



# Walk · Cycle · Ride Singapore

---

Land Transport Authority Annual Report 2015/16

- 1 A Community Space and a Shared Experience
- 2 Chairman's Message
- 4 Chief Executive's Message
- 6 Board of Directors
- 10 Board Committees
- 11 Organisation Structure
- 12 Senior Management

## The Walker

- 20 Walking—My Convenient Choice
- 21 Never Too Old to Move
- 22 Silver Zones for Safer Walking

## The Cyclist

- 26 The Cycling Life
- 27 Safety First
- Keeping Our Paths Safe for Everyone
- 28 The New Face of Ang Mo Kio

## The Rider

- 32 Travelling's a Breeze
- 33 New Stations and Lines
- 36 A World First!
- 38 More Trains
- 40 Upgrading Our Rail System
- 41 New Rail Financing Framework
- 42 Enhancing Commuter Experience
- 44 Buses Galore

## The Planner

- 50 The Big Picture
- 52 Bencoolen 2017
- 53 Car-Free Sundays
- 54 Singapore's First Integrated Transport Corridor
- 56 New and Upcoming Integrated Transport Hubs
- Better Service through Better Manpower

- 57 Paving the Way for the Future
- New Regulations for Private Hire Cars
- 58 Awards Won in FY2015/16
- 60 Contracts Awarded in FY2015/16
- 65 Contracts to be Awarded in FY2016/17
- 68 FY2015/16 Financial Highlights

## A Community Space and a Shared Experience

Envisioning the way we travel around the city in the near future has never been more exciting.

While we are making public transport more accessible, more comprehensive and more convenient, a car-lite vision goes beyond having more trains and buses. All aspects of the commuter's journey are considered—more sheltered walkways, cycling paths, and apps, as well as giving new technological developments room to grow to improve the transport experience for commuters. Even self-driving vehicles will soon be an option.

With transport nodes located near amenities and integrated transport hubs that combine bus interchanges, MRT stations and lifestyle outlets all under one roof, commuters can make transfers seamlessly while going about the rest of their lives. The daily commute is not merely a routine but part of commuters' lifestyles.

*"We are doing all this because an excellent public transport system is a big part of a more beautiful and liveable home. Public transport is the most efficient way for our people to get around in a compact city like this. And also because the public transport network is a community space and a shared experience. How we travel every day plays a significant role in shaping our experiences, our perceptions of Singapore, and influences how liveable our city is and how pleasant our lives are. So it is important that we have a transport system that everyone will not only use, but also enjoy using."*

Prime Minister Lee Hsien Loong at the opening ceremony of Downtown Line 2 on 26 December 2015.



## Mission

Connecting people and places, enhancing travel experience.

## Vision

A people-centred land transport system.

## Chairman's Message:

**Delivering Singapore's Transport Future**

*“Owning a conventional private car will take a backseat when the choices for car-sharing, cycling, walking, or being in a self-driving vehicle are more convenient and environmentally-friendly.”*

**Chan Heng Loon Alan**  
Chairman

Since joining the LTA as Chairman of the Board in April 2016, I have been astounded at the level of energy and workpace put in by the staff to improve the daily travel of commuters. It is a very exciting time to be doing this work for Singapore—we are committed, we are focused and we fully intend to deliver the best transport network possible.

In the macro sense, reliable, efficient and smooth land transport is the lifeblood of a liveable city. But, in the most immediate sense, transport is very personal. Every person has their own daily schedule and our job is to make sure everyone will get to where they want to go and that public transport will be the ideal way to go.

We are working hard to keep things predictable, whether on rail, road or bus. We know that reliability is essential if we are going to make the transition to a car-lite way of life. Owning a conventional private car will take a back seat when the choices for car-sharing, cycling, walking, or being in a self-driving vehicle are more convenient and environmentally-friendly. These options will liberate the commuter on many levels. Imagine all the things you can do—clear emails, read a book, catch up with close ones—without having to worry about traffic. With dedicated, safe cycling networks around our towns and self-driving pods shuttling within neighbourhoods to provide first-and-last-mile connectivity, moving around will be easy and predictable. It will also keep our environment cleaner. In

short, we want our transport system to improve our overall quality of life.

**Industry Transformation**

To achieve this, we are on track to expand our rail network length from 200km to 360km by 2030. The recently announced New Rail Financing Framework, if approved by shareholders, will see the government taking ownership of assets and operators responsible for services. This will pave the way for greater reliability and better service. Similarly, under the Bus Contracting Model, two new operators entered the industry in 2016 with the intent of delivering better service for commuters. By 2017, a total of 1,000 buses will have been added under the Bus Service Enhancement Programme (BSEP), contributing to greater capacity and connectivity.

These major projects are multi-year efforts and improvements will emerge over time. As we keep to our vision, we will see transformational changes happening over the coming decade. We can envisage an eco-system of quality public transport, expanded first-and-last-mile options, and more point-to-point services, to help us meet our travel needs without owning a car.

**Transnational Travel**

One of the most significant announcements in this report period is the Kuala Lumpur-Singapore High Speed Rail. The project is going ahead with the signing of the Memorandum of Understanding (MOU) between the two governments in July 2016, with the bilateral agreement to be signed

around the end of 2016. It is a key bilateral project and the impact of this project will go beyond transport, changing how people travel and correlate. The line, expected to be about 350km long, will reduce travel times between Singapore and Kuala Lumpur (KL) to about 90 minutes.

As Prime Minister Lee Hsien Loong said, “It will draw our peoples and our economies together, and we can think of Singapore and KL in the same way as people think of London-Paris, Taipei-Kaohsiung or Tokyo-Osaka.”

In closing, I would like to thank the LTA team for welcoming me into the family and I look forward to working closely with the Board and staff as we continue to transform commuters' journeys.

**Chan Heng Loon Alan**  
Chairman

## Chief Executive's Message:

**Put a Name on It: Walk Cycle Ride SG**

*“The success of Car-Free Sundays, the burgeoning interest in cycling and an overall desire to do better by our own health and that of the planet tells us the time is ripe for change. And so this year, we have named the vision for Singapore’s drive to go car-lite: Walk Cycle Ride SG (WCRSG).”*

**Chew Men Leong**  
Chief Executive

LTA has been working very hard to deliver a transport network that is so well connected—with so many ways to move around—that the idea of needing to own a car will fade. When we get to that point, we will in fact have achieved the “car-lite” vision that is now our mantra.

Not so long ago, Singapore did not use the term “car-lite” so readily. That we do now is testament to more people being keen to go car-lite. The success of Car-Free Sundays, the burgeoning interest in cycling and an overall desire to do better by our own health and that of the planet tells us the time is ripe for change. And so this year, we have named the vision for Singapore’s drive to go car-lite: Walk Cycle Ride SG (WCRSG). WCRSG is everything we are doing to bring healthier, cleaner, more sustainable ways of moving around, and yes, a better lifestyle, to everyone on the island.

In the last year, we announced major initiatives that illustrate what WCRSG will mean. A most vivid illustration is the roll-out of the Walking and Cycling Town at Ang Mo Kio (AMK), which gives residents a real-life working example of how we are making cycling more attractive for daily commutes. AMK has dedicated cycling paths marked in red, map boards, self-service bicycle stations, cycling paths that go behind bus stops and even a mini “park” with a terrarium under the elevated MRT track.

To go with the expanding infrastructure, we have launched the Safe Riders scheme that includes a code of conduct to help everyone adapt to sharing spaces. By end 2017 we will have introduced the island’s first large-scale bike sharing scheme, so

that anyone who wants to cycle need not own their own bike.

**Innovating Anew**

Nor are we shy about rethinking work in progress so it fits our WCRSG goals. One example is the reinstatement of Bencoolen Street when Downtown Line 3 finishes in 2017. Rather than merely reinstate former roads as they were, we will instead convert two of the original four car lanes into wide footpaths and dedicated cycling paths. More striking is what we will do with the North South Corridor (NSC), which is slated for completion by 2026, and was originally designed as an expressway only. Now, the NSC—a 21.5km major conduit between the northern part of the island and the heart of the city—will include greenery, cycling paths and footpaths and enable travellers to enter from towns like Ang Mo Kio.

A car-lite future will include new forms of transport too. Self-driving vehicles (SDVs) and electric vehicle car-sharing—that not so long ago seemed far from reach—are now nearly in hand. SDV mobility-on-demand trials are being carried out in one-north and the first fleet of 125 electric car-sharing vehicles will roll out in mid-2017.

While we ramp up efforts for walking and cycling, we are steadily on track with major rail expansion. We opened Downtown Line 2 in December 2015 and already it has changed how people travel along Bukit Timah Road. While Bukit Timah Road has long been a car-dominant corridor, more people are now opting to use the MRT. Buses play a major role and we have realised the first rollout of service under the Bus Contracting Model with

two new operators—Tower Transit and Go-Ahead—now operating two major packages of services.

New infrastructure and advanced technology are essential. But they are enabled by skilled professionals. To make sure we have the right talent at work, we are investing in our people through enhanced training and career tracks that reward competency and capability for the long term. To ensure we operate on sustainable industry models, we have launched the Singapore Bus Academy and the Singapore Rail Academy.

No report would be complete without highlighting the people behind the work. I would like to thank all our staff who have demonstrated so much commitment to making WCRSG a reality. I thank our Board for its continued support of our vision and our work, as well as our partners and the public for joining us in this journey towards a car-lite Singapore.

**Chew Men Leong**  
Chief Executive

## Board of Directors



### 1. Chan Heng Loon Alan *Chairman*

Appointed as Chairman of the Land Transport Authority on 1 April 2016, Mr Chan is also the Chief Executive Officer of Singapore Press Holdings Ltd (SPH), Chairman of the External Review Panel for SAF Safety and Chairman of the Singapore-China Foundation.

He joined SPH as its Group President on 1 July 2002 and became the Chief Executive Officer on 1 January 2003.

Mr Chan sits on the boards of SPH and its subsidiaries including SPH REIT Management Pte Ltd. He is also a Director of Singapore Press Holdings Foundation Limited, MediaCorp TV Holdings Pte Ltd, MediaCorp Press Ltd, Pavilion Energy Pte Ltd and its associated companies. He is also a member of the Public Service Commission and a Director of Business China. He was Chairman of the Council that revised the Code of Corporate Governance in 2012.

Before joining SPH, Mr Chan was an Administrative Officer in the Civil Service. He has worked in the Government for 25 years and some of his previous appointments included Permanent Secretary of the Ministry

of Transport, Deputy Secretary of the Ministry of Foreign Affairs and Principal Private Secretary to the late Senior Minister Lee Kuan Yew.

Mr Chan holds a Diplome d'Ingenieur from the École Nationale de l'Aviation Civile, France and MBA (with Distinction) from INSEAD, France. He is a President's Scholar and was conferred the Public Administration Medal (Gold and Silver) and Meritorious Service Medal for his contributions to public service.

### 2. Richard Lim Cherg Yih *Deputy Chairman*

Mr Lim is Chairman of ST Logistics and its group of companies including ST Healthcare, ST Airport Services and ST Engineering & Technology Solutions. He is also a member of the Board of Directors of Singapore Technologies Marine and serves as a member of the Board of the National University Health System. Mr Lim is an adjunct professor in the School of Mechanical and Aerospace Engineering at Nanyang Technological University and a Fellow of the Institution of Engineers Singapore. He is an Honorary Fellow of the ASEAN Federation of Engineering Organisations. Mr Lim also chairs the Singapore National Safety at Sea Council and the Governing Board of the St. John's Island Marine Laboratory.

