

19

Accelerating  
Infrastructure  
Development



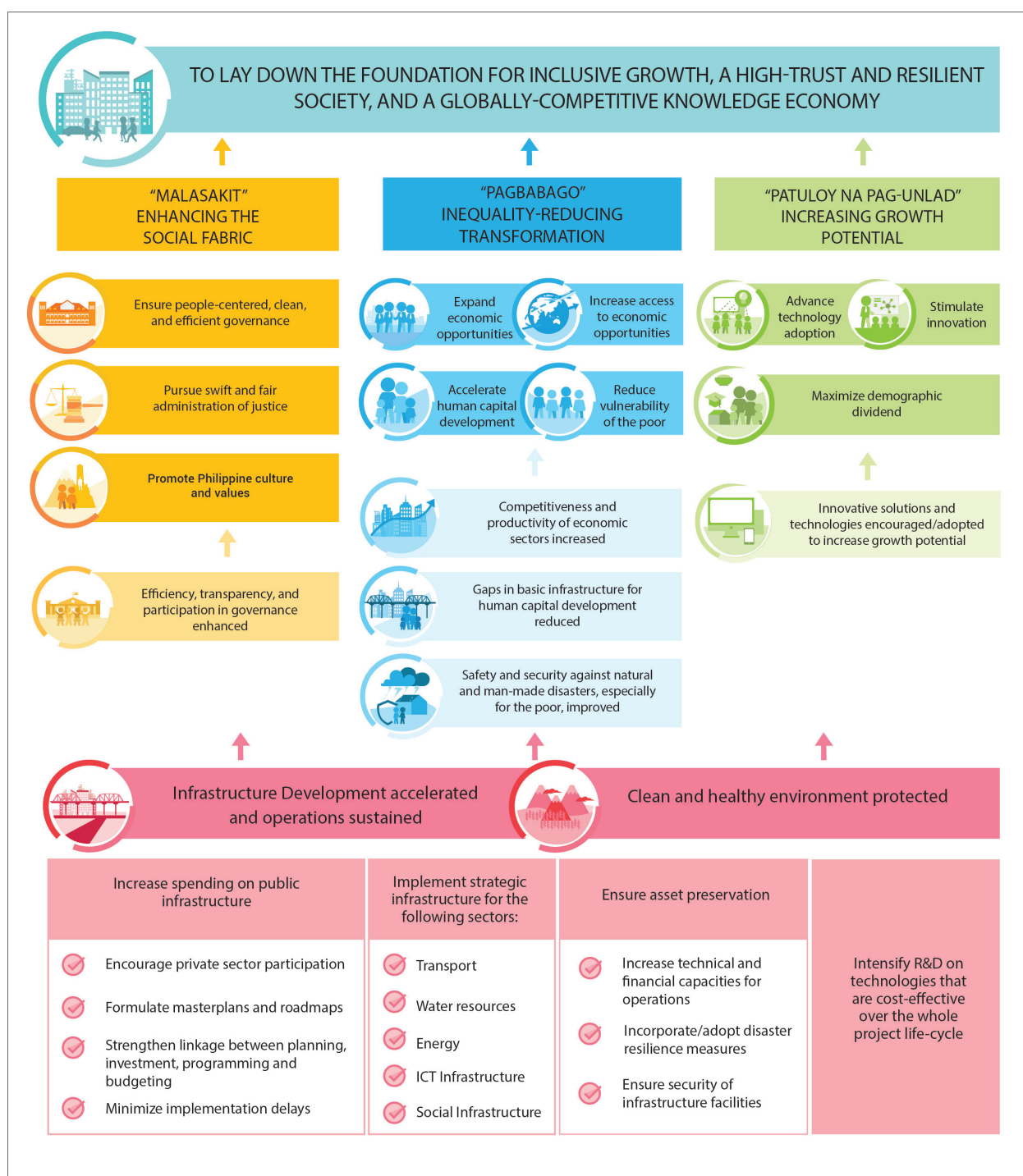
# ACCELERATING INFRASTRUCTURE DEVELOPMENT

Under the “Build Build Build” agenda, the government continues to advance infrastructure development in the country and hasten the pace of implementation of big-ticket projects. The country’s strong infrastructure spending, which exceeded the target for 2017, reflects the rollout of programs and projects, particularly the administration’s Infrastructure Flagship Projects (IFPs). Majority of the IFPs have started moving forward and, once completed, would raise the country’s economic output and productivity over time.

The past years have also seen the ongoing shift towards a people-oriented and inclusive transportation system with the establishment of various mass transit projects, implementation of new road networks, and operationalization of the National Transport Policy (NTP). In other infrastructure sectors, notable improvements were observed and many of the targets for 2018 were met.

The government also exerted vigorous efforts to address implementation issues and bottlenecks that hampered past initiatives. Key reforms through legislative actions, such as strengthening water resource management and economic regulation of water supply and sanitation service providers, separating the regulation and operation functions of agencies in the railway and maritime transport sectors, ensuring transport security, and amending the Build-Operate-Transfer Law, remain state priorities.

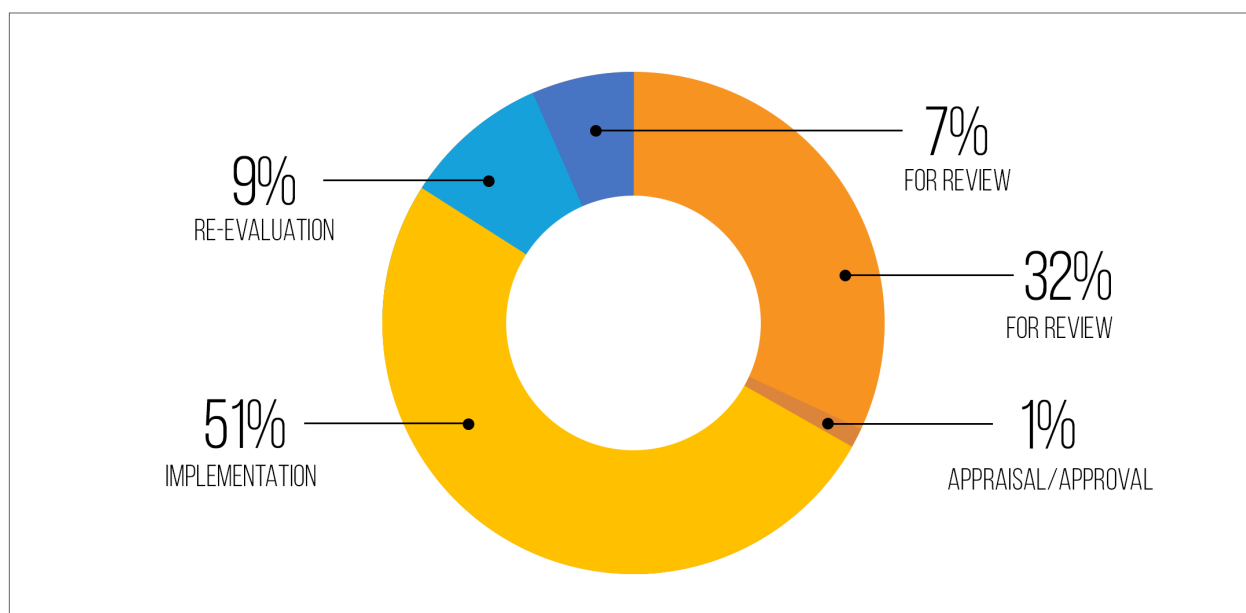
**Figure 19.1 Strategic Framework to Accelerate Infrastructure Development**



## Assessment

Most of the 75 high-impact infrastructure flagship projects (IFPs), which the NEDA Board approved for adoption in June 2017, are gaining ground. These projects represent major undertakings that the government has pledged to implement within the medium-term. As of December 2018, 36 of the 75 projects amounting to PHP1.54 trillion have been approved by the National Economic and Development Authority (NEDA) Board, of which 11 were approved in 2018. Thirty-six are undergoing various stages of implementation and two<sup>1</sup> of the IFPs have already seen completion.

