the moment as we believe these are areas where we can play a significant role:

- SDG #8: decent work and economic growth; refer to Finance and Staff section
- SDG #9: industry, innovation and infrastructure; refer to Customer and this section
- SDG #11: sustainable cities and communities; refer to Community and Environment section

With the impacts of climate change being felt globally and in Hong Kong, and as a result of the landmark agreement reached on climate change in Paris at the 21st Conference of Parties, the demand for investment in sustainable public transport has never been more urgent. We support the Hong Kong Climate Action Plan 2030+. With our Vision to be a leading multinational company that connects and grows communities with caring service, our Rail plus Property model and a strong performance record in operating rail services in one of the most densely populated cities in the world, we believe that we are well placed to continue to succeed in the context of these global developments.

For more on the Sustainable Development Goals, refer to this website...
2017 AND BEYOND

Future of Railway in Hong Kong

Growing patronage combined with a maturing and expanding network will invariably place greater strain on our assets and on our ability to continue to surpass the important safety and service criteria in our transport operations in the future. With this in mind, we are carefully planning measures to meet the long-term needs of stakeholders as well as our business.

Optimising Our Assets

We manage our railway assets with a stringent Asset Management System. Our medium and long term asset plans are updated regularly to incorporate information about all assets owned by the Company, including their condition and performance records, operating and maintenance cost trends, and asset replacement strategies. By continuously improving the asset management processes, it helps us minimise the life cycle cost of railway assets, and maximise their societal and business value.

Railway Service in the Future

We are implementing a plan that looks holistically at the systems, processes and skills that we will need to effectively respond to the changing needs of our passengers in the future. Planning ahead, in 2016, we completed a comprehensive study to develop the “2030 Customer Experience Vision Blueprint” which provides a framework for service enhancement initiative and asset management planning to further improve the travel experience for our key customer segments, namely commuters, tourists and elderly, over the coming years.

All these require collaboration amongst different divisions and openness as to how the future could look. Part of this plan is leveraging big data, new technologies and innovation to better predict, prevent, respond and recover from disruptions, further enhancing our service to passengers.

Building new lines with technology

To assist us in building new lines for Hong Kong, we have been adopting the use of Building Information Modelling (BIM) processes and technologies on our current railway projects.

BIM presents the construction industry with an opportunity to enhance the quality and coordination of complex projects and realise the efficiencies seen in other countries and in other industries. Similar sectors are already taking advantage of improved collaboration, quality, coordination and efficiency in their project and production cycles using digital technologies.

We recognise these benefits and industry trends and will be utilising BIM at the heart of our design process on new railway projects. The BIM process will deliver a digital representation of the asset being built, in our case, a railway. This will provide improved information management early in the design process ready to be leveraged throughout each stage of each project. But BIM will also allow us to manage the final asset better due to the accurate, data-rich model created, with every element of the railway identified and with critical operational and maintenance data built into the model.

BIM is a game changer to the traditional practices of asset delivery and operation. As we develop our next generation of railway projects, we will be working together with the Hong Kong industry and our design partners to improve project delivery and grow our ability and competence.
New Railway Lines

We recognise that in order to connect and grow communities in parts of Hong Kong that are underserved by an efficient mass transportation system, we must continue to explore opportunities to expand our network. For this reason, we will continue to provide technical and operational responses to Government to support the planning and implementation of further rail network expansion plans in Hong Kong.

Railway Development Strategy

To meet Hong Kong’s growing public transport needs, Government’s strategy is to continue using railway as the backbone in the development of our public transport network. The Government has identified seven new rail projects to be implemented under Railway Development Strategy 2014. Government has invited us to submit project proposals for four of these projects, namely the Tuen Mun South Extension, the Northern Link (and Kwu Tung Station), East Kowloon Line and Tung Chung West Extension (and Tung Chung East Station). The project proposal for the Tuen Mun South Extension was submitted to Government in December 2016. Technical studies for Northern Link (and Kwu Tung Station) and East Kowloon Line are now underway in preparation for submission of project proposals in 2017. The project proposal for Tung Chung West Extension (and Tung Chung East Station) will be submitted thereafter.
Railway projects proposed in the Railway Development Strategy 2014

