Existing Policies on Building
a Just and Inclusive Transition to Low Carbon Transport

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Miss Luksanawadee Tanamee
Director, Transport and Traffic Information Technology
Acting Transport Technical Officer, Advisory Level
Office of Transport and Traffic Policy and Planning
1. Vision and Goals: Toward Sustainable Transport

2. The 20-Years Transport System Development Strategy 2018-2037

3. Strategy to Support Low Carbon in Transport Sector
1 **Vision and Goals:** Toward Sustainable Transport

2 The 20-Years Transport System Development Strategy 2018-2037

3 Strategy to Support Low Carbon in Transport Sector
Vision and Goals

Toward Sustainable Transport

Green & Safe transport
- Green & environmental friendly transport
- Clean/alternative fuels and environmental friendly transport technology

Inclusivity
- Access to transport services with affordability & equity
- Universal design & service design

Innovation & Management

Transport Efficiency
- Improved transport & logistics efficiency
- Reduced transport & logistics costs
- Development of domestic & international transport connectivity

Sustainable transport hierarchy
- Walking & wheeling
- Cycling
- Public Transport
- Taxi & shared car
- Car

Vision and Goals
Vision and Goals

“Toward Sustainable Transport”

Social Sector Goals
To improve the quality of life of the people in transport and travel.

Economic Sector Goals
To drive the economy and increase the country’s competitiveness.
1 Vision and Goals: Toward Sustainable Transport

2 The 20-Years Transport System Development Strategy 2018-2037

3 Strategy to Support Low Carbon in Transport Sector
## The 20-Years Transport System Development Strategy 2018-2037

<table>
<thead>
<tr>
<th>Strategy 1</th>
<th>Strategy 2</th>
<th>Strategy 3</th>
<th>Strategy 4</th>
<th>Strategy 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Integrated Transport Systems</strong></td>
<td><strong>Transport Services</strong></td>
<td><strong>Regulations and Institution</strong></td>
<td><strong>Human Resource Development</strong></td>
<td><strong>Technology and Innovation</strong></td>
</tr>
<tr>
<td>• Infrastructure development</td>
<td>• Convenient of travel and transportation</td>
<td>• Reorganization</td>
<td>• Human Capacity Development</td>
<td>• Promotion of research and development</td>
</tr>
<tr>
<td>• Management for efficiency</td>
<td>• Transportation facility development</td>
<td>• Law enforcement</td>
<td>• Establishment of a development or training institute</td>
<td>• Applying technology and innovation to infrastructure development</td>
</tr>
<tr>
<td><strong>Sample:</strong></td>
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<td><strong>Sample:</strong></td>
<td><strong>Sample:</strong></td>
<td><strong>Sample:</strong></td>
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<tr>
<td>• Rail development linking airports and ports</td>
<td>• Transshipment yard/Truck rest area /Bus terminal</td>
<td>• Established the Department of Rail Transport</td>
<td>• Aviation Personnel Development</td>
<td>• Using ITS/MIS/GIS in transportation</td>
</tr>
<tr>
<td>• Bus route management</td>
<td>• Cycling and walking infrastructure development</td>
<td>• Aviation law improvements</td>
<td>• Merchant Marine Training</td>
<td>• Air traffic management</td>
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<td></td>
<td></td>
<td>• Separation of roles and duties of policy and regulatory agencies</td>
<td>• Transport and logistics training</td>
<td></td>
</tr>
</tbody>
</table>
Consistency of Transport System Development Strategy: Toward Sustainable Transport

The 20-Years Transport System Development Strategy 2018-2037

National Plan

Ministry of Transport Plan

Twenty-Year National Strategic Plan (Year 2018 – 2037)

The National Economic and Social Development Plan 11th Plan (2012 - 2016)

The National Economic and Social Development Plan 12th Plan (2017-2021)

(Draft) The National Economic and Social Development Plan 13th Plan (2023 -2030)

Thailand's Nationally Determined Contribution (NDC) Roadmap on Mitigation 2021 – 2030

The 20-Years Transport System Development Strategy 2018-2037

Ministry of Transport Strategy Plan 2017-2021 and Action Plan

NDC Action Plan in Transport Sector 2021 – 2030

Sustainable Transport Goals
1 Vision and Goals: Toward Sustainable Transport

2 The 20-Years Transport System Development Strategy 2018-2037

3 Strategy to Support Low Carbon in Transport Sector
NDC Action Plan in Transport Sector
2021 – 2030
Thailand’s Prime Minister Prayut Chan-o-cha

In his remarks at the World Leaders Summit at COP26 in Glasgow, UK

1 November 2021

“Thailand attaches to the problem of climate change. We are prepared to collaborate with every nation, and every sector, to reach our common goal of solving the gravest challenge of our time. This is a matter of life and death for our world, and the future of our children.”

“Thailand’s willingness to be more aggressive in addressing the climate change challenges in every way and by every means possible, aiming at reaching carbon neutrality in 2050, and Net Zero Emissions in or before 2065.”