*Figure 19.2 Status of 75 Infrastructure Flagship Projects*



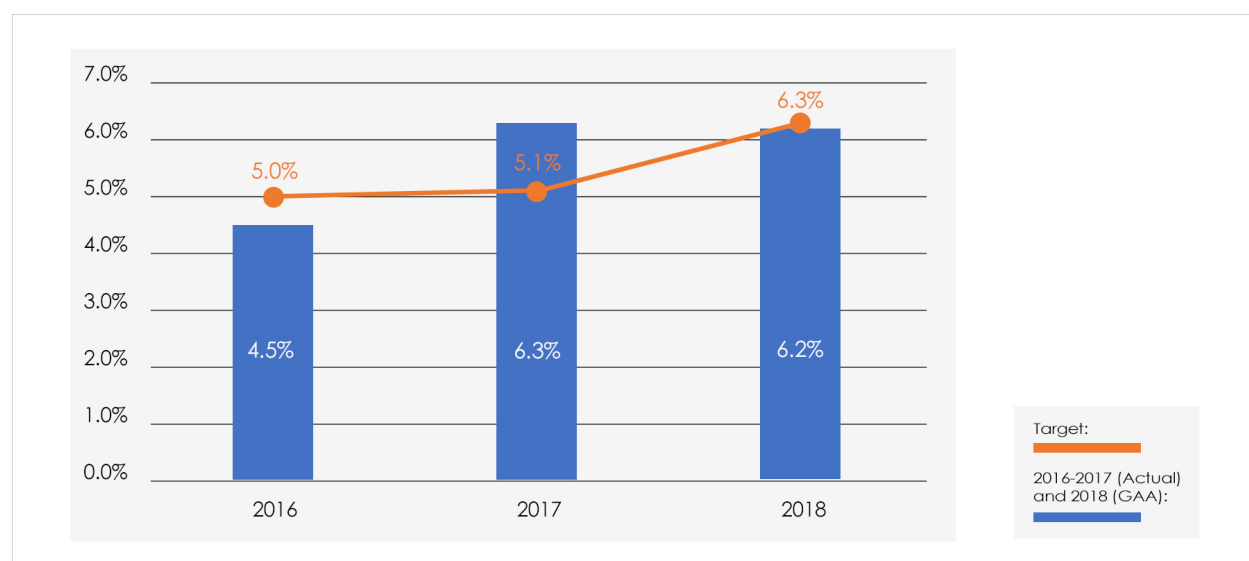
*Note: Stages of implementation are budgeting and financing, detailed engineering design and procurement, and actual construction.*

## Increasing spending on public infrastructure

**The government exceeded its infrastructure spending targets in 2017, making up for the lag in 2016.** The share of infrastructure spending to the country's gross domestic product (GDP) in 2017 was 6.3 percent, higher than the 5.1 percent target. This demonstrates that the government remains committed to increasing public infrastructure spending to address gaps that hinder the provision of quality services and adequate support for the projected expansion of the economy.

<sup>1</sup> Pulangi 4 Selective Dredging Phase 3; Improvement of Remaining Sections Along Pasig River from Delpan Bridge to Napindan Channel

**Figure 19.3 Obligation-based Public Spending on Infrastructure, in Percent of the GDP (2016-2018)**



The government continues to implement measures to ensure the development of a robust pipeline of strategic programs, activities, and projects (PAPs). Ongoing initiatives include 13 projects<sup>2</sup> under development using the Project Development and Monitoring Fund, Infrastructure Preparation and Innovation Facility, and Project Development and Other Related Studies Fund.

Infrastructure-related master plans and roadmaps, which are aimed at harmonizing and coordinating programs and projects, continue to be formulated.

**Table 19.1 Completed and ongoing master plans and roadmaps**

MASTER PLAN	DESCRIPTION	STATUS
Philippine Water Supply and Sanitation Master Plan (PWSSMP)	This will set the sector's direction in attaining the water supply and sanitation subsector targets through strategies, policy reforms, and priority programs and projects.	Completed
Davao City Infrastructure Development Plan and Capacity Building Project	The project is aimed at formulating an urban development plan to improve the competitiveness, safety/disaster-response, and general urban conditions of Davao City, and enhancing the capacity of NEDA, the city government of Davao, and other relevant government agencies in planning, budgeting, and managing proposed urban development plan.	Completed
Master Plan Study and Institutional Development on Urban Transport System in Metro Cebu	This will be the foundation for Metro Cebu in realizing transport projects with strategic long-term viewpoint, thereby contributing to the sustainable development of Metro Cebu.	Completed
Philippine Transportation System Master Plan (PTSMP)	This will guide the rational development of an intermodal transport network in the country and promote sub-regional economic cooperation or agglomeration and utilization of multimodal transport system for more efficient connectivity.	Ongoing

<sup>2</sup> Paranaque Integrated Terminal Exchange (ITX) Project, Taguig ITX Project, ITS North Terminal; Road Transport Information Technology Infrastructure, Phase II; San Ramon Newport Project; Independent Consultant for the Civil Registry System – Information Technology Project; Independent Consultant for the Clark International Airport Expansion Project – EPC; New Centennial Water Source; Rehabilitation, Operations and Maintenance (O&M) of Angat Hydro-electric Power Plant Auxiliary Turbines #4 and #5; O&M of Laguindingan Airport Development; O&M of Iloilo, Davao, and Bacolod Airport; New Bohol (Panglao) Airport Development; Regional Prison Facilities through PPP; Batangas-Manila (BatMan) 1 Natural Gas Pipeline; and NAIA Development

MASTER PLAN	DESCRIPTION	STATUS
Follow-up Survey on the Roadmap for Transport Infrastructure Development for the Greater Capital Region	This will update the <i>Roadmap for Transport Infrastructure Development for Metro Manila and Its Surrounding Areas</i> , which was approved by the NEDA Board in 2014.	Ongoing
Manila Bay Sustainable Development Master Plan (MBSDMP)	The MBSDMP will provide a comprehensive and supporting institutional framework for the sustainable development of the entire Manila Bay area. Further, it shall guide future decisions on programs or projects (e.g., coastal protection works, solid waste and water resources management, transport, reclamation activities) to be undertaken within the bay area.	Ongoing
National Irrigation Master Plan	This involves the updating and enhancing of the current draft of the 10-year NIA Irrigation Master Plan (2017-2026), including the investment program of new projects for the medium- and long-term. It is also envisioned to update the irrigation development baseline data and information.	Ongoing
Masterplans for Sustainable Infrastructure Development in Urban Areas <sup>3</sup>	This intends to develop strategic corridors and network of urban centers in view of the challenges faced by those living in highly urbanized cities and emerging growth centers.	Ongoing

### Box Article 19.1. New Clark City - Master Plan

The New Clark City is envisioned as a new urban core north of Manila that will host businesses engaged in domestic and/or international commerce, schools and hospitals, and research and development entities. The proposed development is seen as a solution to decongest Metro Manila and spur economic development in regions outside the metropolis.

