Strategic Pathway 4: Data

Strategic Pathway 4

DATA

This strategic pathway establishes a geospatial data fra
custodianship guidelines for best practice collection and ma
integrated geospatial information that is appropriate to
sector and multidisciplinary collaboration.

The objective is to enable data custodians to meet
management, sharing and reuse obligations to government
community through the execution of well-defined data sup
organizing, planning, acquiring, integrating, curating, pu
archiving geospatial information.

Summary

Geospatial data is the foundation on which governments base m
it is used in policy development and in the provision of governme
use is growing exponentially across all sectors for e-comme
intelligence to make timely and accurate decisions, and to inform

Having access to the right data and at the right time is crucial to
making. It is data that provides new levels of insight into our pa
future. For this reason, governments, businesses and the comm
know they are using the most accurate and authoritative data
analysis, navigation and visualization – good data underpins good

As the amount, variability and availability of data rapidly
requirements for 'organized' geospatial data holdings have nev
important. Geospatial data has grown in use across almost eve
institution. Every part of government creates and consumes geo
is a nation's 'digital currency', an asset that must be prope
designed and managed to provide enduring consistency and co
quality, accuracy, security and use.

An ecosystem that fosters the proper collection, acquisition and
of geospatial data, leads to cutting-edge innovation and revolutio
across a range of sectors. Advances can already be seen in the he
disaster management and transportation sectors; where geo
enabling the discovery of new patterns and influences by combini
and social and cultural norms in a way that reveals new know
enhanced visualizations, analysis and traceability.

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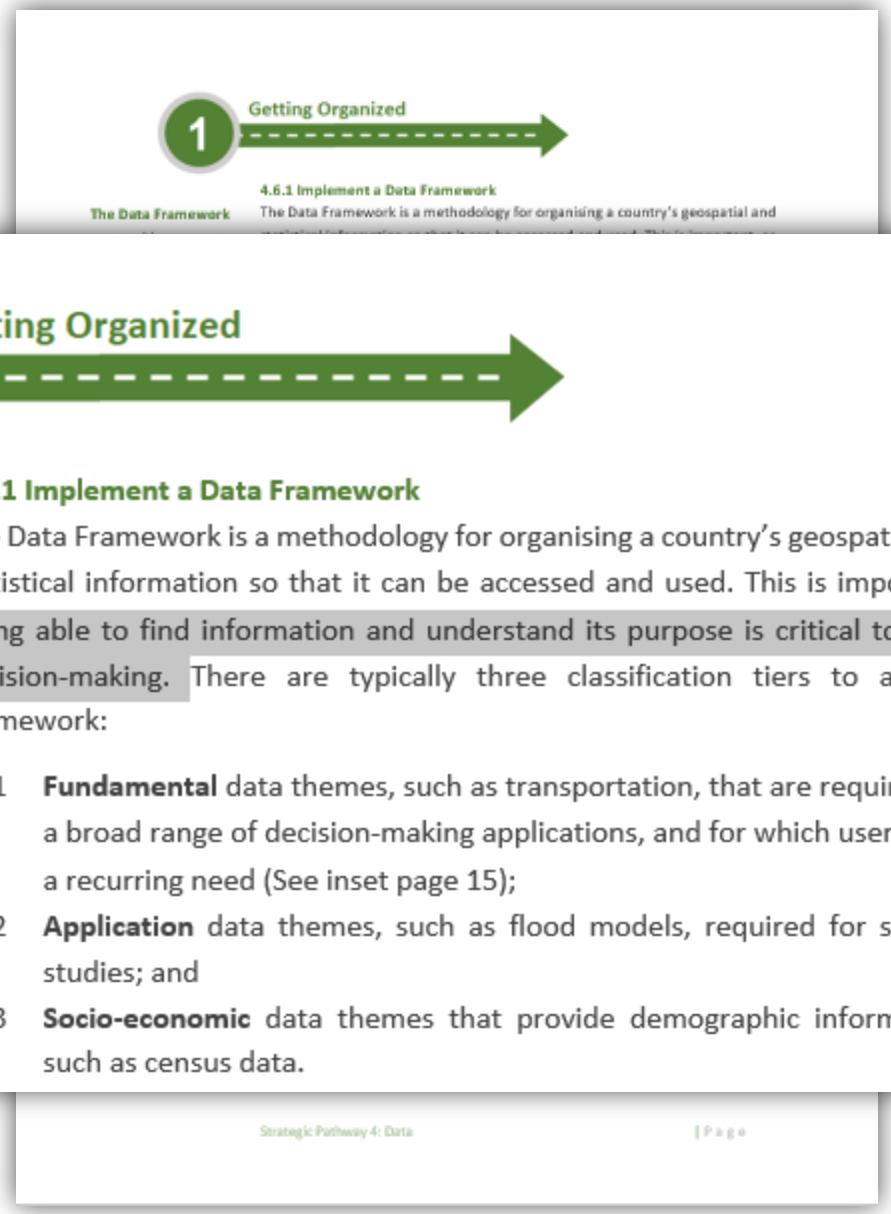