### 3. Professor Yong Kwet Yew

Professor Yong is Professor of Civil Engineering and Vice-President (Campus Infrastructure) at the National University of Singapore. He is Chairman of the Association of Geotechnical Societies in Southeast Asia and also chairs several government advisory committees and professional committees. He is a Fellow of the Institution of Engineers and an Accredited Adjudicator of the Singapore Mediation Centre. He has served as a consultant on over 150 major infrastructure projects in Singapore and the region. He is also Non-Executive Chairman of BBR Holdings (S) Ltd and Trittech Group Ltd.

### 4. Chew Men Leong

Mr Chew is the Chief Executive for the Land Transport Authority (LTA) and is also concurrently the Chairman of MSI Global Ltd, a wholly owned subsidiary of the LTA. He sits on the Board of Jurong Port Pte Ltd and the Urban Redevelopment Authority. Mr Chew has held appointments in the PUB as the Chief Executive and the Singapore Armed Forces as the Chief of the Republic of Singapore Navy.

## Board of Directors

### 5. Wong Yew Meng

Mr Wong was a Certified Public Accountant and an audit partner at PricewaterhouseCoopers Singapore before he retired in June 2008. Currently, he serves on the statutory boards of the People's Association and Competition Commission of Singapore. He is also a director of Venture Corporation Limited, Ascendas Funds Management (S) Limited, Singapore Deposit Insurance Corporation Limited and Kidney Dialysis Foundation, Singapore. He also serves as a trustee of the Nanyang Technological University.

Mr Wong holds a Bachelor of Science (Economics), London School of Economics. He is a fellow of the Institute of Chartered Accountants in England and Wales and a member of the Institute of Singapore Chartered Accountants.

### 6. Nick Chong Keng Cheen

Mr Chong is Global Vice President of Specialities for Royal Dutch Shell overseeing global business units for Bitumen and Sulphur. Business activities span across various countries in Europe, the Americas and Asia. Mr Chong has rich experience in various roles across businesses in Royal Dutch Shell which include Operations, Engineering, HR, Distribution and Supply Chain. In his previous roles, Mr Chong was Vice President for Supply and Distribution, overseeing supply chain activities in Asia and the Middle East.

### 7. Ellen Lee Geck Hoon

Ms Lee is an Advocate and Solicitor of the Supreme Court of Singapore and a Consultant of Belinda Ang Tang & Partners. Ellen specialises in Family Law, Wills and Probate and Corporate Law. She is the President of the Singapore Table Tennis Association and Honorary Legal Adviser to arts and cultural groups, civic organizations, VWOs and NGOs. Ms Lee served as an elected Member of Parliament for the Sembawang GRC from 2006 and retired in 2015.

### 8. Arthur Lang Tao Yih

Mr Lang is the Group Chief Financial Officer of CapitaLand Limited. Prior to joining CapitaLand, he was at Morgan Stanley having been the co-head of the Southeast Asia investment banking division and the Chief Operating Officer for the Asia Pacific investment banking division. Apart from being a board member of LTA, he is also on the board of the National Kidney Foundation and the Advisory Board of the Lee Kong Chian School of Business, Singapore Management University. He has also been appointed as a member of CNBC's Global CFO Council.

### 9. Alwi Bin Abdul Hafiz

Mr Alwi is currently retained by Golden Veroleum Liberia (GVL) as its Sustainability Advisor, having spent more than 20 years in the professional services, consulting and ICT industries. He started his career at Booz-Allen &

Hamilton Management Consultants, spent 18 years at Hewlett-Packard in various technical and management roles and was the ASEAN Managing Director for the British Standards Institution (BSI) Group. He also serves on the board of trustees of Nanyang Technological University and MENDAKI Social Enterprise Network (SENSE).

### 10. Lim Eng Hwee

Mr Lim is the Chief Planner and Deputy Chief Executive Officer of the Urban Redevelopment Authority. He has extensive experience in urban planning, urban design, implementation of land use policies and development initiatives. He has also served in the Ministry of National Development and the Ministry of Trade and Industry, and currently sits on the Board of Science Centre Singapore and Singapore Cooperation Enterprise.

### 11. Patrick Tay Teck Guan

Mr Tay is Assistant Secretary-General of National Trades Union Congress (NTUC). He is Director of NTUC's Legal Services Department, and its Professionals, Managers and Executives (PME) Unit. Concurrently, he is an elected member of the NTUC Central Committee, Executive Secretary of The Singapore Manual and Mercantile Workers' Union (SMMWU) and Adviser/Trustee to several key unions in Singapore. He also serves on the boards of Economic Development Board and Workforce Development Agency. He is also the

Supervising Lead for the Labour Movement's Financial and Business Services Cluster and Healthcare Cluster. He currently co-chairs the Financial Sector Tripartite Committee with the Monetary Authority of Singapore.

As an elected Member of Parliament of West Coast GRC, he chairs the West Coast Town Council and is Vice-Chair of the Southwest Community Development Council. Besides chairing the Government Parliamentary Committee (GPC) for Manpower, he is also on the GPCs for Law and Home Affairs. He is an Advocate & Solicitor (Supreme Court of Singapore), an Associate Mediator with the Singapore Mediation Centre and Fellow of the Singapore Institute of Arbitrators. He has been involved in industrial/employee relations since 2002 and has been deeply involved in collective bargaining, dispute resolution and complex negotiations including representing workers/unions at the Industrial Arbitration Court (IAC).

### 12. Chua Chim Kang

Mr Chua is the Managing Editor of Chinese Media Group, Singapore Press Holdings. He is a board member of SCCL (Singapore Centre for Chinese Language), council member of SCCC (Singapore Chinese Chamber of Commerce & Industry), member of Political Films Consultative Committee, and member of the Training Committee of SCORE.

### 13. Ngien Hoon Ping

Mr Ngien is Deputy Secretary (Performance), Ministry of Finance (MOF). He drives Whole-of-Government excellence through effective and efficient use of resources, systems and processes in enhancing public sector performance and building a networked government. Prior to this, he served as SAF's Director of Joint Operations and Commander of the Combat Service Support Command (CSSCOM).

### 14. Tan Peng Yam

Mr Tan is Chief Executive of the Defence Science and Technology Agency (DSTA). He also serves on the National Environment Agency Board and the Temasek Polytechnic Board of Governors. He chairs the Business School's Advisory Committee at Temasek Polytechnic and is a member of the Temasek Laboratories at the Nanyang Technological University and the Temasek Defence Systems Institute Management Board.

### 15. Michael Chin Yong Kok

Mr Chin is the Managing Director (Special Projects) of SP PowerGrid. He holds a Bachelor of Science First Class Honours and a Master of Science from the University of Manchester, UK and a Master of Business Administration from the National University of Singapore.

Mr Chin started his career as an engineer in the Public Works

Department and progressed to a range of senior management roles in both technical and commercial disciplines. Before joining SP PowerGrid, he was the Executive Vice President (Projects) at Resorts World Sentosa (RWS) at Genting Singapore PLC. Prior to RWS, he held the appointment of an Executive Vice President of Corporate Development and Properties at Singapore Press Holdings. He has extensive project management experience and assumed major roles in successful development of numerous projects, and some prominent projects in Singapore include the Paragon, SPH Print Centre, SPH Corporate Office, Sky@Eleven condominium, and more recently, Resorts World Sentosa.

In Singapore Power, Mr Chin handles the development of 40km of underground cable tunnels, the new SP HQ and also spearheads the feasibility study on unlocking land value of the Group.

Board Committees

<b>Board Committees</b>	
<b>Executive Committee</b>	
Chan Heng Loon Alan	
<i>Chairman</i>	
Richard Lim Cherng Yih	
<i>Member</i>	
Prof Yong Kwet Yew	
<i>Member</i>	
Chew Men Leong	
<i>Member</i>	
Wong Yew Meng	
<i>Member</i>	
Nick Chong Keng Cheen	
<i>Member</i>	
Michael Chin Yong Kok	
<i>Member</i>	
Tang Pui Cheng	
<i>Secretary</i>	
<b>Audit Committee</b>	
Wong Yew Meng	
<i>Chairman</i>	
Patrick Tay Teck Guan	
<i>Member</i>	
Chua Chim Kang	
<i>Member</i>	
Jacqueline Liau	
<i>Secretary</i>	
<b>Leadership, Development and Remuneration Committee</b>	
Chan Heng Loon Alan	
<i>Chairman</i>	
Richard Lim Cherng Yih	
<i>Member</i>	
Prof Yong Kwet Yew	
<i>Member</i>	
Chew Men Leong	
<i>Member</i>	
Goh Hui Boon	
<i>Secretary</i>	

<b>Finance &amp; Establishment Committee</b>	
Lim Eng Hwee	
<i>Chairman</i>	
Chew Men Leong	
<i>Member</i>	
Arthur Lang Tao Yih	
<i>Member</i>	
Koe Ing Ling	
<i>Secretary</i>	
<b>Risk Management Committee</b>	
Alwi Bin Abdul Hafiz	
<i>Chairman</i>	
Chew Men Leong	
<i>Member</i>	
Ellen Lee Geck Hoon	
<i>Member</i>	
Ngien Hoon Ping	
<i>Member</i>	
Samuel Teo	
<i>Secretary</i>	
<b>Investment Committe</b>	
Arthur Lang Tao Yih	
<i>Chairman</i>	
Chew Men Leong	
<i>Member</i>	
Tan Peng Yam	
<i>Member</i>	
Christina Thio	
<i>Secretary</i>	

Organisation Structure



## Senior Management

**Chew Men Leong**  
Chief Executive



**Sim Wee Meng**  
Senior Group Director  
Rail and Group Director  
Rail Infrastructure  
& Expansion



**Jeremy Yap**  
Deputy Chief Executive  
Public Transport  
Policy & Planning



**Chua Chong Kheng**  
Deputy Chief Executive  
Infrastructure &  
Development



**Alice Tan**  
Chief Financial  
Officer



**Tammie Loke**  
Senior Advisor  
Corporate  
Communications



**Rosina Howe**  
Group Director  
Innovation & Infocomm  
Technology



**Lew Yii Der**  
Group Director  
Corporate Planning &  
Development



## Senior Management

**Ng Kee Nam**  
Group Director,  
Thomson-East Coast &  
Cross Island Lines (Civil)

**Frederick Wong**  
Group Director  
Safety & Contracts

**Leong Kwok Weng**  
Group Director  
Rail / Road Systems  
Engineering

**Paul Fok**  
Group Director  
Infrastructure Design  
& Engineering

**Dr Chin Kian Keong**  
Group Director  
Transportation & Road  
Operations

**Alison Tan**  
Group Director  
Vehicle Services

**Yap Cheng Chwee**  
Group Director  
Road Projects

**Yao Chuan Sam**  
Deputy Group Director  
Road Operations



## Senior Management

**Yeo Teck Guan**  
Group Director  
Public Transport



**Helen Lim**  
Group Director  
Corporate  
Communications



**Lina Lim**  
Group Director  
Policy & Planning



**Tan Kim Hong**  
Deputy Group Director  
Public Transport



**Wong Wai Keong**  
Group Director  
Rail Asset, Operations  
& Maintenance



**Chandrasekar**  
Chief  
Quality Service  
Manager Office



**Neo Bian Hong**  
Deputy Group Director  
Infrastructure Design  
& Engineering (Design  
Development)



**Ong Hui Guan**  
Deputy Group Director  
Policy & Planning



**Choo Chai Foong**  
Deputy Group Director  
Infrastructure Design  
& Engineering (Infrastructure  
Specialist)



# THE WALKER

Walking is appealing when paths are sheltered and connect to transport nodes and other destinations. We're expanding the covered linkway network, providing better transit signage and creating more Silver Zones for those who need more time at pedestrian crosswalks. With improvements like these, walking is a great way to go.