Key projects include:

- Expansion of Clark International Airport
- National Government Administrative Center Phase 1A
- Mixed-Use Industrial Real Estate Development
- New Clark City High-Performance Gymnasium and Sports Museum
- Food Processing Terminal and International Food Market

**The Project Facilitation, Monitoring, and Innovation (PFMI) Task Force and the Infrastructure Cluster (IC) were mobilized to facilitate and ensure the timely implementation of IFPs and other priority infrastructure projects.** Since it was created, the PFMI has developed mechanisms to enhance identification of issues and bottlenecks in the project cycle of IFPs. For priority projects not included in the IFPs, the IC Performance and Programs Roadmap (IC-PPR) was launched in 2018 to complement the efforts of the PFMI.

**Measures to improve the regulatory framework for public-private partnership in the infrastructure sector are being pursued.** Amendments to the Build-Operate-Transfer (BOT) Law were initiated to consolidate all legal issuances pertaining to and/or related to public-private partnership (PPP) (including joint ventures) and address various issues and challenges that have hampered effective implementation of projects and programs.

<sup>3</sup> Metro Cagayan de Oro, Baguio City-La Trinidad-Itogon-Sablan-Tuba-Tublay Growth Center, Calapan City, Vigan City, Pagadian City, Butuan City, Metro Ormoc, Metro Iloilo, Metro Bacolod, Metropolitan Tuguegarao, and General Santos City

# Implementing strategic infrastructure

## Transportation Sector

**The Implementing Rules and Regulations (IRR) of the National Transport Policy (NTP) have communicated the vision for the sector that will then guide the intended reforms in the transportation sector.** Through the NTP, which was approved on June 27, 2017, the government aims to synchronize decisions and investments of all transport-related agencies as guided by the country's Transport Vision of “a safe, secure, reliable, efficient, integrated, intermodal, affordable, cost-effective, environmentally sustainable, and people-oriented national transport system that ensures improved quality of life of the people.”

**Improvements in the transport sector resulted in reduced travel time and greater mobility.** The Department of Public Works and Highways (DPWH) and the Department of the Interior and Local Government (DILG) have undertaken continuous improvements of the national and local road network with primary focus on calamity-stricken and conflict-affected areas, as well as new growth corridors. As an addition to the country's highway network, the Binalonan to Pozorrubio Section of Tarlac-Pangasinan-La Union Expression (TPLEX) has been opened to the public, cutting down the travel time from Tarlac to Pozorrubio from 150 minutes to 45 minutes. The North Luzon Expressway (NLEX) Segment 10, the 2.6-kilometer section between C3 Road, Caloocan City and R10, Navotas City, is nearing completion. This segment will reduce the travel time from NLEX Valenzuela to R10 from 23 to 11 minutes via Balintawak-EDSA Monumento, and from 26 to 13 minutes via Balintawak-A. Bonifacio/C3. Implementation of road projects to ease travel to provinces located south of Metro Manila is also being undertaken. These are crucial parts of the government's bid to strengthen the north-south backbone of Metro Manila.

Other road-based projects, such as the newly opened Parañaque Integrated Terminal Exchange Terminal, will help decongest Metro Manila and provide intermodal access for passengers coming from Cavite and other nearby provinces in South Luzon.

Additionally, Point-to-Point (P2P) bus services were expanded to the nearby provinces (i.e., Cavite, Laguna, Antipolo, Clark, and Bulacan) so that public commuters will have a more comfortable and faster riding experience.

Eleven road projects expected to expand the road network and enhance delivery of road-based transport services are ongoing. Five more game-changing road projects have secured NEDA Board approval.

*Table 19.2 Ongoing Road Projects with NEDA Board approval*

ONGOING PROJECTS	DESCRIPTION
Davao City Bypass Construction Project	The Project involves the construction of a 45.2-km four-lane bypass road, including a 2.3-km tunnel in Davao City.
Panguil Bay Bridge Project	The project involves the construction of a 3.77 km bridge across Panguil Bay connecting the City of Tangub in Misamis Occidental and the Municipality of Tubod in Lanao del Norte.
Plaridel Bypass Road (Arterial Road Bypass Project, Phase III)	An arterial road of 24.61 km that will link NLEX in Balagtas, Bulacan, with the Maharlika Highway in San Rafael, Bulacan.
SLEX Toll Road 4	Four-lane toll road spanning 56.87 kilometers from Sto. Tomas, Batangas to Tayabas/Lucena City in Quezon, which will reduce travel time between Sto. Tomas and Lucena from 4 hours to 1 hour.
C5 South Link Expressway	Three-lane expressway that will connect major business districts in Makati/Taguig area to Cavite/Parañaque/Las Piñas.

ONGOING PROJECTS	DESCRIPTION
Cavite-Laguna Expressway	Four-lane closed-system tolled expressway connecting CAVITEX and SLEX, 45.29 km. long.
NLEX-SLEX Connector Road	An eight-kilometer all elevated four-lane toll expressway extending the NLEX southward from the end of Segment 10 to PUP Sta. Mesa, Manila and connecting to the Skyway Stage 3. It is expected to reduce travel time between SLEX and NLEX from two hours to 10-15 minutes.
Skyway Stage 3	Six-lane elevated expressway spanning 14.8 km from Buendia to Balintawak which cuts down travel time to 10 minutes
Taguig Integrated Terminal Exchange Project (ITX)	The project will include passenger terminal buildings, arrival and departure bays, public information systems, ticketing and baggage handling facilities, and park-ride facilities.
Implementation PUV Modernization Program in Metro Manila, General Santos City, Tacloban City, Davao City, Cebu City, and Cagayan De Oro City	The Program is designed to make public utility vehicles safer, more convenient, more comfortable, and environment-friendly.
Implementation of a Unified/Interoperable Toll Collection System between NLEX and SLEX	Integration of toll collection system of NLEX and SLEX to reduce travel time of motorists.

*Table 19.3 Projects for implementation with NEDA Board approval*

NEDA BOARD-APPROVED PROJECTS	DESCRIPTION
Improving Growth Corridors in Mindanao Road Sector Project	Improvement of 280 km of national primary, secondary, and tertiary roads in Mindanao.
Pasig-Marikina River and Manggahan Floodway Priority Bridges	Construction of 12 bridges crossing the Pasig-Marikina River and Manggahan Floodway
Bridge Construction Acceleration Project for Socioeconomic Development	Construction of 30 bridges with total length of 2,848 lineal meters (lm) of permanent steel bridges. It consists of 25 truss bridges (1,255 lm) and five four-lane iconic design bridges (1,593 lm).
Reconstruction and Development Plan for a Greater Marawi – Stage 2 Project	Overall development plan for the rebuilding of Marawi City
Road Network Development Project in Conflict-Affected Areas in Mindanao	Development and upgrade of primary and access roads connecting the Autonomous Region in Muslim Mindanao and other regions in Mindanao

**The government continues to support the efficient movement of people and goods by implementing mass transit projects.** The Philippine National Railways (PNR) launched its Malabon-Taguig train line with the opening of the General Pascual Station. This project will facilitate faster and easier commuting for Caloocan-Malabon-Navotas-Valenzuela (CAMANAVA) residents. The travel time from end to end through the new Malabon-Taguig line is expected to span 58 minutes.

In line with the NTP's thrust to prioritize the movement of people and goods over vehicles, 10 mass transit projects are currently being implemented. Another two projects have secured NEDA Board approval but have yet to be implemented.