1 Getting Organized

4.6.1 Implement a Data Framework

The Data Framework

The Data Framework is a methodology for organising a country's geospatial and

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1 Getting Organized

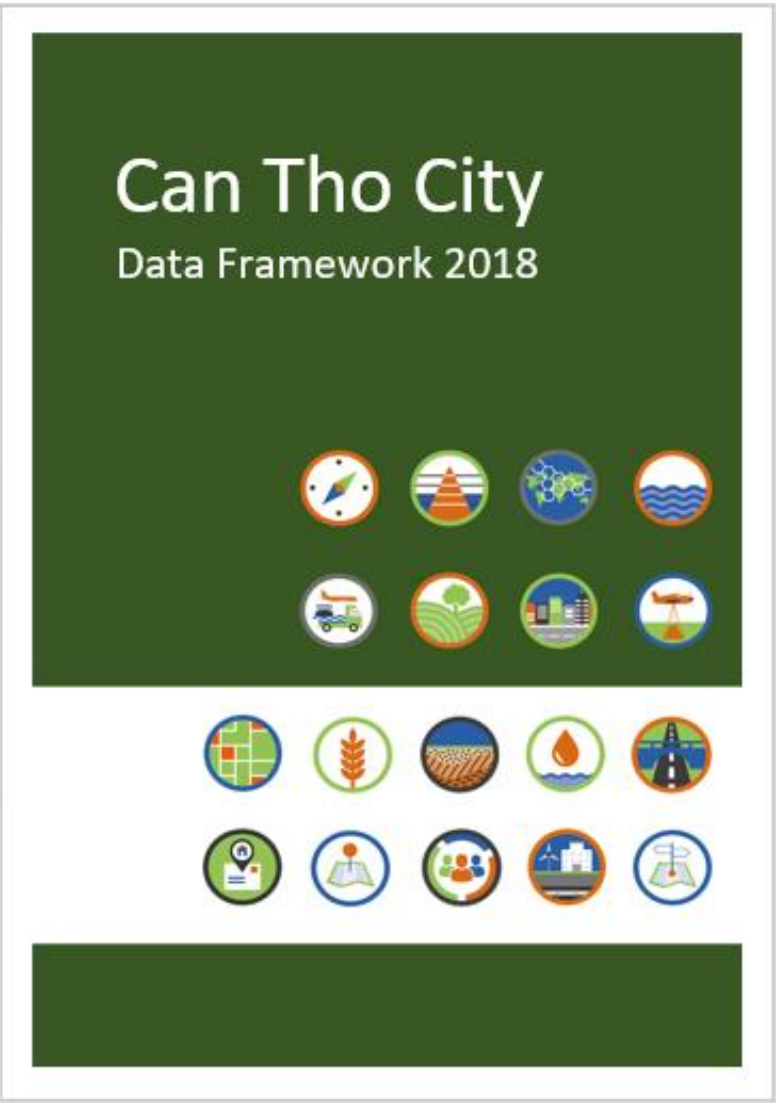
The Data Framework provides a way to organize geospatial information so that it can be accessed easily and meaningfully.

4.6.1 Implement a Data Framework

The Data Framework is a methodology for organising a country's geospatial and statistical information so that it can be accessed and used. This is important. Being able to find information and understand its purpose is critical to good decision-making. There are typically three classification tiers to a Data Framework:

1. **Fundamental** data themes, such as transportation, that are required for a broad range of decision-making applications, and for which users have a recurring need (See inset page 15);
2. **Application** data themes, such as flood models, required for specific studies; and
3. **Socio-economic** data themes that provide demographic information, such as census data.

Can Tho City: Data Framework



GEODETIC REFERENCE SYSTEM

What is the geodetic reference system?

The Geodetic Reference System is the framework which allows users to precisely determine and express locations on the Earth, as well as to quantify changes of the Earth in space and time. It is not a data theme in the sense of the other themes, but it is a prerequisite for the accurate collection, integration and utilisation of all other geospatial data.