## Walking—My Convenient Choice



***“My journeys to work every day are so convenient, I’m practically sheltered the entire way!”***

**Nazza Yasin**

“My journeys to work every day are so convenient,” says Nazza Yasin, a 24-year-old who works in the bustling Orchard Road area. “I’m sheltered practically the entire way!”

Nazza is not kidding. From her home in Sengkang, she walks through a sheltered walkway to the bus stop, to grab the bus for a short ride to Sengkang MRT Station. “I ride the North East Line from Sengkang to Dhoby Ghaut,” she says. “And from Dhoby Ghaut, I take the North-South Line to Orchard.”

The last lap of her journey to work is on foot and it is hassle-free because of connecting pathways. “From Orchard Station, it’s a five-minute walk to my office at the International Building,” says Nazza. “It’s sheltered. It’s convenient!”

As someone who enjoys walking, Nazza believes that her daily commute is an energising way to get more fit. “Walking helps, definitely,” she says. “And if I feel like taking a stroll along Orchard Road after a whole day of sitting in the office, I simply walk down to Dhoby Ghaut instead of taking the NSL from Orchard!”

## Never Too Old to Move

Commuters of all ages can lead active lives. As part of our support for the nationwide Action Plan for Successful Ageing, LTA has implemented a series of initiatives to help the elderly and others with mobility needs to stay on the move.

### Priority Queue Initiative

The Priority Queue Initiative is meant to help seniors, expectant mothers and persons with disabilities board buses first. Following its first success at the Yishun Temporary Bus Interchange, we rolled out Priority Queues at all new Integrated Transport Hubs (ITHs) and bus interchanges.

We are testing the Queue’s effectiveness in train stations, and

have applied Priority Queue stickers at six MRT stations: Novena (North-South Line), Outram Park (East-West Line and North East Line), Chinatown (North East Line), Sengkang (North East Line) and Kent Ridge (Circle Line). The Queue stickers are placed to correspond to the doors where wheelchair parking space is allocated in the train car. They are also generally closer to the lifts and away from the escalators where traffic is the heaviest.

### Better Wayfinding Signs

Clear signage at our public transport nodes means commuters can find their way more easily. We are simplifying information on signs and using more pictograms. Look for the new signage that will be implemented

progressively from the fourth quarter of 2016 at key public transport nodes.

### Longer Crossing Time

Because safety is our top priority, we have introduced the Green Man + Scheme, which enables seniors and people with disabilities to extend the green time at pedestrian crossings by tapping their concession cards on the attached readers. By 2018, this scheme will be in place at 1,000 pedestrian crossings across the nation. Besides the Green Man + Scheme, we are extending the green-man duration at more locations, to create a more leisurely crossing experience. More than 700 signalised crossings already have extended durations.



Silver Zones for Safer Walking

Walking is a great way to stay fit as we grow older and LTA is helping by making daily walks safer. Our Silver Zone programme includes two-stage crossings, raised informal crossings with ramps for barrier-free movement and narrower lane widths so motorists travel at lower speeds and keep a better lookout for pedestrians.





---

Cycling is easier with cycling connectors and paths, and a clearer understanding of how to share spaces. We're expanding the cycling path network and introducing bike sharing so cycling is viable for more people. An accompanying code of conduct will help everyone look out for each other.

---

The Cycling Life

*“Cycling is my life! It’s a lifestyle choice I made a year ago, and I’ve never looked back!”*

Elaine Tan

“Cycling is my life!” exclaims Elaine Tan, a 31-year-old avid cyclist. “It’s a lifestyle choice I made a year ago, and I’ve never looked back!”

That may sound like big talk, but Elaine means every word. Bright and early twice a week, Elaine can be seen cruising on her trusty bicycle from the Bedok Reservoir area all the way to the Central Business District, where she works. “I use the connector because it’s safer, since I don’t have to ride with the morning traffic”, she says. “With the connector, it’s 16km.”

Although Elaine takes about an hour and 20 minutes to ride to work, she sees the ride as definitely worth the time. “I take my time because it’s incredibly refreshing to start the day cycling past greenery,” she smiles. “And it’s also a very environmentally-friendly way to travel!”

Besides being part of Elaine’s contribution to sustainable travel, cycling has produced a happy side effect for her. “It’s a great way to keep fit,” she laughs. “Cycling for over two hours a few times a week really tones the legs!”



Safety First

Whether cycling for fun, health or basic commuting, safe riding habits are essential. LTA and the Singapore Road Safety Council (SRSC) have developed the Safe Cycling Programme on cycling skills and practices, and also to make cyclists aware of the new rules and code of conduct for cycling in Singapore. LTA and SRSC plan to reach out to migrant workers, students and the community at large with the programme.

Keeping Our Paths Safe for Everyone

To keep cycling paths safe for everyone, the Active Mobility Patrol (AMP) volunteers regularly patrol areas within their constituencies to show cyclists how to share paths graciously and responsibly. In tandem, LTA’s dedicated Active Mobility Enforcement Officers (AMEOs) help prevent reckless riding at pedestrian hotspots to create a safer commuting environment for all Singaporeans.

SAFE CYCLING PROGRAMME CURRICULUM



Equipment and Pre-journey Preparation

- Choosing a suitable bicycle
- Parts of a bicycle
- Bicycle security and storage
- Basic checks before your ride
- Bicycle maintenance
- Route planning



Skills Training

- Bicycle handling skills
- Cycling etiquette
- Manoeuvring through crowded places



New Rules and Code of Conduct

- Rules and Code of Conduct to observe when cycling/ riding Personal Mobility Devices (PMDs)



Infrastructure Familiarisation

- Off-road cycling signs and markings
- Ground markings
- Mapboards





## The New Face of Ang Mo Kio

Jeffrey Wong is all smiles these days. A cycling enthusiast living in the Ang Mo Kio area, he is ecstatic that his neighbourhood is becoming a cycling paradise.

There is the 4km cycling path that loops around AMK Avenue 1, 3 and 8 that Jeffrey uses when he wants a quick ride to refresh himself. "I love that I only need to go downstairs for a leisurely ride!" he exclaims. "So convenient!"

By 2020, the cycling path will be developed into a 20km cycling path network that includes a 2.6km cycling and walking corridor connecting Yio Chu Kang MRT Station to Bishan-Ang Mo Kio Park. For Jeffrey, that is definitely good news. "Then my friends can walk with me while I cycle!" he laughs.

# THE **R** IDER

Riding the train or bus is often the fastest way to travel, especially as the train and bus networks become more integrated and seamless. We're taking over rail and bus assets to improve the responsiveness of our system to commuters' needs. This will make the Ride in Walk Cycle Ride SG a preferred way to go.



Travelling's a Breeze



*“Singapore has the best infrastructure, it really is a breeze getting anywhere!”*

Jude Rajiv

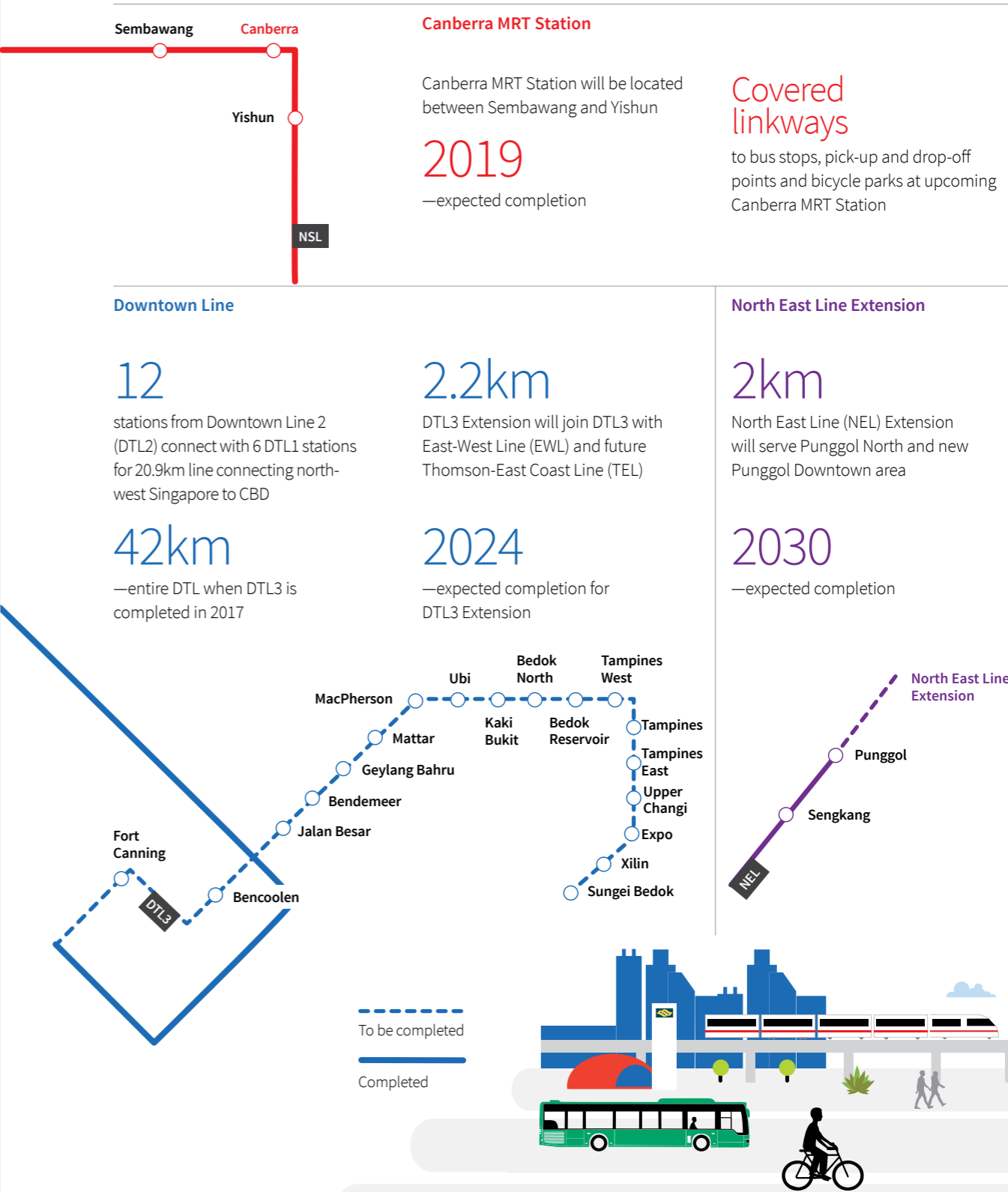
“Singapore has the best infrastructure,” says Jude Rajiv, who is in his early thirties. “It really is a breeze getting anywhere!”

Jude loves the convenience of seamless travel, because his workplace, gym and home are in different locations across the island. “You can hop from a bus to a train so quickly here, compared to other countries I’ve been to,” he laughs. “I know because part of my family’s in Sri Lanka—you have to wait till the cows come home sometimes!”

As a teacher on a tight schedule, Jude relies on the bus and train to take him to where he needs to be every day. “I use public transport everywhere I go,” he says. “In fact, that was how my girlfriend and I got to Sentosa last week, where I proposed!”