**Table 19.4 Ongoing Mass Transit Projects with NEDA Board Approval**

ONGOING PROJECTS	DESCRIPTION
MRT Line 7	Construction of a 23-km elevated railway line with 14 stations from San Jose Del Monte, Bulacan, to MRT 3-North Avenue in Quezon City and a 22-kilometer asphalt road from Bocaue Interchange of the NLEX to the intermodal terminal in Tala.
LRT Line 2 East Extension	Construction of a 3.9-km extension of the LRT Line 2 from Santolan Station to Masinag.
LRT Line 1 Cavite Extension	Construction 11.7-km extension from its existing Baclaran Station to the future Niyog Station in Bacoor, Cavite.
Metro Manila Subway Project Phase I A	Construction of a 25.3-km underground rail from Quezon City to Taguig, with an extension to the Ninoy Aquino International Airport (NAIA).
MRT-LRT Common Station Project	Connecting the LRT Line 1 North Extension, MRT 3, and MRT 7 on the corner of North Avenue and EDSA.
MRT 3 Rehabilitation Project	Rehabilitation and upgrade of MRT Line 3 to its original state with provision for capacity expansion in the future.
Cebu Bus Rapid Transit (BRT) System	A BRT system over a 23-km corridor will traverse through Cebu City's central business district, from Bulacao in the South West and Talamban in the North East. It will provide improved mobility for people in Cebu City and provide safer and environment friendly mode of travel.
North-South Commuter Railway (NSCR) Extension Project: · PNR South Commuter Railway (Manila - Calamba); and, · Malolos Clark Railway Project (Malolos - Clark).	PNR South Commuter Railway (Manila - Calamba) - Approximately 56.5km from Solis (Tutuban) to Los Baños Station with 22 stations and 1 depot.  Malolos Clark Railway Project (Malolos - Clark) - Construction of a 69.5-km commuter line and an airport express railway between Malolos and Clark Green City.
NSCR, Phase I (Malolos-Tutuban)	Construction of a 36.7-km elevated commuter railway from Malolos to Tutuban using the PNR Right of Way (ROW).
Mindanao Railway Project (Tagum-Davao-Digos)	Construction of 102-km, non-electrified, single-track rail running through Digos, Davao City and Tagum in Region 11.

**Table 19.5 Rail projects with NEDA Board approval**

NEDA BOARD-APPROVED PROJECTS	DESCRIPTION
Subic-Clark Railway Project	Construction of 71.13-km rail located in the western section of Central Luzon running on an exclusive ROW parallel to the Subic Clark Tarlac Expressway with some sections adjacent to it.
PNR South Long Haul Project (Manila - Legazpi, Matnog, Batangas)	Construction of a 639-km railway traversing the following sites: (a) Manila, (b) Los Baños, Laguna (c) Lucena, Quezon (d) Gumaca, Quezon, (e) Naga, Camarines Sur, (f) Legaspi, Albay, (g) Sorsogon City, Sorsogon, (h) Matnog, Sorsogon, and (i) Batangas City, Batangas.

**Notable improvements in the performance of the aviation sector have been observed.** NAIA ranked 10<sup>th</sup> in the list of most improved airport in the world in 2018 as a result of improvements undertaken, such as the restriction of general aviation flights during peak hours to give priority to commercial flights; strict implementation of the five-minute rule on queuing; creation of a central desk that connects to all departments for immediate response; and the construction of rapid exit taxiway to allow aircraft to leave the runway at higher speeds. According to Manila International Airport Authority's report, the total count of flights grew from 258,366 in 2017 to 263,564 in 2018, an increase of 2.01 percent.

In the 2018 On-Time Performance (OTP) Ratings<sup>4</sup> of Official Aviation Guide (OAG), Clark International Airport (CRK) got a 2-star rating while eight other Philippine airports<sup>5</sup> managed by Civil Aviation Authority of the Philippines (CAAP) were rated 1-star. These were significant developments considering that there weren't any Philippine airports that made it to the list in 2017. CRK has also been drawing more flights and passengers with 39 inbound and outbound flights added.

Meanwhile, 19 out of 42 regional airports are now capable of accommodating night flights,<sup>6</sup> while eight (8) more are in the process of getting night-rating<sup>7</sup> capabilities.

For enhanced passenger experience, facilities including toilets, wi-fi access, and waiting areas for passengers and well-wishers were improved and premium airport buses started servicing all NAIA terminals. At CRK, a one-stop shop center for overseas Filipino workers was set up to enhance efficiency and convenience of processing of pre-departure requirements.

Further, the government inaugurated the New Bohol (Panglao) International Airport, as the country's first "eco-airport". The new airport features environmentally sustainable structures and green technology (e.g., water treatment facilities, rain water collection system, and solar panels). It will address the problem of growing traffic congestion and accelerate economic activities in the region.

Other noteworthy accomplishments in the aviation sector include completion or ongoing implementation of projects listed in Table 19.6 and 19.7.

**Table 19.6 Completed and ongoing projects in the aviation sector**

ONGOING PROJECTS	DESCRIPTION
Mactan-Cebu Airport	Opening of Terminal 1 and ongoing construction of Terminal 2 which will add 8 million passengers per annum (mppa) to its capacity.
Cagayan North International Airport	Opening of the airport as Category 4-C servicing both international and domestic flights.
Bicol International Airport Development Project	Development of an airport in Daraga to replace the existing Legazpi Airport, which can accommodate bigger aircrafts and service the growing volume of passengers in the Bicol region.
New Clark Passenger Terminal Building	The construction of the new terminal building will increase the capacity to 12 mppa.

**Table 19.7 NEDA Board-approved aviation projects**

NEDA BOARD-APPROVED PROJECTS	DESCRIPTION
Bulacan International Airport	This involves the construction, operation, and maintenance of the Bulacan International Airport located in Bulacan, Bulacan, North of Manila Bay. Airport development consists of construction of a passenger terminal building, airside and landside facilities, and an 8.4-kilometer tollway to serve as airport access connecting to NLEX at Marilao, Bulacan. The airport will have a capacity of 100 mppa at opening year.
Clark Airport Operations and Maintenance (O&M) PPP Project	Engagement of a qualified operator to undertake the necessary internal fit-out and provision of the necessary equipment and systems to complete, commission, operate, and maintain the new CIA Terminal. The concession will also include the turnover of the operations and management of the existing terminal to the same qualified concessionaire.

<sup>4</sup> OTP Rating is achieved when an airport meets the following criteria: i) a minimum of 600 operations a month (minimum of 2.5 million departed seats); and ii) OAG must receive flight status information for no less than 80 percent of scheduled flights within a 12-month period. Source: <https://www.oag.com/on-time-performance-star-ratings-2018>

<sup>5</sup> Ibid. These eight airports are: 1. Iloilo International Airport; 2. NAIA; 3. Bacolod-Silay International Airport; 4. Davao International Airport; 5. Tacloban Airport; 6. Laguindingan International Airport; 7. Kalibo International Airport; and 8. Puerto Princesa International Airport.

<sup>6</sup> Defined by International Civil Aviation Organization as one (1) hour after sunset and one (1) hour before sunrise.

<sup>7</sup> Night rated airports are airports capable of operations at night.

**There have been efficiency improvements and capacity expansion in the maritime transport sector.**

Cargo traffic increased by 2.0 percent in January to September 2018 from 190.71 million metric tons (MMT) in the same period in 2017 to 194.58 MMT. Passenger traffic also continues to grow from 54.67 million in Q3 2017 to 58.09 million in Q3 2018 (equivalent to 6.2 percent increase), mainly due to ecotourism programs promoting inter-island Roll On-Roll Off (RoRo) travel to tourist destinations such as Siargao, Puerto Galera, and Bohol.