Why is the geodetic reference system important?

Geodetic data provides a reliable, high accuracy spatial referencing system and a common reference for all geospatial data.

Geodetic data is used for surveying, construction, mining, precision agriculture, asset capture, tracking, navigation, emergency response, law enforcement, insure, security, climate.

What datasets make up the geodetic reference system?

Information comprising this theme relates to positioning services and survey control.

The Department of Surveying and Mapping, MONRE is responsible for the basic geodetic coordinate network of "0", first and second orders, which includes over 2,000 points covering the whole country and major islands. MONRE are also responsible for the 3rd order network (cadastral coordinate network), which includes over 10,000 points to ensure at least 1 point per commune.

A network of 4 DGPS permanently operating stations exists for sea-bed topographic surveys, national boundary demarcation, and topographic and cadastral surveys in mountainous areas.

National Base Point data exist in Computer Aided Drafting format (MicroStation DGN).

Dataset/Custodian	Description	Data Structure	Accuracy	Coverage
Geodetic Control Network [DONRE]	Objects placed to mark key survey points on the Earth's surface – consisting of: • National base point • Specialized base point • National control points	Vector	Regulations 04:2009/BTNMT	City
Cadastral Survey Marks [DONRE]	Surveyed marks for accurately positioning cadastral land boundaries - consisting of • Basic Cadastral points • Cadastral grade I, II points • Survey control points with fixed landmarks	Vector	+/- 1m [TT25/2014/TT-BTNMT	City

LAND PARCELS AND PROPERTY

What is land parcel and property data?

Land parcels and property data refers to parcels of land with common ownership, occupation and/or use, and thus can include individual fields and cadastral parcels.

Land parcel and properties make up the land boundary system, also referred to as cadastral, land administration and property systems. Land parcels and properties are associated with a record of interest on land. Interests on land, such as easements, have geographical descriptions that allow users to link to information describing ownership, value of real property in a district, and the nature of the boundary. Other information may be attached to land parcels, such as land use or land cover.

Why is land parcels and property data important?

Land parcel and property data underpins the economic, social and environmental fabric of Can Tho. It is fundamental for land tenure transactions and securing the legal status of property boundaries. There are approximately 1,000,000 million legal land parcels across Can Tho City being managed by City and District government departments.

Land parcel and property datasets are used to define allowable use of land, secure tenure for access to capital, manage title and tenure, nature conservation, heritage protection, defence and disaster management, land taxation, improve infrastructure and property development planning. They are also used to inform water and carbon accounting programs, and are necessary for agriculture improvements, such as land policy and land reform.

What datasets make up the Land Parcels and Property Theme?

Dataset/Custodian	Description	Data Structure	Accuracy	Coverage
Cadastral Boundaries / Land Parcels [DONRE]	Boundaries that describe parcels of real property.	Vector	5 cm (1:200) 7 cm (1:500) 15 cm (1:1000) 30 cm (1:2000) 150cm (1:5000)	City
Current Land Use [DONRE]	Using current land for City, District and Commune	Vector/Text	+/- 1m (1:2000) +/- 2,5m (1:5000) +/- 5m (1:10000) +/- 12.5m (1:25000) +/-25m (1:50000)	City
Land Under Planning Consideration [DONRE]	Using land under planning for City, District and Commune	Vector	+/- 1m (1:2000) +/- 2,5m (1:5000) +/- 5m (1:10.000) +/- 12.5m (1:25000) +/-25m (1:50000)	City

Fundamental Data Themes

Geodetic Reference System

Topography

Administrative Boundaries

Water Supply

Transport

Vegetation

Population and Infrastructure

Aerial Imagery

Application Data Themes

Land Parcels and Property

Environment

Minerals

Water Resources

Construction Management

Property Addresses

Points of Interest

Statistics

Utilities

Geographic Names

Getting Organised

Access Categories

There are three data access categories – open, restri
reclassified from one access category to another. Th
reduce access r
containing a pe

Access Catego
Open
Restricted
Confidential

Pricing Categories

Under current regulations data is no
cost of providing high quality fit-for-p
a 'Free' service model. The pricing r
Open Data Policy providing universal

Pricing Category	Explanatio
Free	No Cost
Cost Recovery	Fee Payal data/infor
Subsidised	Fee Payab
Extract and Delivery	Fee Payab transferrin transactio
Freemium	Fee Payab charged fo
Full Cost	Fee Payab

Licensing Categories

Data custodians will release content according to a licence type approved under the Can Tho City Licensing Framework.