“Thailand’s Prime Minister Prayut Chan-o-cha”
Thailand’s Nationally Determined Contribution (NDC) Roadmap on Mitigation 2021 – 2030

- 555 Mt-CO$_2$e
- 20% Reduction from BAU by 2030

Priority Sectors:
- Energy and Transport
- Waste
- IPPU

Business as Usual (BAU)

Adaptation
Potential to Reduce Greenhouse Gas Emissions in 2030 by Sector

Thailand’s Nationally Determined Contribution (NDC) Roadmap on Mitigation 2021 – 2030

Country Potential to reduce greenhouse gas emissions in 2030

115.6 MtCO₂
Group 1 - Existing projects and plans that can estimate Greenhouse Gas emissions reduction

- TOD 0.9 MtCO_2e
- TDM 2.0 MtCO_2e
- CO_2 tax 7.077 MtCO_2e
- EV car 1.44 MtCO_2e
- Public bus 0.166 MtCO_2e
- Runway 0.077 MtCO_2e
- LTM 0.19 MtCO_2e
- Locomotive 0.032 MtCO_2e
- Rail based Infrastructure 5.42 MtCO_2e
- SRTO 1.206 MtCO_2e
- Dam & River Logistics 0.129 MtCO_2e
- Ferry 0.001 MtCO_2e
- MIT Port 0.041 MtCO_2e

Total CO_2 reduction from group 1 18.67 MtCO_2e

- TDM: Transport Demand Management
- TOD: Transit Oriented Development
- Rail based infrastructure: Double track, Mass Rapid Transit (MRT, BTS), High-speed train
- SRTO: Single Rail Transfer Operation at Laem Chabang Port phase 1, 2, 3
- Dam & River Logistics: Improve river logistics efficiency in Chao-Phraya and Pasak river
- Ferry: Connecting East-West from Pattaya to Hua Hin
- MIT Port: Maptaput Industrial Port phase 3
- CO_2 tax: Adjustment of excise and annual vehicle tax collection rates according to the amount of CO_2 emission
- EV car: Electric vehicle (2 millions EV for private vehicles)
- Public bus: EV & Hybrid buses
- Locomotive: Modification of electric bogie car and electric diesel locomotive
- Runway: Construction of runway 3, 4 at Suvarnabhumi airport
- LTM: Logistics Transport Management system (LTM)
NDC in Transport Sector

Group 2 - Recommended projects and plans that can estimate Greenhouse Gas emissions reduction

• NMT: Promotion for Non-motorized transportation
• Bus Service: Inter-city EV& Hybrid buses
• Excise CO₂ tax: Intensive excise tax
• Inefficient car: Limited inefficient and unconditional vehicles
• H-MAC: Improving the efficiency of air-conditioning system in vehicle
• EV Minibus: EV minibus, 4,626 veh.
  (BMTA joint management buses)
• EV & Hybrid taxi: EV Delivery motorcycle in Bangkok and other big city
• MC Delivery: Backhauling Management and Established Distribution Center (DC)
• TMS: Transportation Management System, TMS
• LED: Replacement of energy-saving LED bulbs in Port, Airport and Highway

CO₂ reduction from group 2

16.74 MtCO₂e
Thailand’s Nationally Determined Contribution (NDC) Roadmap on Mitigation 2021 – 2030

NDC in Transport Sector

Thailand’s NDC Roadmap on Mitigation 2021 – 2030: NDC Roadmap 2021 – 2030

**Group 1**

Co₂ reduction from group 1

18.67 MtCO₂e

**Group 2**

Co₂ reduction from group 2

16.74 MtCO₂e

Total

Co₂ reduction

35.42 MtCO₂e
Rail Infrastructure Development Plan
Thailand's Nationally Determined Contribution (NDC) Roadmap on Mitigation 2021 – 2030

Mass Rapid Transit

Construction of mass transit electric train systems and suburban train systems

**OPEN In Services**

11 Lines, 211.94 km, 141 stations

- **Light Green Line**
  1. Mochit-Samutprakarn (37.10 km.)
  2. Mochit-Sapanmai- Kukot (18.70 km.)
- **Dark Green Line**
  3. Thai National Stadium-Bangwha (14 km.)
- **Blue Line**
  4. Bangsue-Hualampong (20 km.)
  5. Bangsue-Taphra (13 km.)
  6. Hualampong-Bangkae (14 km.)
- **Purple Line**
  7. Bangyai-Taopoon (23 km.)
- **Dark Red Line**
  8. Bangsue-Rangsit (26.30 km.)
- **Light Red Line**
  9. Bangsue-Talingchan (15.26 km.)
- **Golden Line**
  10. Krungthonburi-Klongsarn (1.88 km.)
- **ARL**
  11. Phayathai-Suvarnabhumi (28.70 km.)

Source: Department of Rail Transport, January 2022
Thailand's Nationally Determined Contribution (NDC) Roadmap on Mitigation 2021 – 2030

Mass Rapid Transit

Under construction

• 6 Lines, 135.80 km.
  - Pink Line
    1. Kaerai-Minburi (34.5 km.)
    2. Extension
       Srirach-Muang Thong Thani (3 km.)
  - Yellow Line
    3. Ladprao-Samrong (30.4 km.)
  - Orange Line
    4. Thai Cultural-Minburi (22.5 km.)
  - ARL
    5. Phayathai-Donmuang (21.80 km.)
  - Purple Line
    6. Taopoon-Ratburana (23.6 km.)