**PROJECT**
Northern Link and Kwun Tung Station

**DESCRIPTION**
- a major regional line formed by linking the Kam Sheung Road Station on the West Rail Line to a new station at Kwu Tung on the Lok Ma Chau Spur Line
- a route length of about 10.7km
- indicative implementation schedule for planning purpose: 2018 to 2023

**PURPOSE**
- improve network robustness and east-west connectivity
- divert passenger flow of the East Rail Line
- serve the New Development Areas and other strategic growth areas depicted in New Territories North of the “Hong Kong 2030+” territorial development strategy
- enhance cross-boundary movement
### Railway projects proposed in the Railway Development Strategy 2014

#### PROJECT

Tuen Mun South Extension

#### DESCRIPTION

- formed by extending the West Rail Line southward from the Tuen Mun Station to Tuen Mun South
- a route length of about 2.4km
- indicative implementation schedule for planning purpose: 2019 to 2022

#### PURPOSE

- enhance the connectivity of the Tuen Mun South area
- promote the use of the railway as the main mode of travel

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**Railway Projects Proposed in the Railway Development Strategy 2014**

- Station
- Interchange Station
- New Railway Scheme (Preliminary Concept)
- Existing or Committed Railway (Shown in different colours)
Railway projects proposed in the Railway Development Strategy 2014

PROJECT
East Kowloon Line

DESCRIPTION
- a new line running along the north Kwun Tong area connecting the Diamond Hill Station of the Kwun Tong Line (and the future Sha Tin to Central Link) and the Po Lam Station of the Tseung Kwan O Line
- a route length of about 7.8km
- indicative implementation schedule for planning purpose: 2019 to 2025

PURPOSE
- provide additional transport capacity to serve the planned developments in the north Kwun Tong area
- improve operational robustness of the railway network
Railway projects proposed in the Railway Development Strategy 2014

PROJECT
Tung Chung West Extension

DESCRIPTION
• formed by extending the Tung Chung Line westward with a new station at Tung Chung West
• a route length of about 1.5km
• indicative implementation schedule for planning purpose: 2020 to 2024

PURPOSE
• support and tie in with the extension of the Tung Chung New Town
### Railway projects proposed in the Railway Development Strategy 2014

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>Hung Shui Kiu Station</th>
</tr>
</thead>
</table>
| DESCRIPTION | • a new station on the West Rail Line between Tin Shui Wai Station and Siu Hong Station  
• indicative implementation schedule for planning purpose: 2021 to 2024 |
| PURPOSE | • support and tie in with the development of the Hung Shui Kiu NDA |

---

**Railway Projects Proposed in the Railway Development Strategy 2014**

- Station
- Interchange Station
- Existing or Committed Railway
- New Railway Scheme (Preliminary Concept) (Shown in different colours)
### Railway projects proposed in the Railway Development Strategy 2014

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>South Island Line (West)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
</tr>
</thead>
</table>
| • a new line linking the South Island Line (East) to the West Island Line  
• a route length of about 7.4km  
• indicative implementation schedule for planning purpose: 2021 to 2026 |

<table>
<thead>
<tr>
<th>PURPOSE</th>
</tr>
</thead>
</table>
| • serve any increase in public transport demand resulting from the potential development in the western part of the Southern District  
• relieve pressure on the road network in the Pok Fu Lam area |

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**Railway Projects Proposed in the Railway Development Strategy 2014**

- Station
- Interchange Station
- New Railway Scheme (Preliminary Concept)
- Existing or Committed Railway

(Shown in different colours)
Railway projects proposed in the Railway Development Strategy 2014

**PROJECT**

North Island Line

**DESCRIPTION**

- A new railway line on the northern shore of the Hong Kong Island formed by extending the Tung Chung Line eastward and the Tseung Kwan O Line westward
- A route length of about 5km
- Indicative implementation schedule for planning purpose: 2021 to 2026

**PURPOSE**

- Divert the harbour-crossing passenger traffic
- Meet transport demand of the expanding Central Business District
- Improve operational robustness of the railway network
## New Property Developments

In 2016, two new property development projects were rolled out to respond to the community's housing needs. Over the past three years, 11 MTR property development packages have been tendered out and are now in various stages of planning and construction. They will provide about 18,000 residential units when completed over the next four to six years. We look forward to bringing this supply of housing to the market.