The opening of the Davao-General Santos-Bitung ASEAN RoRo in April 2017 further expanded the RoRo network in the country. This is part of the country's commitment to implement the Master Plan on ASEAN Connectivity 2025.

Meanwhile, the inauguration of Cavite Gateway Terminal will promote inter-regional trade and development, provide greater access to South Luzon, and spur the growth of its thriving industries. The project is also expected to result in 140,000 fewer truck trips per year which may help to decongest roads and address the long queue of trucks in the Port of Manila.

Procurement activities for the rehabilitation and improvement of regional fish ports in Sual, Iloilo, Lucena, Camaligan, Davao, and Zamboanga have already been undertaken by the DA-PFDA while the upgrading of the Navotas Fish Port Complex was recently approved by the Investment Coordination Committee (ICC).

To provide a general framework and execution plan in the maritime sector, the Maritime Industry Authority (MARINA) formulated the 10-year Maritime Industry Development Plan, which is expected to accelerate the achievement of nationally integrated and globally competitive maritime industry through developing and supporting an organizational culture and practice of leading in maritime education, innovation, technology, and sustainability.

Port operations modernization for increased efficiency commenced with the adoption of e-payments and internet-based Port Operations Receipting for Terminals (iPorts).

**Transport safety and security remain top priorities in the sector.** The rising demand for reliable and resilient transport infrastructure comes with the need to make it safe and secure. As part of the government's efforts to improve transport safety and security, the following have been accomplished:

- Philippine airports passed the Global Safety Audit administered by the International Civil Aviation Organization Coordinated Validation Mission;
- Programs and capacity-building activities launched on road safety processes via the Philippine Road Safety Action Plan;
- Traffic laws, ordinances, and penalties of local government units in Metro Manila, particularly on apprehending colorum vehicles, illegal parking, and illegal sidewalk vendors harmonized through the efforts of the Inter-Agency Council on Traffic (I-ACT);
- Deployment of Philippine Coast Guard in Davao for the Davao-General Santos-Bitung Route; and
- Implementation of the Safety, Security, and Environmental Numbering System.

## Water Resources Sector

**Efforts to implement the agreed institutional agenda were sustained.** Consistent with the government's strategies to address the sector's fragmented structure and improve regulation in the water supply and sanitation sector, draft bills on the creation of the Department of Water Resources, an apex body that would oversee overall planning, programming, policy formulation, and management of the water resources sector, and the Water Regulatory Commission, an independent body for economic regulation, have been prepared and pursued for legislative action.

**The number of households with access to safe water supply increased and remained on target. The coverage of improved sanitation, however, did not meet the expected level.** As of the latest available data,<sup>8</sup> 89.9 percent of households in the country have access to developed water supply, which is slightly higher than the updated target for 2017 of 89.1 percent. Around 10.1 percent of households, however, access water through unprotected wells, tanker trucks, and natural sources such as rivers, streams, pond, lake, and rainwater. In terms of sanitation, 89.0 percent of households use improved facilities, of which 74.0 percent use improved sanitation facility that is not shared with other households and 15.0 percent use shared improved sanitation facility. The total is lower than the revised target of 92.58 percent for 2017.

**Development of new irrigation areas was on pace but asset management needs to be improved.** Irrigation service to support agricultural production stood at approximately 61.33 percent of the relevant potential irrigable area in 2018, which is higher than the target of 60.43 percent for the said year. Nonetheless, efforts should be sustained in order to meet the 61.72 target for 2019, especially with the implementation of Republic Act No. 10969, otherwise known as the Free Irrigation Service Act .

Moreover, the maintenance of irrigation structures and facilities remains a major challenge. The formulation of the National Irrigation Master Plan, which aims to update and enhance the 10-year Irrigation Master Plan (2017-2026), started in 2018 to map out the strategies in improving the organizational and institutional aspects of the sector as well as the detailed program of projects including the appropriate mix of new development and rehabilitation.

**Efforts to make flood management more strategic and adaptive were continued but the lack of data remained a constraint.** In 2018, the government pursued the updating of flood control and drainage master plans and feasibility studies of projects in major river basins and principal rivers. In this regard, flood and drainage master plans for six major river basins are being formulated.

Among the big-ticket projects in the sector, which have secured the approval of the NEDA Board in 2018, are the Ambal-Simuay River and Rio Grande de Mindanao Flood Control Projects and the Pasig-Marikina River Channel Improvement Project Phase IV.

Flood management is becoming more challenging due to climate change and the growing need to adopt the Integrated Water Resources Management (IRWM) approach, which promotes the coordinated development and management of water, land, and related resources. The lack of comprehensive sector data for planning and monitoring, along with the need to coordinate efforts with solid waste management and housing, also poses a big challenge. Watershed protection also needs to be considered.

---

<sup>8</sup> Source: Philippine Statistics Authority - Annual Poverty Indicators Survey 2017 Final Report

## Energy Sector

**Total dependable capacity remained adequate to meet the highest peak demand in all three main grids.** As of mid-2018, the total grid installed capacity of the Philippines is 23,169 megawatt (MW) with 91.73 percent being dependable. The dependable capacity in each grid was able to address the highest peak demand, thus, resulting in a secure and reliable grid. This is notwithstanding the DOE's assessment in its Power Demand-Supply Outlook 2016-2040 that the Philippines will need an additional 5,357 MW by 2022 to sustain economic growth as the demand for electricity is expected to increase to 18,173 MW by 2022. Committed and indicative capacities, as of end-October 2018, are estimated at 6,408MW and 37,975MW, respectively. The completion of these projects is necessary to ensure energy security.

**Table 19.8. Capacity vs Demand per Grid**

GRID	INSTALLED CAPACITY (MW)	DEPENDABLE CAPACITY (MW)	PEAK DEMAND (MW)
Luzon	16,133	15,028	10,876
Visayas	3,367	2,981	2,053
Mindanao	3,670	3,244	1,847
Total	23,169	21,253	

Source: Department of Energy (as of June 30, 2018)

**Institutional policy and reforms were established in support of energy security and independence.** To further boost investments in the sector, the Energy Investment Coordinating Council (EICC) was created through Executive Order No. 30 in 2017. The formulation of its IRR followed in 2018.<sup>9</sup> The EICC is mandated to streamline the regulatory procedures affecting energy projects. The DOE issued Department Circular No. 2017-12-0017 adopting the Philippine Conventional Energy Contracting Program for awarding petroleum service contracts.

To institutionalize disaster resiliency efforts, the Department of Energy (DOE) issued the Energy Resiliency Policy. This aims to strengthen energy systems and facilities to quickly restore and provide alternative sources of energy in times of emergencies. A Memorandum of Understanding between the DOE and the Philippine Disaster Resiliency Foundation, Inc. was signed to develop activities towards energy resiliency, conduct joint exercise to test disaster response protocols, and engage stakeholders in disaster-risk reduction and climate change adaptation.

**Development of indigenous energy pursued to decrease dependence on imported sources.** In pursuit of energy security, the DOE has awarded a total of 915 renewable energy (RE) projects with a potential capacity of 31,908 MW and installed capacity of 2,901 MW since the issuance of the Renewable Energy Act in 2008. To further encourage RE investment, the guidelines<sup>10</sup> governing the establishment of the Green Energy Option Program (GEOP) were promulgated. GEOP empowers end-users to choose renewable energy resources as their sources of energy through distribution utilities. On the other hand, the Renewable Portfolio Standard Rules for missionary and off-grid areas mandated electric power industry participants to source or produce a specified portion of their electricity requirements from eligible RE resources.