By the way, she said yes!

New Stations and Lines



New Stations and Lines

Tuas West Extension

1 twin-tracked

viaduct and 4 above-ground stations

100,000

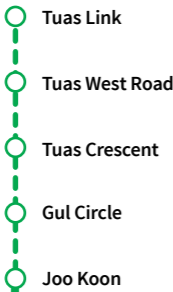
commuters expected to be carried daily

7.5km

Tuas West Extension will connect Joo Koon to Tuas Link

2016

—expected completion



Jurong Region Line

2025

—expected completion

20km

to serve the Choa Chu Kang, Boon Lay and Tengah estate

Plans to connect

JRL to Circle Line (CCL) via West Coast Extension being evaluated

Thomson-East Coast Line

13km Eastern Stage

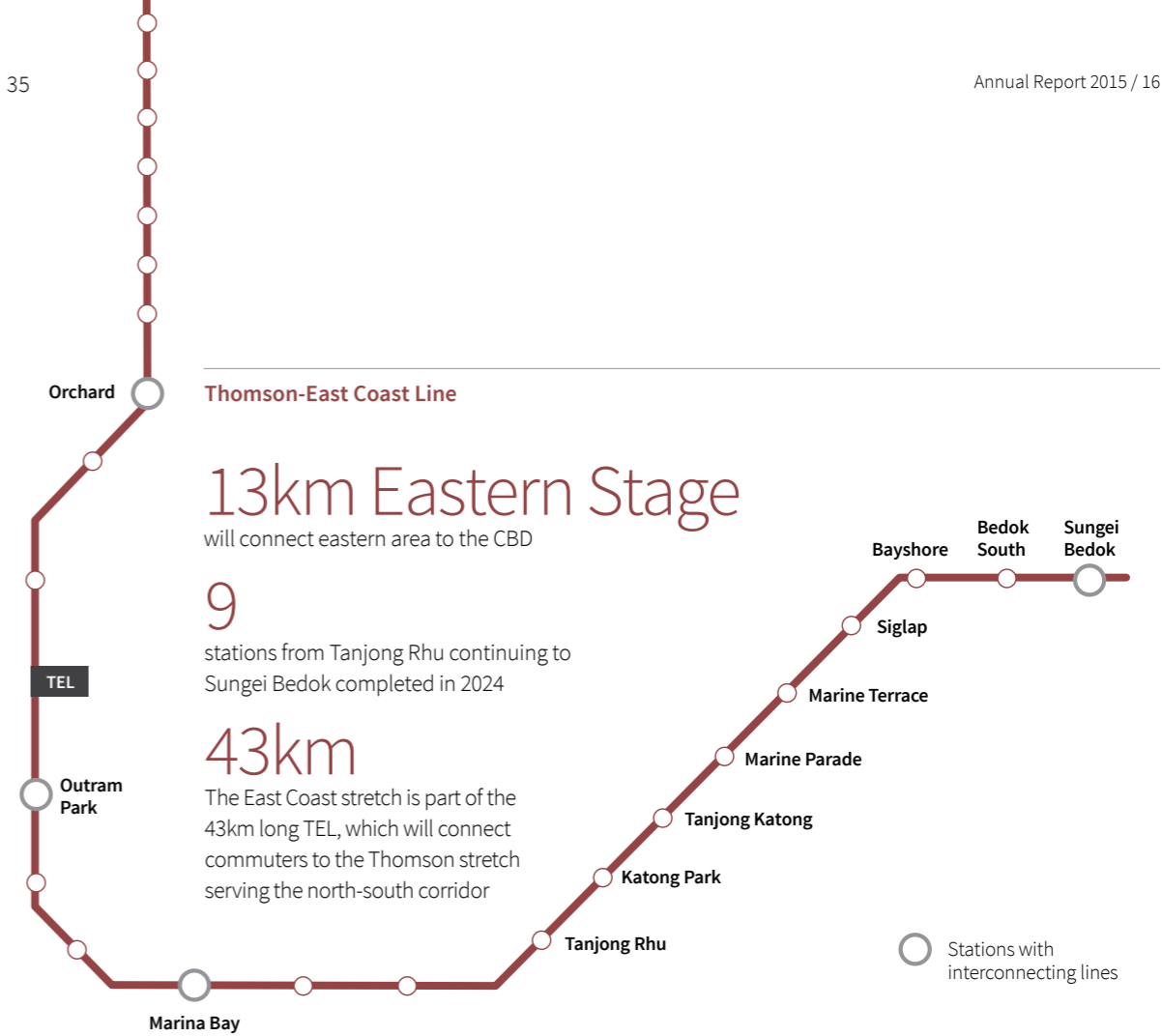
will connect eastern area to the CBD

9

stations from Tanjong Rhu continuing to Sungei Bedok completed in 2024

43km

The East Coast stretch is part of the 43km long TEL, which will connect commuters to the Thomson stretch serving the north-south corridor



Kuala Lumpur-Singapore High Speed Rail

2026

—expected completion

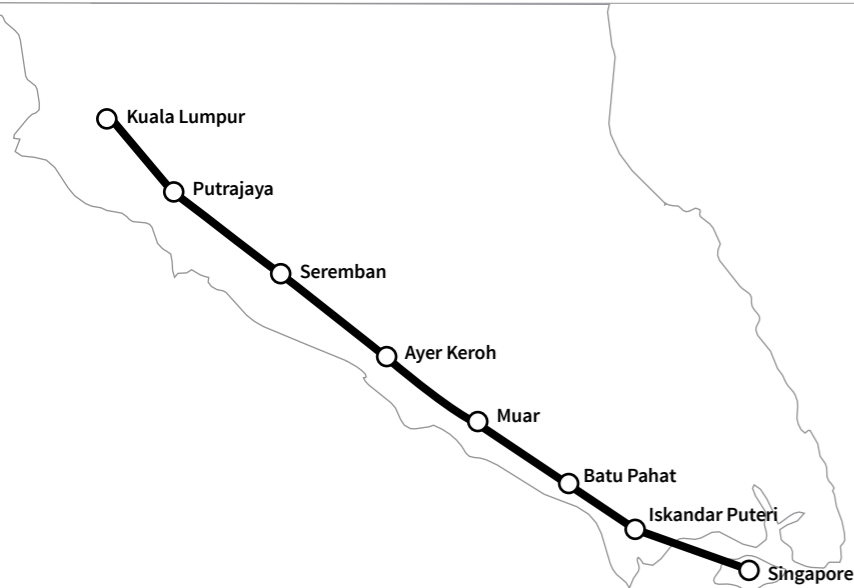
90mins

—travel time between Kuala Lumpur and Singapore

350km

—8 stops between Singapore and Malaysia

Note: alignment of High Speed Rail stations is purely illustrative



Cross Island Line

Cross Island Line (CRL) will start from Changi and pass through Loyang, Pasir Ris, Hougang, Ang Mo Kio, Bukit Timah, Clementi, West Coast and Jurong

600,000

commuters expected to be served daily by CRL

2030

—expected completion

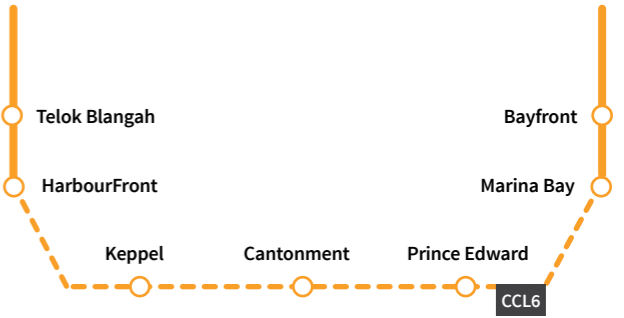
Circle Line 6

3

new stations—Keppel, Cantonment and Prince Edward —will be completed around 2025

4km

connecting HarbourFront to Marina Bay



## A World First!

Singapore is building the world's first four-in-one rail and bus depot. The East Coast Integrated Depot will integrate three train depots (for EWL, DTL and TEL) and one bus depot within a single 36-hectare site. The integrated depot—slated for completion by 2024—will be able to house 220 trains and 760 buses.



## More Trains

### Bukit Panjang LRT Line

13

new train-cars on  
Bukit Panjang LRT Line  
added since 2014

70%

increase in  
fleet size

### Sengkang-Punggol LRT Line

16

new train-cars on  
Sengkang-Punggol LRT  
Line added in 2016

40%

increase in  
fleet size

### North-South and East-West Lines

57

more trains for North-  
South and East-West  
Lines (NSEWL)

1<sup>st</sup> batch

arrived in 2015, with rest of trains  
added progressively from  
2016 – 2019

### North East Line

18

more trains on  
North East Line (NEL)

2016

—full deployment

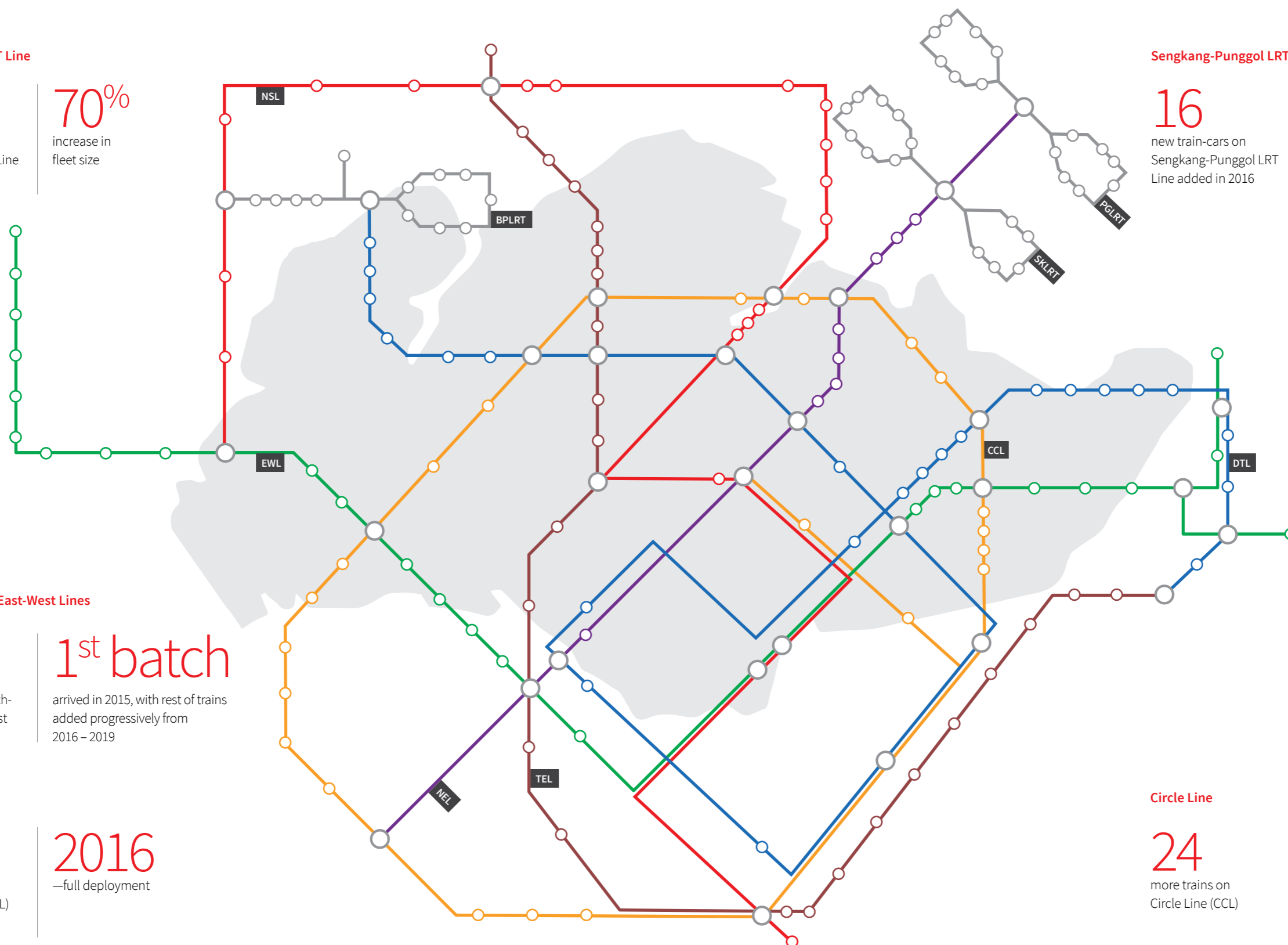
### Circle Line

24



more trains on  
Circle Line (CCL)

2016

—full deployment



Upgrading Our Rail System

	Sleeper Replacement Programme	Signalling Systems Upgrade	Third-rail Replacement Works
North-South Line	96,000 timber sleepers replaced with concrete ones 	Completed by end of the year	Completed by 2017
East-West Line	90,200 timber sleepers to be replaced by concrete ones by end of the year 	Completed by 2018	Completed by 2017



We continue to work at a fast pace to upgrade the rail system and improve reliability.