In Tendering Process

• 1 Line, 13.40 km.
  - Orange Line
    1. Thai Cultural-Bangkhunnon (13.4 km.)

PPP Process

• 6 Lines, 71.49 km.
  - Dark Red Line
    1. Rangsit-Tammasat Unv. (8.84 km.)
    2. Bangsue-Hualampong (5.76 km.)
  - Light Red Line
    3. Talingchan-Salaya (14.80 km.)
    4. Talingchan-Siriraj (5.70 km.)
    5. Bangsue-Makkasan-Huamak (20.14 km.)
  - Gray Line
    6. Watcharaphon-Thonglor (16.25 km.)

Source: Department of Rail Transport, January 2022
Thailand's Nationally Determined Contribution (NDC) Roadmap on Mitigation 2021 – 2030

Completed: MRT Network in BMA

Source: Department of Rail Transport, January 2022

Future Extension Lines

- 9 Lines, 120.78 km.

1. Light Green Line
   - Samutprakarn-Bangpu (5.90 km.)
2. Kukot-Lamlukka (6.50 km.)
3. Blue Line
   - Bangkae-Phuttamonthon Sai 4 (8 km.)
4. Dark Red Line
   - Hualampong-Wongwianyai-Mahachai (38.00 km.)
5. Yellow Line
   - Extension Yeakratchada-Ladpro (2.60 km.)
6. Golden Line
   - Klongsarn-Prachathipok (0.92 km.)
7. Gray Line
   - Phrakhanng-Taphra (23.66 km.)
8. Light Blue Line
   - Dindang-Sathorn (9.50 km.)
9. Brown Line
   - Kaerai-Lamsalee (22.10 km.)

Total Network 553.41 km.

CO₂ Reduction 1.06 MtCO₂e
Thailand's Nationally Determined Contribution (NDC) Roadmap on Mitigation 2021 – 2030

Intercity Double-Track Project

Before: 2015
Total 4,043 Km

- Single 3,763 Km
- Double 173 Km
- Triple 107 Km

During: 2023-2025
Total 4,721 Km

- Single 1,287 Km
- Double 3,327 Km
- Triple 107 Km

New Double Track 14 Lines 2,352 km

- Immediate Phase 3 sections (839 km)
- Medium Phase 4 sections (642 km)
- Long Term Plan 7 sections (871 km)

Construction Completed: 4 Lines, 568 Km.

CO₂ Reduction: 1.47 MtCO₂e
Thailand's Nationally Determined Contribution (NDC) Roadmap on Mitigation 2021 – 2030

**High Speed Train Development Plan**

<table>
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<tr>
<th>Phase</th>
<th>Sections</th>
<th>Total Length</th>
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<tbody>
<tr>
<td>Immediate Phase 4</td>
<td>4 sections</td>
<td>1,248 km</td>
</tr>
<tr>
<td>2017-2021</td>
<td>Bangkok-Nakhon Ratchasima</td>
<td>(253 km)</td>
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<td></td>
<td>Bangkok-Rayong</td>
<td>(260 km)</td>
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<td></td>
<td>Phase 1 3 Airports Seamless</td>
<td>220 km</td>
</tr>
<tr>
<td></td>
<td>Connections</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Phase 2 U Ta Pao-Rayong</td>
<td>40 km</td>
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<tr>
<td></td>
<td>Bangkok-Phitsanulok</td>
<td>(380 km)</td>
</tr>
<tr>
<td></td>
<td>Nakhon Ratchasima-Nong Khai</td>
<td>(355 km)</td>
</tr>
<tr>
<td>Medium Phase 2</td>
<td>2 sections</td>
<td>499 km</td>
</tr>
<tr>
<td>2022-2026</td>
<td>Bangkok-Hua Hin</td>
<td>(211 km)</td>
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<tr>
<td></td>
<td>Phitsanulok-Chiang Mai</td>
<td>(288 km)</td>
</tr>
<tr>
<td>Long Term Plan 2</td>
<td>2 sections</td>
<td>759 km</td>
</tr>
<tr>
<td>2026-2027</td>
<td>Hua Hin-Surat Thani</td>
<td>(424 km)</td>
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<tr>
<td></td>
<td>Surat Thani-Padang Besar</td>
<td>(335 km)</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>2,506 km</strong></td>
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</tbody>
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**CO₂ Reduction:** 2.79 MtCO₂e

**Under Construction**

1. **Bangkok-Nakhonratchasima:** 253 km
   - 2 Lines
   - 473 km.

2. **3 Airport-U Ta Pao:** 220 km
   - EEC Project (Linked 3 Airports)
   - Thai-China Corporation Project
We aim to deliver ...
Thank you for Your Attention

Toward Sustainable Transport

Sustainable Transport Promotion Group,
Bureau of Safety Planning
Office of Transport and Traffic Policy and Planning