<sup>9</sup> Certificates of Energy Project of National Significance were issued to the following projects: Mindanao-Visayas Interconnection Project, Kalinga Geothermal Project, 151.2 MW Talim Wind Project, 2 x 600 MW Atimonan Coal-Fired Power Plant, PNOC-Exploration Corporation's COC 185 and 186, and 500 MW Kibungan Badeo Pumped Storage Project.

<sup>10</sup> Department Circular No. 2018-07-0019 - DOE. Promulgating the Rules and Guidelines Governing the Establishment of the Green Energy Option Program Pursuant to the Renewable Energy Act of 2008. <https://www.doe.gov.ph/sites/default/files/pdf/issuances/dc2018-07-0019.PDF>

For 2018, capacity from hydropower energy increased by 78.9 MW from 8.5 MW in 2017. In addition, installed capacity from geothermal production is 12 MW while biomass' production added 41.735 MW of installed capacity.

A new oil field, with an estimated 27.93 million barrels (MMB) of oil and a possible production recovery of 3.35 MMB, was discovered. The field has natural gas reserves of about 9.42 billion cubic feet (BCF), with the recoverable resource estimated at 6.6 BCF.

On alternative fuels and technologies, the DOE pushed for a smaller scale of the E-Trike Project from the original 100,000 units to just 3,000 units. Of the 3,000 units of E-Trike, 900 units will be donated to the local governments of Las Piñas, Valenzuela, Muntinlupa, and Pateros, 200 units were donated to the local government of Marawi through the Task Force Bangon Marawi, while the remaining 1,900 units will be rolled out in the succeeding years.

**Efforts to implement demand-side management plans were sustained.** Under the Government Energy Management Program pursuant to Administrative Order No. 126, some 39 agencies saved energy of 5,689,092 kilowatt hour (kWh), or energy savings worth PHP47.88 million. Due to heightened efforts in energy efficiency and increased awareness on energy conservation measure across all economic sectors, energy intensity level continue to decrease from 6.7 tonnes of oil equivalent per million pesos of real GDP (TOE/MPhP) in 2016 to 6.4 TOE/MPhP in 2018.

**With a goal of 100 percent electrification by 2022, the government continued to provide electricity for unserved or underserved households.** Household electrification for 2018 was around 20.94 million (or 88.3 percent) out of the potential 23.72 million households (HHs) in the country. In addition, the DOE created Task Force E-Power Mo to oversee the government's Total Electrification Program. It is likewise pushing ahead with the energization of off-grid communities through the *Access to Sustainable Energy Programme (ASEP)*, which will benefit about 100,000 HHs, especially in the Bangsamoro Region. Under ASEP's Photovoltaic Mainstreaming Program, about 40,500 solar home systems, each with a 50-watt peak capacity, will be installed in remote off-grid communities in various provinces in Mindanao.

## Information and Communications Technology Sector

**The country's digital connectivity has improved with the continuous expansion of private sector's data networks.** According to Speedtest Global Index, the country's Internet speed has notably increased with average download speed at 19.03 Mbps for fixed broadband (from 15.13 Mbps) and 15.05 megabits per second (Mbps) for mobile broadband (from 13.45 Mbps).<sup>11</sup> There is, however, much room for improvement as the broadband speed is still considerably below the global average of 54.33 Mbps for fixed broadband and 25.08 Mbps for mobile broadband.

**To complement private sector efforts, the government has pursued various initiatives to provide connection to more underserved areas and improve access to e-government services.** In particular, the Department of Information and Communications Technology (DICT) has prioritized the implementation of the following: (a) the National Broadband Plan (NBP); (b) the Free Wi-Fi in public places; and (c) the National Government Portal (NGP).

The preparatory works for the implementation of the NBP have been undertaken. For the National Fiber Backbone component of the NBP, the Tripartite Agreement between DICT, National Grid Corporation of the Philippines (NGCP), and TransCo was signed in 2018, while the testing and survey of NGCP's dark fiber in prioritized areas has started.

<sup>11</sup> Ookla speedtest: Global Index as of December 2018. <https://www.speedtest.net/global-index/philippines#fixed>

An important component of the NBP is the proposed Luzon Bypass Infrastructure, which aims to provide a high-speed information highway for broadband connection. The pre-acceptance of fronthaul facilities in La Union and Baler for the Luzon Bypass is ongoing. Further, the construction of information technology (IT) facilities is also ongoing and expected to be completed by the second quarter of 2019.

To increase access points in the countryside, the government continued providing Free Wi-Fi under its new name “*Pipol Konek*” project. In 2018, the established Wi-Fi sites increased by 28.44 percent from 805 Wi-Fi sites in 2017. As of December 2018, some 2,163 installed sites across 582 cities and municipalities have been benefitting 3.19 million users.

To improve e-government services and provide citizens with easier access to information, the NGP was established. It serves as a single window access to government e-services and information. This portal may now be accessed via <https://www.gov.ph/>.

In the latter part of 2018, the government selected a new major player in the telecommunications industry. The entry of a new major player is expected to improve overall market competition and provision of information and communications technology (ICT) services in the country.

## Social Infrastructure Sector

**Poor planning and implementation of basic education facilities have resulted in weak performance of the education sector.** To address the need for new school buildings, classrooms, and other basic facilities (e.g., water and sanitation facilities and electrification), the government continued to prioritize allocation of resources for the Basic Education Facilities Fund (BEFF) Program. However, the perennially low disbursement rates<sup>12</sup> for the BEFF Program translated to low service delivery of education facilities. As of Q3 quarter of 2018, only 22, 655 (44.95%) of the physical target for the same period (50,405) have been completed.

To avoid disruption of classes and school operations due to the use of schools as evacuation centers during calamities, the Department of Budget and Management and DILG issued guidelines for local government units (LGUs) on the use of the Local Government Support Fund- Financial Assistance and Local Disaster Risk Reduction and Management Fund LDRRMF, respectively, for the construction of evacuation centers.

**Implementation delays of the Health Facilities Enhancement Program (HFEP) have continued to hamper the construction and upgrading of health facilities affecting the timely delivery of critical health facilities.** To promote and provide adequate healthcare services, PHP30.27 billion was allocated in 2018 under the HFEP. However, spending performance of the Department of Health (DOH) in the implementation of the program has been dismal. Only 30.0 percent of the 2018 HFEP allocation was obligated while only about 6.8 percent was disbursed. Among the recurring implementation gaps include limited absorptive capacity and poor compliance of DOH with the HFEP Availment Guidelines, lack of available sites, absence of continuous monitoring, and incomplete reporting on implementation status of projects under HFEP.

**Compliance to the submission of Solid Waste Management (SWM) Plans improved, yet progress in plan implementation has been slow.** According to the Department of Environment and Natural Resources - Environmental Management Bureau (DENR-EMB) and the National Solid Waste Management Commission (NSWMC),<sup>13</sup> 1,513 out of 1,634 LGUs (93.0%) have submitted 10-year Solid Waste Management Plans. The Commission has approved only 396 (26.0%) of these plans while 1,117 (74.0%) are under evaluation.

<sup>12</sup> From 2015 to 2017, the disbursement rate of the BEFF was a low weighted average of 12.8 percent. Source: <https://www.dbm.gov.ph/secretary-corner/press-releases/list-of-press-releases/1153-beff-2019-budget-explained>. Accessed 01 February 2019.