The intent of government is to maximise the value of spatial information through respective rights.

The choice of licence considers the value of data in terms of public interest, and the need to protect the intellectual property rights of government and third-party data providers/suppliers.

The Licensing Categories are based on t
addition of a 'Special Licence' category w
apply.

Licensing Category	Explanation
Public	The work has b the work wo neighboring rig
Attribution	Appropriate cr provide a link t or information way that sugge
Share-alike	A User may re distribute thei
Non-Commercial	Information m
Database Only	License applies
No Derivatives	No Derivative work.
No License Available (NLA)	No one can use, share, distribute, re-post, add to, transform or change a dataset if a license has not been specified.
Special License	A data license developed specifically for a particular purpose or customer

What datasets make up the Administrative Boundaries Theme?

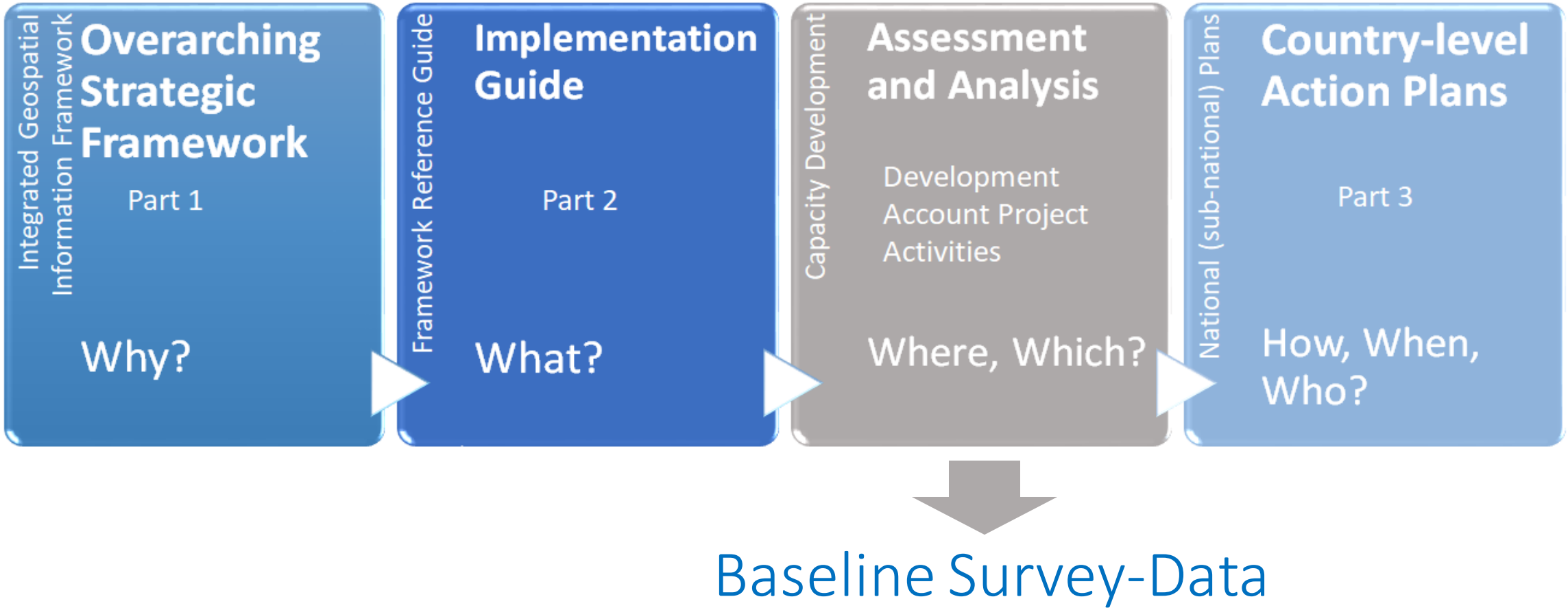
The Administrative Boundary Dataset for the whole of Vietnam is under MONRE custodianship and updated in Can Tho City by DONRE. DOHA is responsible for proposing and negotiating changes to administrative boundaries. DONRE makes adjustments to the authoritative administrative boundaries dataset once the boundary changes have been approved by DOHA.

Administrative boundaries exists in MapInfo (TAB) and MicroStation (DGN) formats. Data is stored in sheet format (9 at the District level and 85 at the Commune/Precinct level).