To respond to the need for more housing supply in Hong Kong, over the next 12 months or so, subject to market conditions, we are looking at tendering out six more property development packages. These packages are likely to be our eleventh and twelfth packages at LOHAS Park, our second and third packages at Wong Chuk Hang Station, our second package at Ho Man Tin Station and, subject to rezoning and other statutory approvals, the Yau Tong Ventilation Building site. As agent for the relevant subsidiary of Kowloon-Canton Railway Corporation (KCRC), subject to market conditions, we plan to tender out the first package of the Kam Sheung Road Station site during 2017.

We continue to look for possible property development sites along our railway lines. One is above our depot in Siu Ho Wan on Lantau Island where, with the necessary zoning and other statutory approvals, around 14,000 residential units could be built. MTR is close to completing the Environmental Impact Assessment for the Siu Ho Wan site and the statutory planning procedures are expected to commence in 2017. Another site is above the Yau Tong Ventilation Building, where around 500 residential units could be built. The site is currently undergoing rezoning. At this preliminary stage there can be no assurance that either project would be commercially viable.

### New Property Developments in Hong Kong

<table>
<thead>
<tr>
<th>Package Type</th>
<th>Tender Awarded</th>
<th>Developer</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOHAS Park Package 6</td>
<td>January 2015</td>
<td>Nan Fung Group Holdings Limited</td>
</tr>
<tr>
<td>Tin Wing Stop (Light Rail) Property Development</td>
<td>February 2015</td>
<td>Sun Hung Kai Properties Limited</td>
</tr>
<tr>
<td>LOHAS Park Package 7*</td>
<td>June 2015</td>
<td>Wheelock and Company Limited</td>
</tr>
<tr>
<td>Yuen Long Station Property Development**</td>
<td>August 2015</td>
<td>Sun Hung Kai Properties Limited</td>
</tr>
<tr>
<td>LOHAS Park Package 8</td>
<td>October 2015</td>
<td>Cheung Kong Property Holdings Limited</td>
</tr>
<tr>
<td>LOHAS Park Package 9</td>
<td>December 2015</td>
<td>Wheelock and Company Limited</td>
</tr>
<tr>
<td>LOHAS Park Package 10</td>
<td>March 2016</td>
<td>Nan Fung Group Holdings Limited</td>
</tr>
<tr>
<td>Ho Man Tin Station Package 1 Property Development</td>
<td>December 2016</td>
<td>Goldin Financial Holdings Limited</td>
</tr>
<tr>
<td>Wong Chuk Hang Station Package 1 Property Development</td>
<td>February 2017</td>
<td>Road King Infrastructure Limited and Pingan Real Estate Capital Limited</td>
</tr>
</tbody>
</table>

* Apart from profit sharing in the residential component, we will also contribute HK$4.98 billion to the development, retain ownership of and fit out the shopping centre.

** As agent for the relevant subsidiaries of KCRC.
New Investment Projects

We are enhancing the existing assets of our current shopping centre portfolio while making significant additions. These projects will add a total of about 120,620 square metres (gross floor area, “GFA”) to the existing retail portfolio, increasing the attributable GFA by approximately 40%.

<table>
<thead>
<tr>
<th>Key Additions</th>
<th>GFA (SQ M)</th>
<th>Target Opening Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tai Wai</td>
<td>60,620</td>
<td>2nd half of 2022</td>
</tr>
<tr>
<td>LOHAS Park</td>
<td>44,500</td>
<td>2nd half of 2020</td>
</tr>
<tr>
<td>Maritime Square</td>
<td>12,100</td>
<td>2nd half of 2017</td>
</tr>
<tr>
<td>Telford Plaza</td>
<td>3,400</td>
<td>2nd half of 2017</td>
</tr>
</tbody>
</table>

Future Plans Outside of Hong Kong

Hong Kong is our home but we also see opportunities for expansion of our businesses in the Mainland of China and overseas markets. There are a number of projects currently in progress and will be in operation in the years ahead.

Beijing

Beijing MTR Corporation Limited (BJMTR) signed a Concession Agreement for the investment, operation and maintenance of a new line, Beijing Line 16, on 28 November 2015. This 50km line will run from Beianhe to Wanping and will have 29 stations. The North Section of the line was opened in December 2016.