**North-South Line**  
The sleeper replacement programme on the North South Line (NSL) has been completed, with all 96,000 timber sleepers replaced with concrete ones. The upgrading for the line’s signalling systems will also be completed by the end of year. As for the third-rail replacement works, they are slated for completion by 2017.

**East-West Line**  
More than 90,200 timber sleepers along the East West Line (EWL) will be replaced with concrete ones by the end of the year, and the upgrading of the line’s signalling systems will be completed by 2018. The line’s third-rail replacement works are still ongoing, with about 100m to 150m being replaced every night.

New Rail Financing Framework

The North-South and East-West Lines (NSEWL), Circle Line (CCL) and Bukit Panjang LRT (BPLRT), if approved by shareholders, will be transiting to the New Rail Financing Framework (NRFF) on 1 Oct 2016\*.

Under the previous financing framework, the rail operators owned operating assets such as trains and signalling systems. Under the NRFF, LTA now owns the operating assets and ensures timely investments in capacity expansion, replacement and upgrading. In 2008, the NRFF was announced as part of the Land

Transport Master Plan, and was first implemented in 2011 for the Downtown Line (DTL).

For the right to operate and earn revenue from the lines, the operator pays an annual Licence Charge into the Railway Sinking Fund, which will fund the capacity expansion and asset replacement and upgrading works. With the new framework, LTA can ensure that better service is delivered to Singapore’s commuters, and capacity expansion and asset replacement and upgrading are executed in a timely manner.

\*Accurate as of 24 September 2016



## Enhancing Commuter Experience

*Creating a better travelling experience for everyone is a multi-faceted endeavour that requires us to explore new and innovative ways to make commuting more convenient, enjoyable and comfortable. LTA has launched a range of initiatives to encourage off-peak hour commuting, enhance WIFI connectivity, and boost smart travelling.*

### Free Travelling on the MRT

Since June 2013, free and discounted MRT fares have been offered to commuters travelling before the morning peak. So far, about 7% of commuters or about 65,000 have confirmed to travel off peak. LTA will be extending the scheme for another year—till 30 June 2017.

### “Travel Smart” Network

Companies receive Government funding if they introduce initiatives to help their workers travel during off-peak periods. Over 100 companies have tapped on this fund since the Travel Smart Network was launched in August 2014. Together with free pre-peak travel on the MRT, nearly 15,000 more workers are no longer squeezing on the MRT between 8 a.m. and 9 a.m. every day. This frees up the equivalent of 10 train loads of space.

### Travel Smart Consultancy Vouchers

Eligible companies can use Travel Smart Consultancy Vouchers to pay external travel-management consultants for ideas on how their workers can modify their travel patterns without compromising their work. More companies eager to make such changes have been tapping on these vouchers.

### Enhanced Apps for Better Commuting

Singapore’s commuters can look forward to a slew of new and enhanced mobile journey planners from the end of this year. These apps will help commuters plan the best multi-modal public-transport routes, using all available mobility options. To build these apps, LTA is collaborating with Citymapper, Google, Hugo and Quantum Inventions.

### Tap and Pay

With the Account-Based Ticketing System piloting end 2016, commuters can enjoy the convenience of tapping their existing Mastercard contactless credit and debit cards to pay for train and bus journeys. This new fare payment system eliminates the need for a separate transit card and fare top-ups, and greatly enhances the convenience and seamlessness of travelling via public transport.

### Free WIFI at MRT and LRT Stations and Bus Interchanges

Singapore’s commuters can look forward to enjoying free WIFI services at all MRT and LRT stations, as well as 30 bus interchanges and terminals across the island. The initiative is slated for completion by 2020.



## Buses Galore

185

—weekly peak-hour trips added to reduce crowding and shorten wait times

800

of the projected 1,000 buses are already on the road under Bus Service Enhance Programme

New routes increased from 40 to

63

9

new bus services in 1Q2016 to enhance connectivity



Our bus network is integral to the transport network, and Singapore continues its commitment to making service better through the Bus Service Enhancement Programme (BSEP), the rollout of the Bus Contracting Model and the overall unified look and feel through the adoption of new livery.

27/34

services achieved Excess Wait Times<sup>[1]</sup> that were better than the baseline, i.e. the bus arrivals were more evenly spread out



<sup>[1]</sup> Excess Wait Time is the average additional wait time experienced by commuters at bus stops, compared to the scheduled wait time if the buses had arrived at regular intervals (Jun to Nov 2015).



### New Look for Singapore Buses

Singapore has voted, and it is official: the colour of the Singapore Bus' new unified livery is Lush Green. The colour depicts environmental friendliness, and symbolises growth, vitality, prosperity and progress. Buses will "turn green" gradually as the Bus Contracting Model unfolds.

### Bus Service Enhancement Programme 80% Rolled Out

As of 31 March 2016, 800 Government-funded buses have been added to the public-bus network, which is 80% of the 1,000 buses scheduled for operation by 2017. As part of the Bus Service Enhancement Programme (BSEP), two more City Direct Services (CDS) have also been introduced to serve residents in Buangkok/Sengkang and Hougang. The number of CDS totals 22, giving commuters a quick way to commute directly to and from the CBD.

Buses Galore

Bus Contracting Model Starts with First Bus Services

The Bulim bus package—26 bus services supported by the Bulim Bus Depot—is run by Tower Transit Singapore. Operations began in May 2016 and marked the start of Singapore’s Bus Contracting Model. Go-Ahead, the second operator with 25 bus services under the new model, began operations from the Loyang Bus Depot in September 2016.

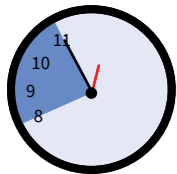
With the Government having reached agreement with SBS Transit and SMRT Buses through negotiated contracts, the entire industry has completed its transition to the Bus Contracting Model on 1 September 2016.

Longer Full-day Bus Lane Hours Mean Shorter Commutes

We have extended the operating hours for all full-day bus lanes by three hours to end at 11 p.m.

All full-day bus lanes extended by three hours to

11pm





# THE **P** LANNER

Making Walk Cycle Ride SG happen requires LTA to look at the big picture of our transport network. A wide array of LTA professionals work together and collaborate with other government agencies to improve the entire transport network to make using trains, buses, walking and cycling accessible and easy to use.

## The Big Picture

***“What we do deals with the processes and preliminary planning for the proposed cycling network.”***

**Yeong Whye Kwok**  
Manager, Active Mobility

***“As planners, we need to have a holistic picture of how the overall system works—from the moment a person gets out of the house to the destination.”***

**Annabelle Lin**  
Manager, Local Planning

“As planners, we need to have a holistic picture of how the overall ‘system’ works, from the moment a person leaves the house to the destination,” says Annabelle Lin, a 34-year-old manager with LTA’s Local Planning Division. “I work with agencies—especially land-use agencies—to safeguard the interests of our transport system and ensure that sufficient space is allocated for walking, cycling, and road and rail infrastructure.”

Undoubtedly, seeing the big picture is essential in what LTA planners like Annabelle do, because building new transport infrastructure affects everyone. LTA’s planners work closely across various government agencies to get the needed space, obtain funding, and make sure the infrastructure is feasible and integrates seamlessly with the overall transport network.

Annabelle is part of the team that examines Singapore’s western region to ensure that people who live and work there have the transport they need to

get around, which includes rail, bus, walking, cycling and even the eventual autonomous vehicles. “Planning is a long process, and my daily work involves all facets of planning, from justifying transport infrastructure, working with engineers and understanding feasibility, to engaging with agencies to get land,” she says. “We work hard to plan so public transport is conveniently located!”

Yeong Whye Kwok, a 35-year-old civil engineer working on implementing the cycling portion of Walk Cycle Ride SG with LTA’s Active Mobility Unit (AMU), agrees that it takes many different elements to create effective transport infrastructure. “What we do deals with the processes and preliminary planning for the proposed cycling network,” he says. “But this cannot be done in isolation, as we need various departments within LTA—like traffic management, local planning, civil and structures, and road facilities—as well as agencies like URA, NParks and HDB, just to name a few, to do the work.”



Bencoolen 2017

Bencoolen Street lies at the heart of Singapore’s flourishing cultural district. The strip between Middle Road and Bras Basah Road has been closed for the construction of the Downtown Line’s Bencoolen Station, due to open in 2017. Instead of a road as usual, we are converting

Bencoolen to a shared space, with wide footpaths, trees and benches for pedestrians to enjoy. A dedicated cycling path will connect Rochor Canal and Bukit Timah to the CBD, and Bencoolen Street will also have a dedicated bus lane. Watch this space!



Car-Free Sundays

To encourage Singaporeans to get out and about and go car-free, we co-sponsored Car-Free Sundays in the Civic District so walkers, joggers and cyclists can visit the area, and participate in family-friendly activities or even have a picnic—all without worrying about cars.



## Singapore's First Integrated Transport Corridor

The nation's first integrated transport corridor is fast becoming a reality. Construction works for the 21.5km North-South Corridor (NSC) that connects towns in the northern region to the city centre will start next year. The NSC will feature express bus services and cycling trunk routes, allowing faster travelling by bus, as well as a better experience for cyclists. The projected completion date is 2026.



New and Upcoming Integrated Transport Hubs

Integrated Transport Hubs (ITH) bring together rail and bus interchanges, combined with commercial developments like shopping malls. The Joo Koon ITH is a bright spot for commuters who live or work in the Jurong and Tuas areas. The Bukit Panjang ITH is expected to be operational in 2017 and the Yishun ITH is slated for completion by 2019.

Better Service through Better Manpower

The public transport system relies on people to deliver the high level of service that makes traveling by public transport an excellent way to go.

Over the next three years, LTA will invest \$12.5 million in the Public Transport Manpower Development Fund (PTMDF) to fuel industry-wide manpower initiatives to attract, develop and retain talent. These initiatives include developing more industry-relevant programmes, sponsoring study awards and training grants, developing a skills-based progression framework, and engaging in industry-wide branding for the sector.