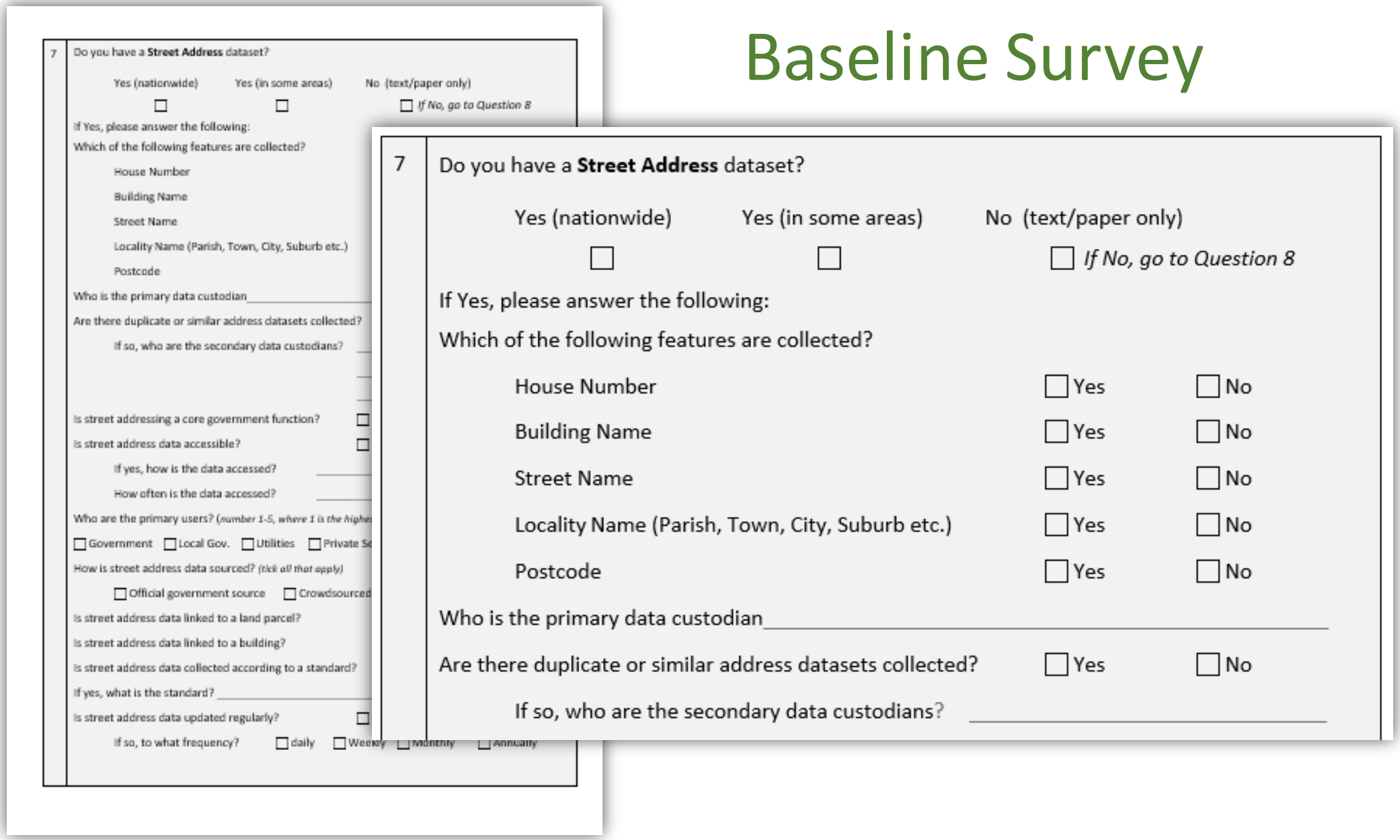
Dataset/Custodian	Description	Data Structure	Accuracy	Coverage
Administrative Boundaries (Approved) [DONRE]	Government administrative boundaries at provincial, district and commune level. Villages are represented as a point.	Vector	+/- 1m (1:2000) +/- 2.5m (1:5000)	City
Administrative Boundaries (Proposed) [DOHA]	Proposed government boundaries at provincial, district and commune level.	Vector	+/- 1m (1:2000) +/- 2.5m (1:5000)	City