We signed a Cooperation Framework Agreement with Beijing Infrastructure Investment Corporation Limited (one of our partners in BJMTR) and BJMTR to conduct joint preliminary studies on the integrated development of selected existing station and depot sites along Beijing Line 4 and the Daxing Line.

Shenzhen

In August 2016, our consultancy company in Shenzhen entered into project management agreement with Shenzhen government to supervise the construction of the Northern Extension of Shenzhen Line 4.

Stockholm, Sweden

MTR Stockholm was awarded a six-year extension from 2017 to 2023 on the Stockholm Metro operations and maintenance (O&M) concession and we have taken over the O&M concession for the Stockholm commuter rail (Stockholms pendeltåg) for an initial period of 10 years, starting from December 2016, that the government could extend for a further four years. It is the second largest railway concession in Sweden after Stockholm Metro.

Sydney, Australia

In 2014, Northwest Rapid Transit Consortium (NRT) was awarded the Operations, Trains and Systems Public-Private Partnership (PPP) contract for the Sydney Metro Northwest, our first international PPP project. NRT will design and deliver the rail systems, and MTR’s subsidiary Metro Trains Sydney (MTS) will operate and maintain the system for 15 years after service opening.
MTR Academy – Nurturing Future Railway Professionals

To support our growth both within and outside of Hong Kong, it is of utmost importance that we nurture professionals in engineering and technology, especially in relation to railway in the community, regardless of whether they are working for the Company. As our wholly owned subsidiary, MTR Academy ("the Academy") aims to become a globally recognised railway management and engineering centre that offers high quality programmes for MTR employees, the Hong Kong community and the railway industry in the Mainland of China and overseas. The Academy officially opened in November 2016, with its campus at renovated space in the MTR Hung Hom Building.

We reach out to the community by providing stand-alone short courses. For professionals to share experience and exchange best practices, our courses on topical areas provide a platform for discussion and dissemination. For general public to satisfy its curiosity on railway operation and technology, bite-sized Railway Introductory sessions are also on offer. The Academy’s short courses have aroused considerable interest among the local community and railway enthusiasts alike.

For those who are interested in developing a career in the rail industry, we also offer award-leading program. The Academy successfully attained accreditation on its first such programme ‘Advanced Diploma in Railway Engineering’ in parallel to its opening. The first cohort of the programme, upon an overwhelming number of applications from the public, commenced its study in January 2017. Further accredited programmes are in the pipeline, with the aim to facilitate knowledge enrichment and career development of railway professionals at different levels.

Beyond Hong Kong, we ride on our track record of providing consultancy service and training for railway companies and authorities, as well as our best-in-class operational performance, the Academy offers signature training programmes for railway executives and management globally. Currently three Corporate Programmes are developed for delivery in the second quarter of 2017, focusing on planning, reliability, operations and maintenance management. The programmes are facilitated by the MTR’s experienced senior managers and operators on respective areas. It is expected these programmes will further confirm the Academy’s position as a recognised international learning hub on railway operation and management.

DID YOU KNOW?

The Rail Transit Excellence Community (RTEC)
The MTR Academy will also host the Rail Transit Excellence Community (RTEC), a multi-faceted platform for railway operators and authorities in the Belt and Road countries to network and exchange their know-how on railway best practices, management systems and operational expertise to pursue service and operational excellence. RTEC will form Centres of Excellence on safety, asset management, system engineering, customer service and operations training.

LEARN MORE...

Find out more about the MTR Academy and the courses and programmes on offer.
PREPARING FOR A CHANGING WORLD

Perspectives on 2030

We are operating in an increasingly diverse and volatile environment. In 2016, we conducted a Foresight study. Through research by external experts and a series of workshops with the Executives, and subject matter experts from different business units, we seek to understand the trends shaping our operating environments in the time horizon leading up to 2030. We focused on the strategic trends shaping the future of transport and property globally, identified implications and priorities, and developed actions to better prepare the Company for the future.

Starting with the mega trends, we discussed and debated their relevance based on the potential implication and urgency on the Corporation’s businesses; prioritised and consolidated into a number of strategic themes which were considered important for further investigations:

- **Ageing Population**
  It is foreseen that the percentage of ageing population will increase considerably by 2030 and beyond. The impact on the operations of our railway network, property business and our workplace need to be considered in light of these demographic changes.