<sup>13</sup> LGU Compliance Updates to RA No. 9003. Source: [http://nswmc.emb.gov.ph/wp-content/uploads/2018/10/swm\\_udpates\\_sept1.pdf](http://nswmc.emb.gov.ph/wp-content/uploads/2018/10/swm_udpates_sept1.pdf). Accessed on 10 December 2018.

Moreover, since the enactment of the Ecological Solid Waste Management Act (ESWMA) in 2001, access of local government units (LGUs) to SWM facilities, such as sanitary landfills (SLFs) or material recovery facilities, has remained low due to lack of technical and financial capacity of the LGUs to implement their respective SWM plans and to cope with the high capital and maintenance costs required to establish and operate SWM facilities. As of August 2018, only 21.0 percent of LGUs (337) have access to 145 operational SLFs in the country, while 32.0 percent (13,324) of barangays have access to MRFs.<sup>14</sup>

## Moving Forward

### To increase spending on public infrastructure

**Shift from obligation-based to cash-based appropriations.** The national government is preparing for a shift from obligation-based to cash-based appropriations to improve fiscal discipline, efficiency, and sustainability amongst government agencies. This is expected to expedite the delivery of infrastructure facilities and services. Similarly, the Development Budget Coordination Committee (DBCC) approved the national government (NG) infrastructure disbursement targets of 4.8 percent of the GDP in 2019 to 6.9 percent of GDP in 2022 (in terms of the annual cash-based appropriations).

*Table 19.9 Cash-Based Public Spending on Infrastructure, in Percent of the GDP (2019-2022)*

PARTICULARS	PROPOSED (IN PHP BILLION)	PROJECTIONS (IN PHP BILLION)		
	2019	2020	2021	2022
Infrastructure Program, Targets	930.37	1,285.84	1,524.93	1,797.56
% of GDP	4.8%	6.0%	6.4%	6.9%
NG Infrastructure	735.66	1,082.44	1,305.59	1,560.33
Infrastructure Subsidy	51.30	44.39	43.54	43.54
Infrastructure Equity	1.05	3.52	0.79	0.79
Infrastructure Transfers to LGUs	142.37	155.50	175.01	192.89

Source: DBCC during its 174th Meeting in October 2018

**Ensure programs and projects are guided by major infrastructure-related master plans and roadmaps.** Critical master plans and roadmaps for the infrastructure sector will be formulated and completed to guide the government in ensuring that future project investment decisions are harmonized, well-coordinated with the core organizational outputs and outcomes, and undertaken within the context of sustainable development.

Reclamation, in this regard, will be undertaken in a holistic manner. Technical evaluation of reclamation proposals will consider the environmental, social, and economic impacts of the proposed reclamation activities.

**Amend regulatory frameworks to expand private sector participation in infrastructure projects.** As PPP remains a viable strategy for critical infrastructure programs and projects, amendments to the BOT Law continues to be a priority. The NEDA Board's Committee on Infrastructure (INFRACOM) will finalize

<sup>14</sup> Data as of 2017, accessed from: [http://nswmc.emb.gov.ph/wp-content/uploads/2018/10/swm\\_updates\\_sept1.pdf](http://nswmc.emb.gov.ph/wp-content/uploads/2018/10/swm_updates_sept1.pdf).

the draft “Public-Private Partnership Act of the Philippines” for endorsement to Congress. In the interim, other initiatives such as amendments to the Joint Venture (JV) Guidelines will be formulated by NEDA in coordination with relevant stakeholders to address issues relative to JV undertakings of government entities.

Pending amendments to the JV Guidelines or the BOT Law, an appropriate issuance will further clarify the existing JV Guidelines with the purpose of fostering transparency and competitiveness in the processing and approval of JV undertakings. This will differentiate JVs from concessions and privatization, as well as clarify provisions relative to the sale of bidding documents, the minimum designs and performance standards and specifications, third-party independent valuation for JV government contribution, and the imposition of value added tax, franchise tax, and other tax obligations.

## To implement strategic infrastructure

### Transportation Sector

**Harmonize roadmaps, masterplans, and transportation projects and programs to be in sync with the National Transport Policy.** The government will ensure that the planning, programming, implementation, and O&M of transport projects, along with strategies and policy reforms, adhere to the NTP.

The PTSMP, which is anchored on the NTP, along with the investment programs in the short and medium term, will provide the basis for the preparation and implementation of projects, programs, and policy reforms in the transport sector.

Other programs and practices will facilitate the movement of people and goods. Infrastructure convergence programs<sup>15</sup> with other economic sectors will continue to be pursued to ensure that seamless and intermodal transport networks for tourism, agro-industry, trade, and logistics are established. Globally accepted infrastructure development practices such as transit-oriented development, which creates compact, walkable, pedestrian-oriented, mixed-use communities centered around high-quality train systems, and land value capture, a method of funding infrastructure improvements, will be considered. Inclusive mobility and universal access through non-motorized means will continue to be integrated in the design and operation of road-based transport facilities.

As stated in the NTP, public mass transportation in urban areas is given priority over private transport. Thus, completed and ongoing mass transit projects will support the desired shift from vehicle-oriented to people-oriented transport initiatives.

To alleviate the worsening traffic congestion in Metro Manila and other metropolitan areas, the operations of the I-ACT will be further intensified. The Department of Transportation (DOTr) and the Metro Manila Development Authority (MMDA) will continue to implement Intelligent Transport System projects for traffic management (e.g., establishment of a dedicated traffic control center, installation of IT-based traffic signaling and surveillance systems, no contact apprehension for violators, traveler advisory and information dissemination, etc.). Route rationalization, integrated land use and transport planning, and the consolidation and harmonization of traffic rules, including those that are being imposed by LGUs, will be pursued in accordance with the NTP and its IRR.

To support growth in cruise tourism, the Department of Tourism (DOT) and the Tourism Infrastructure and Enterprise Zone Authority will explore the development of a dedicated home port and several destination ports across the country.

<sup>15</sup> Department of Trade and Industry-DPWH: Road Connectivity for Industry and Trade Development Roads Leveraging for Industry and Trade (ROLL IT) Program; Department of Agriculture-DPWH: Farm-to-Market Roads; DOT-DOTr: Airport Development for Tourism.

**Pursue administrative and legislative reforms to address overlapping and conflicting functions of concerned agencies.** The government will continue to pursue administrative and legislative reforms to address overlapping, conflicting, and redundant functions of some transport agencies and government units.

While the creation of an independent body for transport safety and security is still being pushed, in the interim, implementing agencies and LGUs will define the level of service and performance standards in their respective operating guidelines for transport facilities and services, and establish safety units to implement such standards. DOTr and DILG will ensure that their respective attached agencies (i.e., Office of Transportation Security, Civil Aeronautics Board, Philippine National Police, CAAP, PCG, MARINA) continue to strictly enforce safety and security measures as mandated by the law. Regular reporting of the accomplishments and outcomes in this aspect will be incorporated into the transport sector database.

**Establish a free flow of transport-related information.** To address data gaps and assist policy makers, DOTr will establish and maintain a database system for transport-related data from those involved in its collection and management. To this effect, the transport sector database, consolidated under the PTSMP, will be initially managed and updated under the purview of the Inter-Agency Technical Committee on Transport Planning. For DILG and DPWH, GIS-based mapping techniques will continue to be utilized for enhanced data collection and management for planning, programming, and monitoring of road projects.