The Sectoral Manpower Plan for the public bus industry, launched in May 2016, bolsters our efforts by grooming and developing local bus captains. This includes the establishment of the Singapore Bus Academy to create collaborative relationships to improve the workforce.

LTA has also established the Singapore Rail Academy (SGRA) to develop local engineering and research capabilities. SGRA aims to be at the forefront of rail engineering excellence.



Paving the Way for the Future

The future of public transport lies in research, ideas and innovation. To bring Singapore closer to this future, LTA is beefing up its research capabilities and collaborating with universities, professional organisations and industry players.

Transport Research Centres are in the works for the National University of Singapore (NUS), the Nanyang Technological University (NTU) and the Singapore Institute of Technology (SIT). Through these centres, LTA will fund projects to drive innovation in such areas as active mobility, electro-mobility, self-driving vehicles, geotechnical engineering and condition-based maintenance.

Ongoing Trials

Ongoing trials for self-driving vehicles are already taking place at one-north, Gardens by the Bay, and Sentosa.

New Regulations for Private Hire Cars

Taxis and increasingly, private hire cars (PHC), serve a major role in providing point-to-point transport and helping to close the first and last mile gap for commuters. To better protect the interests of commuters, LTA has introduced regulations for PHC drivers and vehicles that will take effect in the first half of 2017. All drivers providing chauffeured services will be required to obtain a Private Hire Car Driver's Vocational Licence (PDVL), register their vehicles with LTA, and display a tamper-evident decal.





## Awards Won in FY2015/16

### Ong Teng Cheong Labour Leadership Institute Workplace Partnership Award 2015

LTA and the Amalgamated Union of Statutory Board Employees (AUSBE) have been jointly awarded the Ong Teng Cheong Labour Leadership Institute (OTC Institute) Workplace Partnership Award (Gold) for their sustained efforts in enhancing understanding and cooperation between the management and the union through programmes organised by the OTC Institute.

### City on a Cloud Innovation Leadership Award

LTA received the City on a Cloud Innovation Leadership Award from Amazon Web Services (AWS) for its innovative use of cloud-based solutions and tools. Singapore is the first city outside the USA to receive this accolade.

### Marketing Magazine Loyalty and Engagement Awards 2015

LTA's very own Thoughtful-Me characters from 2014 Graciousness Campaign won Bronze in two categories at the Marketing Magazine Loyalty and Engagement Awards

2015—"Best Engagement Strategy by Government/Community" and "Best Use of Integrated Media Campaign". Among the biggest marketing awards in the Asia-Pacific region, the Marketing Magazine Loyalty and Engagement Awards recognise excellence in brand awareness and customer loyalty.

### Top 50 Engineering Feats @ IES-SG50 Award

LTA received the Top 50 Engineering Feats @ IES-SG50 Award for 11 of its completed land-transport projects. The award recognises the top 50 engineering achievements that have made the greatest economic, infrastructural or societal impact on Singapore since 1965.

### 2015 Marketing Events Awards

LTA's Transport & You(th) Hackathon won the "Best Government Sector Event" at the 2015 Marketing Events Awards. The awards recognise the creative excellence, successful strategies and operational precision of event marketers, planners and agencies across South Asia, South East Asia, Australia and New Zealand.

Contracts Awarded in FY2015/16

Thomson-East Coast Line		
Contract	Contractor	Description
T273B	Voltas Limited	Supply and Installation of Tunnel Ventilation And Environmental Control Systems for Thomson-East Coast Line Stages 1 and 2
T273C	Shinryo Corporation (Singapore Branch)	Supply and Installation of Tunnel Ventilation And Environmental Control Systems for Thomson-East Coast Line Stage 3
T275A	Gammon Pte Limited	Supply and Installation of Electrical Services for Mandai Depot
T275B	Guthrie Engineering (S) Pte Ltd	Supply and Installation of Electrical Services for Thomson-East Coast Line Stages 1 and 2
T275C	Guthrie Engineering (S) Pte Ltd	Supply and Installation of Electrical Services for Thomson-East Coast Line Stage 3
T278B	Deluge Fire Protection (S.E.A) Pte Ltd	Supply and Installation of Fire Protection System For Thomson-East Coast Line Stages 1 and 2
T278C	Deluge Fire Protection (S.E.A) Pte Ltd	Supply and Installation of Fire Protection System for Thomson-East Coast Line Stage 3
T301	GS Engineering & Construction Corp.	Construction of 4-In-1 Rail and Bus Depot and Reception Tunnels for Thomson-East Coast Line
T303	Bachy Soletanche Singapore Pte Ltd - Wai Fong Construction Pte Ltd Joint Venture	Construction of Tanjong Rhu Station and Tunnels for Thomson-East Coast Line
T305	Shanghai Tunnel Engineering Co. (Singapore) Pte Ltd	Construction of Katong Park Station and Tunnels for Thomson-East Coast Line
T306	Woh Hup (Private) Limited	Construction of Amber Station for Thomson-East Coast Line
T307	Samsung C&T Corporation	Construction of Marine Parade Station and Tunnels for Thomson-East Coast Line
T308	Ssangyong Engineering & Construction Co., Ltd. - Hyundai Engineering & Construction Co., Ltd. Joint Venture	Construction of Marine Terrace Station and Tunnels for Thomson-East Coast Line
T309	John Holland Pty Ltd - Zhen Hua (Singapore) Engineering Pte. Ltd. Joint Venture	Construction of Siglap Station for Thomson-East Coast Line
T310	Woh Hup (Private) Limited - Shanghai Tunnel Engineering Co. (Singapore) Pte Ltd Joint Venture	Construction of Bayshore Station and Tunnels for Thomson-East Coast Line
T313	Samsung C&T Corporation	Construction of Xilin Station and Tunnels for Downtown Line 3 Extension
T2155	Siemens Pte. Ltd.	Addition & Alteration Works on Communications, Control and Station Travel Information Systems to Existing Stations that Interchange with Thomson Line
T2185	Transport Design Consultancy Limited	Signage Design Consultancy Service for Public Transit

T3002	Aik Leong Plumbing Construction Pte Ltd	Advance Utility and Sewer Diversion at Tanjong Rhu and Katong Park Stations
T3005	Ed. Zublin AG, Singapore Branch	Advance Sewer Diversions (Package 2)
T3008	GS Engineering & Construction Corp.	Advanced Work at Depot
T3009	HSL Constructor Pte Ltd	Decking of Sungei Ketapang
T3028	Intercorp Solutions Pte Ltd	Supply and Installation of Biometric Authentication System
Rail Enhancement Works		
Contract	Contractor	Description
151C	Kawasaki Heavy Industries, Ltd./ CSR Qingdao Sifang Co., Ltd./ Kawasaki Heavy Industries (Singapore) Pte. Ltd. Consortium	Trains for North-South / East-West Lines
152A	Thales Solutions Asia Pte Ltd	Signalling System for Canberra Station and Additional Trains
152B	Singapore Technologies Electronics Limited	Half Height Platform Screen Doors for Canberra Station
158A	China State Construction Engineering Corporation Ltd (Singapore Branch)	Design and Construction of Canberra Station
1376	Tai Yong Construction Pte Ltd	Design and Build of Enhancement to Existing MRT/LRT Stations and Associated Commuter Facilities
1396	Agitech Innovations Private Limited	Implementation of Support Enhancement Measures for Tunnel Equipment and Fixtures in Rail Tunnels
1668A	SMRT Engineering Pte Ltd	Train-Borne Travel Information System for North-South / East-West Lines
1758	T.Y. Lin International Pte. Ltd. / DP Architects Pte Ltd	Advance Engineering Consultancy Services for the Expansion of Ulu Pandan Depot
1765	Singapore Technologies Electronics Limited	Provision of Services for the Replacment of Passenger Service Machines and Station Computers in Selected Rail Stations
Circle Line / Downtown Line / Cross Island Line		
Contract	Contractor	Description
8811	Jin Choon Civil Engineering Pte Ltd	Reconfiguration of Buildings and Services off Keppel Road
8812	CCECC Singapore Pte Ltd	Construction of New Bus Terminal at Shenton Way
9062	CTCI Corporation / CTCI Singapore Pte Ltd Consortium	Trackwork for Gali Batu Depot
9093	Toa Corporation - Hiap Shing Construction Pte Ltd Joint Venture	Design, Construction, Operation & Maintenance of Tuas South Staging Ground
9095	Soil-Build (Pte) Ltd - Shincon Industrial Pte Ltd Joint Venture	Construction of Covered Linkways to Downtown Line 3 (DTL3) and Tuas West Extension (TWE) Stations
9097	KTC Civil Engineering & Construction Pte Ltd	Design, Construction, Operation and Maintenance of a Stockpile Site at Changi Area
C1027	Soil Investigation Pte Ltd	Site Investigation Works for LTA Projects

Contracts Awarded in FY2015/16

C1028	Kwang Sing Engineering Pte Ltd	Site Investigation Works for LTA Projects
C1029	Kiso-Jiban Consultants Co., Ltd. Singapore Branch	Site Investigation Consultancy Works for LTA Projects
C1030	Kiso-Jiban Consultants Co., Ltd. Singapore Branch	Site Investigation Consultancy Works for LTA Projects
C1036	Soil Investigation Pte Ltd	Site Investigation Works for LTA Projects
C1037	Ryobi Geotechnique International Pte Ltd	Site Investigation Works for LTA Projects
Total Awarded Sum for Rail Projects		\$S\$6.6 billion
Road Construction / Development		
Contract	Contractor	Description
ER370	CPC Construction Pte Ltd	Extension of Sengkang West Way between Jalan Kayu and Sengkang West Road
ER397A	Hwa Seng Builder Pte Ltd	Expansion of KPE/TPE Interchange including Link Road to Punggol Central
ER410A	Feng Ming Construction Pte Ltd	Completion Contract ER410A - Widening of Lorong 6 Toa Payoh and Braddell Road between Lorong 1 Toa Payoh and Braddell Flyover
ER449A	Or Kim Peow Contractors (Private) Limited	Viaduct from TPE to PIE (Westbound) and Upper Changi Road East
ER468	Jin Choon Civil Engineering Pte Ltd	Widening of Loyang Avenue between Pasir Ris Drive 3 and Tampines Expressway
ER478	Hwa Seng Builder Pte Ltd	Widening of Woodlands Road, Choa Chu Kang Link and Stagmont Ring
ER480A	Feng Ming Construction Pte Ltd	Upgrading of Upper Bukit Timah Road and Jalan Anak Bukit
ER481	Parsons Brinckerhoff Pte. Ltd.	Consultancy Services for Bus Depots
ER482	AECOM Singapore Pte Ltd	Consultancy Services for Bus Depots
ER485	ECK Shen Construction & Trading Pte Ltd	Widening of Simei Street 3 (Part) and other Road Works
ER490A	Samwoh Corporation Pte. Ltd.	Flyover from Seletar West Link to SLE
ER493	Ryobi Geotechnique International Pte Ltd	Tremor Monitoring System for Transport Infrastructures
ER495	Megastone Holdings Pte Ltd	RoadWorks at Upper Serangoon Road between Hillside Drive and Lowland Road
ER499	CCECC Singapore Pte Ltd	Noise Barrier Trial at PIE
ER501	Aedas Pte. Ltd.	Consultancy Services (Architectural, Civil & Structural Engineering and Mechanical & Electrical Engineering) for Integrated Transport Hub
N1003	CHC Construction Pte Ltd	Reinstatement Works for North South Expressway
TR201	Fong Consult Pte Ltd	Regular Inspection of Road and Road Facilities in Central and East Sector
TR211	Megastone Holdings Pte Ltd	Term Contract for Road Related Facilities, Road Structures & Road Safety Schemes in West Sector