Dataset	Requirements	Application				Data Located (Y/N)	Findings					Notes	Action Required
		Flood	Transport	SafetyNet	SPP		Custodian	Scale	Currency	Coverage	Format		
Stream Flow		X				Y	CTHC SRHC				Text, Excel		Digitize text based records **More information about this data is required before it can be mapped to the DF Theme tables. Are there stations at which the flow is measured?**
Tidal Boundary Prediction		X				Y	CTHC SRHC				Text, Excel		Digitize text based records **More information about this data is required before it can be mapped to the DF Theme tables. How are boundaries described in an Excel document?**
Tides		X				Y	SRHC					Nothing further known	**More information about this data is required before it can be mapped to the DF Theme tables. Are these Tide Tables?**
Traffic Data			X				DOT		Not current	7 city locations		Identified in a report Traffic count at 7 locations in the city.	**More information about this data is required before it can be mapped to the DF Theme tables. Old data many not be appropriate.**
Follow-up social protection survey	Update to social protection data for key fields. To be administered by DOLISA with assistance from the World Bank Social Protection TA team.			X		Future				Can Tho	Online SQL DB (tbd, likely PostgreSQL)	Ensures that the protection data used to build the responsive safety net is timely and accurate.	Develop survey form Test survey form in OpenDataKit / OpenMapKit Link survey to MOLISA DB **This is wish list / future dataset**

IGIF Integrated Documents – Assessment and Analysis



Baseline Survey



7 Do you have a **Street Address** dataset?

Yes (nationwide) ☐ Yes (in some areas) ☐ No (text/paper only) ☐ *If No, go to Question 8*

If Yes, please answer the following:

Which of the following features are collected?

- House Number ☐ Yes ☐ No
- Building Name ☐ Yes ☐ No
- Street Name ☐ Yes ☐ No
- Locality Name (Parish, Town, City, Suburb etc.) ☐ Yes ☐ No
- Postcode ☐ Yes ☐ No

Who is the primary data custodian _____

Are there duplicate or similar address datasets collected? ☐ Yes ☐ No

If so, who are the secondary data custodians? _____

mainroads WESTERN AUSTRALIA

Data Framework 2019

Planning and Technical Services Directorate

ENGINEERING

What is engineering data?

Engineering data is any information that collectively becomes the knowledge on which an engineer can design and build a structure. It includes documents such as drawings, manufacturer's specifications, standards, and other information relating to design, procurement, fabrication, test, and inspection of a structure.

Why is engineering data important?

Engineering drawings are a fundamental input to asset management and are integral to design, construction, planning, asset inventory, and detailed engineering workflows.

If engineering data is not available, and in particular As Constructed drawings, the information has to be recaptured. This equates to additional time and money.

What datasets make up the Engineering Theme?

Information comprising this theme relates to electrical, structural, mechanical and waterways drawings and are available in 2D and 3D formats.

Data	Description	Data Structure	Update Frequency	Accuracy	Coverage
Electrical Engineering Drawings	Concept Design	2D Drawing	Project-based	+/- 2m	Various
	Preliminary Design	3D Drawing	Project-based	+/- 2m	Various
	Near constructed Design	3D Drawing	Project-based	+/- 20mm	Various
	As Constructed	3D Drawing	Project-based	+/- 20mm	Various
Structural Engineering Drawings	Concept Design	2D Drawing	Project-based	+/- 2m	Various
	Preliminary Design	3D Drawing	Project-based	+/- 2m	Various
	Near constructed Design	3D Drawing	Project-based	+/- 20mm	Various

Data Governance

Dataset	Data Steward	Data Custodian	Data Owner
Electrical Engineering Drawings			
Structural Engineering Drawings		Wayne Giles Structures Engineering	Structures Engineering Branch, PTA, Local Government
Mechanical Engineering Drawings			
Waterways Engineering Drawings			
Waterways Instigations		Eric Cheung Structures Engineering	Eric Cheung Structures Engineering
Bridge Clearance			
Bridge Inspection Schedule (Level 2)			Wayne Giles Structures Engineering
Detailed Inspection Reports (Level 2)			Gavin Johnston Structures Engineering
Structure Inventory and Condition Data			Gavin Johnston Structures Engineering

Access, Usage and Licencing Arrangements

Data	Access Method	Access Site	Access Category	License
Electrical Engineering Drawings	Downloadable (Internal use only) Viewable (Read Access only)	Network drives and TRIM	Restricted	
Structural Engineering Drawings	Downloadable (Internal use only) Viewable (Read Access only)	Network drives and TRIM	Restricted	
Mechanical Engineering Drawings	Downloadable (Internal use only) Viewable (Read Access only)	Network drives and TRIM	Restricted	

Positioning

Environment and Heritage

Engineering

Road Assets

Network Planning

Road Network

Materials

Road Safety

Traffic

Contextual Data