## Water Resources Sector

**Continue to push for the creation of a national apex body for the water sector.** The creation of an apex body to oversee the management of the country's water resources remains an important part of the reforms in the sector. The Executive branch will continue to engage Congress for the swift passage of the bill creating an apex body for water resources. As a short-term strategy, NEDA will work on drafting an executive issuance that will strengthen the National Water Resources Board, mainly by augmenting its resources and workforce and boosting its regional presence in the country.

**Accelerate provision of water supply and sanitation through institutional reforms.** Following the general principles of the Unified Financing Framework (UFF),<sup>16</sup> the national government must increase the budget allocation for water supply and sanitation projects across the country, including the conduct of project preparation and development activities, as well as capacity building on the operation and maintenance of facilities. In relation to this, the PWSSMP will serve as the guiding document in developing the water supply and sanitation sector.

The creation of the Water Regulatory Commission for the water supply and sanitation subsector, which will serve as an independent economic regulatory body, remains a major institutional strategy to be undertaken.

Pursuant to the Clean Water Act, expansion or restructuring of the NSSMP shall be explored to cater to more beneficiaries other than sewerage or septage management systems in highly urbanized cities and first class cities or municipalities.

**Optimize use of funds and improve the technical capacity for irrigation development and maintenance of facilities.** In light of the recently enacted Free Irrigation Service Act, funds for irrigation development, including rehabilitation of existing systems, need to be optimized through the integration of water-efficient technologies and the right mix of irrigation projects based on economic return, among other criteria. Such will be laid out under the National Irrigation Master Plan, which is being formulated. Other developments

<sup>16</sup> The UFF aims to address the inequitable delivery of basic WSS infrastructure caused by inadequate financing, low technical capacities of small service providers, and institutional challenges, through the development of a structure for rationally allocating available resources towards expediting the improvement and expansion of WSS services.

and factors such as rice tariffication, support for diversified, non-traditional, and high-value crop farming, and climate change will also be considered.

The technical capacity and workforce of the National Irrigation Authority and Irrigators' Associations will be enhanced towards more effective operations and maintenance of irrigation facilities.

**Improve coordination between flood management efforts and undertakings in other sectors and establish a comprehensive database.** Coordination between flood management efforts and undertakings in other sectors, such as solid waste management, reforestation and housing, among others, under the general framework of IWRM, as well as river-basin and land-use planning, should be intensified. Timely financial support for the full implementation and maintenance of flood management and mitigation measures under the flood management master plans for major river basins should be provided. A comprehensive database of all water-related data, including flood-related information, will be established and regularly updated.

## Energy Sector

**Streamline business processes through technology.** To improve access to secure and reliable energy, the government will continue to streamline business processes in the energy sector with the aid of technology. To encourage greater participation of all electric power industry stakeholders, DOE's National Strategy for the Smart Grid for the period until 2040 will be pursued to promote technology innovation, business growth, and job-creation.

**Advance RE development efforts.** In particular, the implementation of the Renewable Energy Market and Off-Grid Renewable Energy Development will continue to be pursued. These will aid in identifying the Philippines' Nationally Determined Contribution.

**Fast-track the establishment of a liquefied natural gas facility.** In the midst of Malampaya's forthcoming depletion, DOE will fast-track the establishment of a liquefied natural gas (LNG) facility. DOE will also conduct specific research activities to provide broader and in-depth understanding of the LNG industry and other relevant policies.

**Formulate a National Unified Strategy for Total Electrification.** All electrification master plans of distribution utilities and electric cooperatives will be consolidated to come up with: a) an inventory of unserved and underserved areas; b) a list of ongoing electrification programs and projects including the intended beneficiaries; c) a list of proposed electrification programs and projects for unserved and underserved areas; d) recommendations on addressing issues that will be encountered in the implementation of electrification projects; and e) a list of potential partners who will be involved in the electrification of unserved/underserved areas.

**Promote smarter energy use to the public.** On energy efficiency and conservation, the DOE, in coordination with Presidential Communications Operations Office and Philippine Information Agency, will further strengthen its multimedia information campaigns to empower and educate consumers on their options for a wiser and more intelligent utilization of energy resources.

## Information and Communications Technology Sector

**Ensure the timely rollout of the NBP and leverage existing government assets towards improving the quality of digital connection.** The preparatory works for the rollout of the National Fiber Backbone component of the NBP will be fast-tracked to address the gaps in the available backbone and middle-mile segments and thus, increase the country's overall bandwidth capacity. This entails ensuring the timely completion of the IT facilities and terrestrial network for the Luzon Bypass Infrastructure that is expected

to bring in an additional 2,000,000 Mbps of data capacity. With the intended development of the national backbone infrastructure, the gaps in the last-mile segments need to be addressed. For this, the development of a Tower Sharing Policy and the completion of the feasibility study for the “Accelerated Tower Build” components of the NBP will be undertaken. In addition, more internet access points are expected to be available with the expanded rollout of free public Wi-Fi throughout the country.

**Boost telecommunications policy reforms.** With the entry of a new major player in the telecommunications industry, the government will intensify proposed telecommunications policy reforms, such as the Open Access Policy<sup>17</sup> for the ICT industry. These reforms aims to facilitate and level the playing field in the sector.

## Social Infrastructure Sector

### Continue addressing gaps in the social infrastructure sector.

*Education.* To minimize delays in the construction of new school buildings and classrooms, the Department of Education (DepEd) shall adopt measures to strengthen its capacity to identify gaps and needs to better allocate resources for classrooms and other facilities including the necessary human resources. Further, DepEd and DPWH will jointly enforce policies and guidelines on the implementation of the BEFF and strengthen coordination to ensure school buildings and classrooms built are consistent with existing standards. In addition, funding support to LGUs for the construction of evacuation centers will be continued to avoid the use of schools as evacuation centers during calamities and the consequent displacement of students and disruption of classes.

*Health.* The DOH will sustain the implementation of Philippine Health Facilities Development Plan 2017-2022, which includes the delivery of affordable, accessible and quality health care services for the public. Based on the IC-PPR, the following targets of the DOH will be achieved by the end of 2022: 2,424 regional health units and urban health centers, 15,988 barangay health stations, and 13,378 general hospital beds. To address recurring gaps and bottlenecks in the implementation of HFEP, the DOH, in coordination with concerned national government agencies and LGUs, will continue to develop policies and strategies that will ensure the functionality and sustainability of health facilities and the satisfaction of human resource requirements. Likewise, project monitoring and reporting of DOH shall be enhanced to ensure timely implementation of HFEP projects.

*Solid Waste Management.* To ensure LGUs’ compliance with RA No. 9003, necessary financial support will be provided to effectively manage SWM facilities and services. The SWM Fund must be operationalized pursuant to Section 46 of RA No. 9003. The government should also study the re-institutionalization of the NG-LGU cost-sharing scheme for SWM programs. On addressing the increasing volume of wastes brought upon by rapid urbanization, DENR-EMB, in coordination with the NSWMC, will mainstream the establishment and operation of alternative technologies, including waste-to-energy technologies.

In the medium term, DENR and DILG will enjoin LGUs to adhere to the provisions of the ESWMA and increase the coverage of barangays with access to SWM facilities. To this end, clustering of LGUs for common SWM facilities will be encouraged to take advantage of economies of scale to cope with the high upfront cost of building and operating such facilities. Furthermore, national ecology centers will be fully utilized to facilitate training and education of staff members of LGUs on integrated ecological SWM.

---

<sup>17</sup> House Bill No. 6557 and Senate Bill No. 1763 or “An Act Promoting Open Access in Data Transmission, Providing Additional Powers to the National Telecommunications Commission.”