TR212	Eng Lam Contractors Co (Pte) Ltd	Term Contract for Road Related Facilities, Road Structures & Road Safety Schemes in East Sector
TR238A	Chye Joo Construction Pte Ltd	Road Maintenance Contract for Central South and Central West Sectors
TR238B	Highway International Private Limited - Avenue Engineering Pte. Ltd. Consortium	Road Maintenance Contract for Central North and Central East Sectors
TR238C	Highway International Private Limited - Avenue Engineering Pte. Ltd. Consortium	Road Maintenance Contract for Expressways and North West Sector
TR238D	Yun Onn Company (Private) Limited	Road Maintenance Contract for South East Sector
TR238E	Double-Trans Pte Ltd	Road Maintenance Contract for South West Sector
TR238F	Double-Trans Pte Ltd	Road Maintenance Contract for North East Sector
TR239	Gim Tian Civil Engineering Pte Ltd	Functional Maintenance Contract
TR240	Supersonic Maintenance Services Pte. Ltd.	Road Structure / Facilities Functional Maintenance Contract
Commuter Facilities Enhancement		
Contract	Contractor	Description
ER438	Soil-Build (Pte.) Ltd.	Proposed Lift Shafts to Existing Pedestrian Overhead Bridges
ER457	CCECC Singapore Pte Ltd	Proposed Enhancement to Existing Commuter Infrastructure
PT167	Gleason Advertising Pte Ltd	Comprehensive Maintenance and On-Site Updating of Bus Stop Pole Information
TR127	HCJ Construction Pte. Ltd.	Design and Construction of Cycling Path Network in Bedok
TR128	HCJ Construction Pte. Ltd.	Design and Construction of Cycling Path Network in Jurong Lake
TR193	Meinhardt (Singapore) Pte Ltd	Engineering Consultancy Services for the Design of Cycling Path Network
Public Transport		
Contract	Contractor	Description
PT200	Tower Transit Group Limited	Bus Contracting - Bulim Bus Package
PT201	The Go-Ahead Group Plc	Bus Contracting - Loyang Bus Package
PT221A	Aedge Holdings Pte Ltd	City Direct Bus Services (Yew Tee, Pasir Ris and Tampines East/Simei)
PT221B	Bus Hub Services Pte. Ltd.	City Direct Services (Marsiling/Woodlands and Yishun)
PT233A	Tong Tar Transport Service Pte Ltd	City Direct Services (Clementi/Dover,Bedok and Yishun West)
PT233B	BT&Tan Transport Pte. Ltd.	City Direct Services (Ang Mo Kio and Punggol)
RD285	W’Ray Construction Pte. Ltd.	Expansion of Sengkang Bus Interchange
RD286	Yong Xing Construction Pte Ltd	Expansion of Tampines Bus Interchange
RD299A	Tiong Seng Contractors (Private) Limited	Proposed Sungei Seletar Bus Depot
RD300A	Tiong Seng Contractors (Private) Limited	Proposed Ulu Pandan Bus Depot

Contracts Awarded in FY2015/16

RD305	BSI (1990) Pte. Ltd.	Expansion of Bus Interchanges
SR111	KTC Civil Engineering & Construction Pte Ltd	Provision of Bus Depot Equipment
Transport Operation / Technology / Enforcement		
Contract	Contractor	Description
IT198	NCS Pte Ltd	Hosting, Operations & Maintenance of One.Motoring, MyTransport Portals & Mobile and LTA Corporate Website
IT199	LECIP (Singapore) Pte Ltd	Operations & Maintenance Services for Data Transmitter System
TR150	NCS Pte Ltd / Mitsubishi Heavy Industries Engine System Asia Pte Ltd	Next Generation Electronic Road Pricing System
TR199	Sopra Steria Asia Pte. Ltd.	Operation and Maintenance of the EPS Central Computer System and EPS E-Service
TR216	O’Connors Singapore Pte Ltd	Expansion of Closed-Circuit Television Enforcement Camera System for Illegal Parking (Central East)
TR217	ATT Systems (S’pore) Pte Ltd	Expansion of Closed-Circuit Television Enforcement Camera System for Illegal Parking (North-West)
TR220	ST Electronics (Info-Comm Systems) Pte Ltd	Maintenance and Enhancement of Junction Electronic Eyes (J-Eyes)
TR223	Swee Builders Pte Ltd	Regular Maintenance and Upgrading of Bridges
TR225	Aetos Security Management Pte. Ltd.	LTA Traffic Marshal Services
TR226	Double-Trans Pte. Ltd	Proposed Silver Zones At Yishun and Bedok North
TR230	ATS Traffic Pte Ltd	Green Man + Expansion
VS116	NCS Pte Ltd	Operations and Maintenance Services for Vehicle Registration and Licensing System (VRLS)
Total Awarded Sum for Road Projects		S\$2.8 billion

Contracts to be Awarded in FY2016/17

Rails	
Contract	Description
152D	Point Machines for Tanah Merah Station Addition and Alteration Works and 4 in 1 Depot—East West Line
152E	Half Height Platform Screen Doors for Additional Platform at Tanah Merah Station
160B	Communications System for 4-in-1 Depot—East West Line including Addition and Alteration Works at Tanah Merah Station
1363	Implementation of Noise Barriers (Phase 2)
1385	Fire Safety Engineering Analysis for Rapid Transit Stations
1386	Communications System for Station Enhancement Works at North-South East-West Lines
1387	Fire Safety Design Review for Rapid Transit Stations
1670	Fence Intrusion Detection System at Tuas West Depot
1685A	Upgrading Works at Permanent Way and Locomotive Workshop in Tuas Depot
1689A	Trackworks at Permanent Way and Locomotive Workshop in Tuas Depot
1766	Provision of Services for the Replacement of AFC Network Cables and Equipment in Selected Rail Stations
1767	Automatic Fare Collection (AFC) Gates
8121	A&A Works for Ventilation to LRT Stations
8122	Provision of Lighting to Sengkang-Punggol Light Rapid-Transit (SPLRT) Guideway
8123	Design & Build Fixed Barriers For Light Rail Transit Stations
8813	Modifications to Existing Hougang Bus Depot
9193	Construction of Covered Linkway
C1005	Advance Engineering Study for the Proposed Cross Island Line Eastern Leg (CRLe)- Depot and Mainline Package A
C1006	Advance Engineering Study for the Proposed Cross Island Line Eastern Leg (CRLe)- Mainline Package B
C1007	Advance Engineering Study for the Proposed Cross Island Line Eastern Leg (CRLe)- Mainline Package C
C1008	Mechanical and Electrical Engineering Services for Cross Island Line Eastern Leg (CRLe) Depot
C1009	Mechanical & Electrical Engineering Services for Cross Island Line Eastern Leg (CRLe) Mainline
C1047	Provision of Horizontal Directional Coring Services
C1048	Provision of Geophysical Investigation Services
J1001	Advance Engineering Consultancy Services for the Proposed Jurong Region Line (JRL) Mainline (Contract 1)
J1002	Advance Engineering Consultancy Services for the Proposed Jurong Region Line (JRL) Mainline (Contract 2)
J1003	Advance Engineering Consultancy Services for the Proposed Jurong Region Line (JRL) Mainline (Contract 3)
J1005	Security and Protective Design Consultancy Services for the Proposed Jurong Region Line (JRL)
J1006	Noise and Vibration Study Consultancy Services for the Proposed Jurong Region Line (JRL)
J1007	Mechanical and Electrical Engineering Services for Jurong Region Line (JRL) Depot
J1008	Mechanical and Electrical Engineering Services for Jurong Region Line (JRL) MainLine
T2502	Supply and Installation of Water Handling Equipment for Thomson East Coast Line (TEL)
T250A	Trackwork for Thomson-East Coast Line Stage 4 & 5, Downtown Line Stage 3 Extension and East-West Line Upgrade
T253A	Power Supply System for Thomson-East Coast Line Stage 4 and 5

Contracts to be Awarded in FY 2016/17

T272B	Design, Supply, Install, Test & Commission of AFC Frontend System For Thomson East Coast Line
T281A	Depot Equipment for East-West Downtown and Thomson-East Coast Lines (Package A)
T281B	Depot Equipment for East-West Downtown and Thomson-East Coast Lines (Package B)
T302	Construction of Facility Building and Tunnels for Thomson-East Coast Line
T311	Construction of Bedok South Station and Tunnels for Thomson-East Coast Line
T312	Construction of Sungei Bedok Station and Tunnels for Thomson-East Coast Line
T315	Addition & Alteration Works to Existing Tanah Merah Station and Existing Viaducts
T373A	Supply and Installation of Environmental Control System for 4-In-1 Rail and Bus Depot
T375A	Supply and Installation of Electrical Services for 4-In-1 Rail and Bus Depot
T378A	Supply and Installation of Fire Protection System for 4-In-1 Rail and Bus Depot
T2181	Design and Construction of Passenger Service Centre, Station Master’s room and Ticket Sales Office for Thomson-East Coast Line Stations
T3030	Mobile Application System for Rail Construction and Interface to Maintenance Management Systems

Roads	
Contract	Description
ER497	Widening of Tampines Ave 7 between TPE and Tampines Street 34
ER502	Proposed High Covered Linkways & Covered Linkways
ER507	New Road Connections to Seletar Link and Widening of TPE between Jalan Kayu and Punggol West Flyovers
ER508	New Road Link between Senja Road and Kranji Expressway
ER510	Architectural / Engineering Services for Existing Pedestrian Overhead Bridges (Package 1)
ER511	Architectural / Engineering Services for Existing Pedestrian Overhead Bridges (Package 2)
ER515	Trial Trenching for Existing Pedestrian Overhead Bridges (Package 1)
ER516	Trial Trenching for Existing Pedestrian Overhead Bridges (Package 2)
ER518	Security and Protective Design Engineering Services for Proposed Vehicular Bridge
ER519	New Road between Lorong Halus and Paisr Ris Industrial Drive 1 including Expansion of KPE/TPE Interchange
ER520	Realignment of Simei Road for Connection to Somapah Road
ER521	Works at Slip Road from PIE to Airport Boulevard
IT209	Advanced Analytic System
IT211	WiFi@MRT Phase 2
IT213	Bus Maintenance Management System
PL179	Architectural/Engineering Services for the Design of Cycling Path Network and Linear Park
PL188	Design & Construction of Cycling Facilities
PL190	Implementation, Operations and Maintenance of Bicycle Sharing system in Jurong Lake District
PT202	Bus Contracting - Seletar Bus Package
PT246	Video Surveillance System and Associated Works for Bus Interchanges
PT262	Bus Network Scheduling and Management System
PT270	City Direct Bus Services

PT281	Provision of Indicator Lights at identified Bus Stops island wide
TR221	Road Resurfacing Works Along PIE, AYE and other Expressways
TR222	Planned Road Resurfacing Works along ECP, SLE, BKE, CTE
TR237	Design and Construction of 7 Silver Zones
TR246	Implementation, Hosting, Operations and Maintenance of Mobile Application
TR247	Implementation and maintenance of “40 km/h When Lights Flash” signs at Enhanced School Zones
TR250	Provision of EMAS Vehicle Recovery Services (KPE & MCE)
TR251	EMAS Vehicle Recovery Services (All Expressways except KPE/MCE)

FY2015/16 Financial Highlights

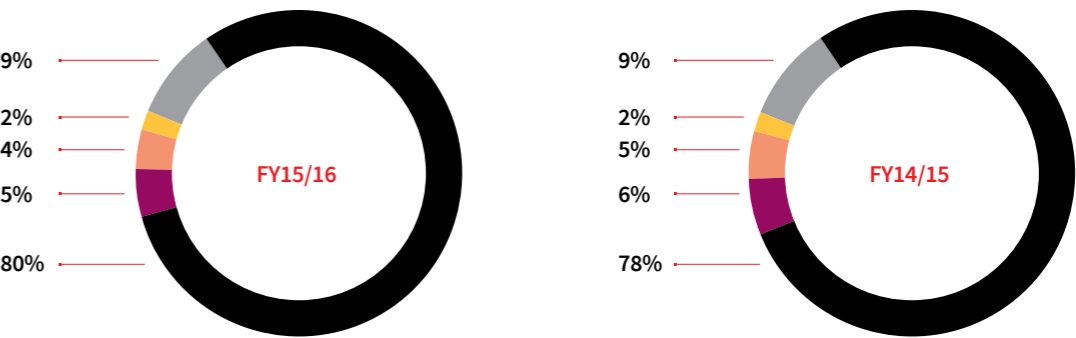
Statement Of Comprehensive Income

For FY15/16, the Authority recorded a net surplus of \$24m, after netting off government grants. Total comprehensive income amount to \$30m after taking into account cash flow hedges of \$6m.