- **System Resilience for Climate Change**
  With the expected adverse effects of climate change in the future, our services will be increasingly affected by extreme weather events. Our railway system design needs to be more resilient and adaptive to accommodate the impacts brought about by climate change; as well as the need to be more “tuned in” to the changing environment.

- **Digital Transformation**
  The expansion of digital technology will continue to facilitate the transformation of a broad range of sectors. Riding on the advancement of technology, there will be more opportunities to enhance our services and to engage with our customers, to develop new business models, and enhance efficiency of our workforce.

We will continue to investigate and monitor the development of the mega trends under each of the above strategic foci so as to better prepare ourselves for the future.

Preparing for the future

Referencing the findings from the workshop, as well as our regular risk review and emerging risks identified, a number of challenges that have implications on how we deliver our services have been recognised and discussed throughout the report, and are summarised below.

**Safety** — As new joiners replace more experienced staff who are approaching retirement, we must address the risks that will inevitably arise in our workplaces. We must also respond to changing passenger demographics, especially an increase in the number of elderly passengers and visitors to Hong Kong who are not familiar with our network, both of which pose challenges for customer safety in the future.

**Financial Performance** — We recognise that we must balance the expectations of shareholders to receive reasonable investment returns with the needs of other stakeholders to maintain train fares at affordable levels while investing in safe, comfortable and convenient journeys. Understanding that new property development projects are a significant source of income, in order to ensure the continued success of our Rail plus Property model, we are working to identify untapped opportunities within our existing portfolio of businesses.

**Environment** — Among other significant environmental challenges such as waste management, we are mitigating emissions of greenhouse gases that increase the threat of climate change by using energy and other resources more efficiently. We are also developing an infrastructure strategy and design guide for our assets to adapt to direct impacts from climate change and enhance system resilience.

**Staff** — As some of the more experienced members of our workforce are retiring, we are stepping up training and development opportunities to equip new joiners and promotees with the knowledge and skills that they need to perform their duties. We are also working to identify opportunities of using automation to relieve workload of our staff, enhance work efficiency and flexibility in providing customer service. On the other hand, the younger generation of staff may have different expectations of the workplace. We will strengthen cross-generation communication and engagement, training and development for digital skills and capabilities, and enhance work-life balance.
**Community** — As the aspirations of the community evolve, we will continue to invest in the communities we serve, looking for innovative ways to increase engagement with our stakeholders and to work with partners to support the development of a socially sustainable city in Hong Kong as well as other locations where we operate.

**Customers** — Continued growth of our patronage places increasing demands on our services. In addition to maintaining world-class levels of train service performance amidst the various asset upgrades and replacement projects, and relieving congestion on our network, we must address the needs of an ageing population, not only by improving barrier-free facilities in our facilities, but also by exploring new business opportunities leveraging on our integrated transport and property systems. Technology has also opened up possibilities for more personalised customer services and engagement. Better data analytics also helps to reveal customers’ behavioural patterns, which in turn helps us to improve services or develop new businesses.

**Supply Chain** — The quality of the service we provide depends on that of our suppliers. We also recognise our impact reaches beyond our own premises and operations. Therefore we continually monitor the sustainability risks in our suppliers, and encourage sustainable practices throughout our value chain, including our suppliers, contractors, tenants and passengers.

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**Crowd-sourcing innovative ideas through HackTrainHK**

What would 48 hours on the MTR network and Ngong Ping 360 result in? Nothing less than innovative ideas with the potential to enhance customer experience and railway operations efficiency.

As the first railway hackathon event in Hong Kong and Asia, HackTrainHK, sponsored by the Corporation and organised by Hack Partners Limited, 40 programmers, designers and entrepreneurs from around the world experienced first-hand the challenges and opportunities for service enhancement. Followed by intensive brainstorming, hacking and coding, the teams presented their diverse and well-researched ideas. The winning concept was “Osmosis” which combines real-time imaging and signage to divert passengers to less crowded escalators. Along with other novel ideas, HackTrainHK has crowdsourced ideas from creative and start up communities and injected energy into the community.