	FY15/16 \$'M	FY14/15 \$'M	Increase/ (Decrease) \$'M
Operating Income	786	629	157
Operating Expenditure	(1,536)	(1,301)	235
Operating Deficit	(750)	(672)	78
Other Gains - Net	1	11	(10)
Deficit before Government Grants	(749)	(661)	88
Government Grants	773	634	139
Surplus/(Deficit) before Contribution to Consolidated Fund	24	(27)	(51)
Contribution to Consolidated Fund	-	-	-
Net Surplus/(Deficit)	24	(27)	(51)
Other Comprehensive Income:			
Cash Flow Hedges	6	(15)	(21)
Total Comprehensive Income/(Loss)	30	(42)	(72)

Operating Income

The Authority’s total operating income of \$786m in FY15/16 is an increase of \$157m (25%) over FY14/15’s income of \$629m, contributed mainly from increase in Management Fee from Government. Management Fee from Government remains the Authority’s main source of income, contributing to 80% of total income in FY15/16.

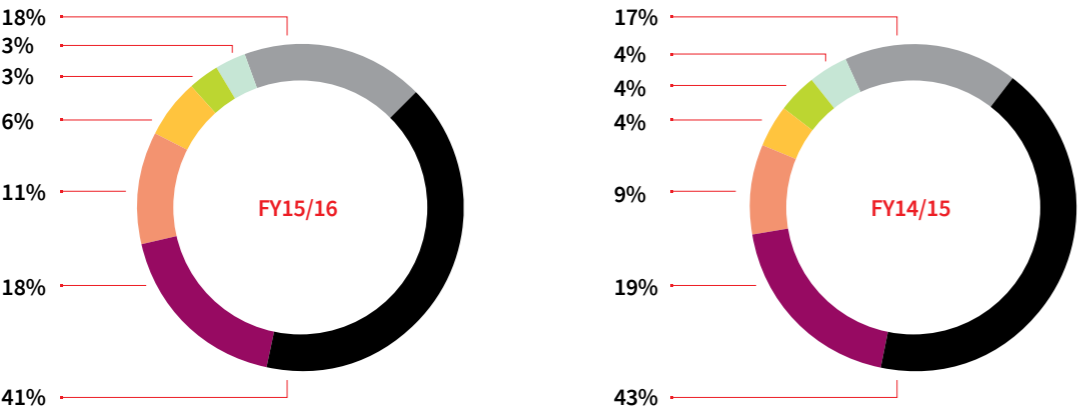


Operating Income	FY15/16 \$'M	FY14/15 \$'M
■ Management Fee from Government	631	493
■ Vehicle Transit Licensing Fees	39	35
■ Composition Fines	29	31
■ Sale of In-Vehicle Units	17	12
■ Others	70	58
Total	786	629

FY2015/16 Financial Highlights

Operating Expenditure

The Authority incurred a total operating expenditure of \$1,536m in FY15/16, an increase of \$235m (18%) over FY14/15's expenditure of \$1,301m. The increase of \$235m is mainly contributed by an increase in Depreciation of Property, Plant and Equipment arising from capitalisation of completed rail development projects such as the Downtown Line Stage 2 and North-South Line Extension project. FY15/16's operating expenditure composition remains relatively the same as FY14/15's, with Depreciation of Property, Plant and Equipment forming 41% of the expenditure.

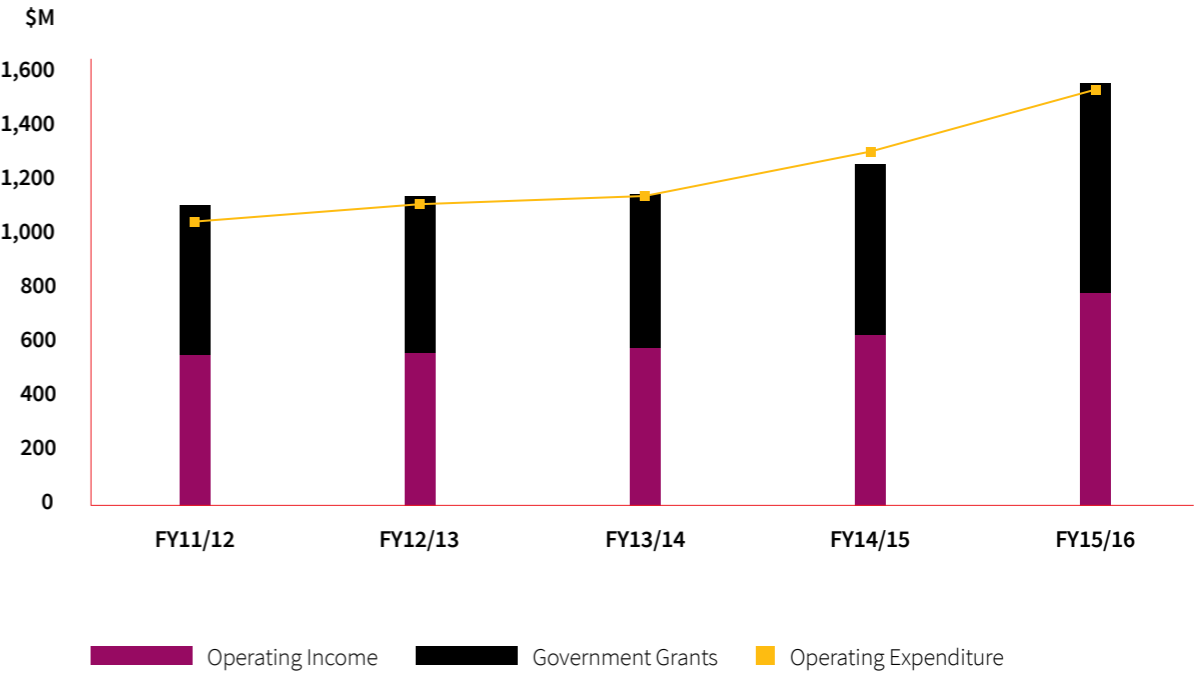


Operating Expenditure	FY15/16 \$'M	FY14/15 \$'M
■ Depreciation of Property, Plant & Equipment	633	558
■ Employee Compensation	276	250
■ Maintenance and Upkeep	168	118
■ Bond Interest	91	52
■ Utilities	44	56
■ Agency Fees	49	44
■ Others	275	223
Total	1,536	1,301

Balance Sheet

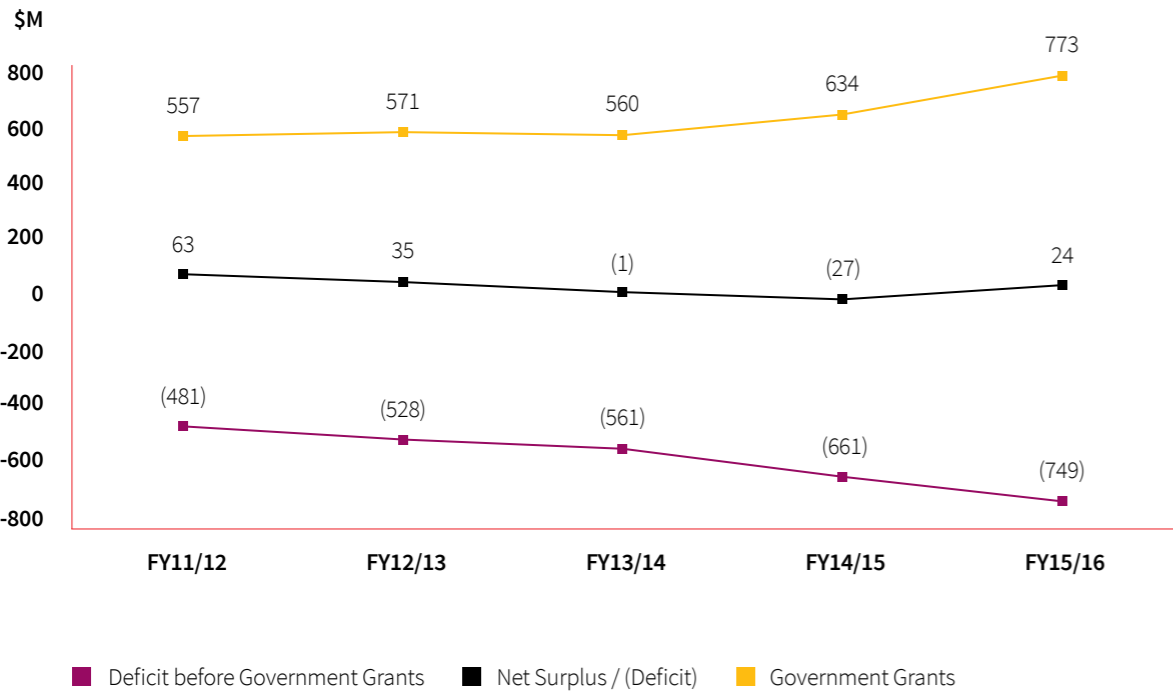
	FY15/16 \$'M	FY14/15 \$'M	Increase/ (Decrease) \$'M
Property, Plant & Equipment	37,143	32,277	4,866
Other Non-Current Assets	35	36	(1)
Current Assets	5,892	2,874	3,018
Assets	43,070	35,187	7,883
Equity	1,072	931	141
Deferred Capital Grants	35,215	30,420	4,795
Borrowings (Non-Current)	3,475	1,475	2,000
Other Non-Current Liabilities	1,228	1,026	202
Current Liabilities	2,080	1,335	745
Equity & Liabilities	43,070	35,187	7,883

5-Year Financial Summary  
Operating Income, Government Grants & Expenditure



FY2015/16 Financial Highlights

Net Surplus / (Deficit)



**WALK  
CYCLE  
RIDE**  
SINGAPORE

Land Transport  Authority  
We Keep Your World *Moving*

1 Hampshire Road, Singapore 219428  
10 Sin Ming Drive, Singapore 575701  
Chai Chee Street, Singapore 468981

1800-CALL-LTA (1800 2255 582)

[www.lta.gov.sg](http://www.lta.gov.sg)