West of England Regional Priorities

Key indicators across the Combined Authority's priority areas

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Chapter 1

West of England Regional Priorities

Key indicators across the Combined Authority's priority areas

1.1 About This Report

This report brings together key indicators across the West of England Combined Authority's regional priority areas. Each chapter presents up to 10 indicators with analysis, charts, and context to track progress against strategic goals.

1.2 Priority Areas

Chapter	Priority Area	Lead
1	Contributing to national economic growth	SN
2	Connecting the region through better public transport	HB
3	Creating and building affordable/sustainable homes	CJ
4	Empowering residents with future-ready skills	MJ
5	Making the West of England the home for green jobs and growth	SC
6	Lifting children and families out of poverty	MJ

1.3 How to Use This Report

- Use the **sidebar navigation** to jump to any chapter
- Click **"Show code"** to reveal the R or Python code behind any chart or table
- Each chapter is self-contained and can be read independently

1.4 Data Sources

Indicators draw on a range of national and local data sources. Each chapter documents its specific sources within the analysis. Data refresh schedules are noted where applicable.

Part I

Economic Growth

Chapter 2

Economic Growth

Contributing to national economic growth

2.1 Context

This chapter tracks indicators related to the West of England's contribution to national economic growth. Up to 10 indicators can be included, covering metrics like GVA, productivity, business growth, innovation, and employment.

2.2 Worked Example: Sample Economic Indicator

This example demonstrates how to create an indicator using R. It loads data, processes it, creates a chart with WECA branding, and presents findings.

```
# Load required packages
library(tidyverse)

# Source the WECA theme and helper functions
source(here::here("scripts", "R", "theme_weca.R"))
source(here::here("scripts", "R", "helpers.R"))
```

```
# Load example indicator data
# In your actual analysis, replace this with your real data source
data <- load_csv(here::here("data", "examples", "example_indicator.csv"))

# Preview the data structure
head(data)
```

```
# A tibble: 6 x 6
  area     year indicator_name  indicator_value target_value national_average
```

```
  <chr>   <dbl> <chr>                    <dbl>       <dbl>           <dbl>
1 Bristol  2015 Employment Rate           72.3          75            73.1
2 Bristol  2016 Employment Rate           73.5          75            73.8
3 Bristol  2017 Employment Rate           74.2          75            74.2
4 Bristol  2018 Employment Rate           75.1          75            74.9
5 Bristol  2019 Employment Rate           76.3          75            75.4
6 Bristol  2020 Employment Rate           73.8          75            74.1
```

```r
# Filter and process the data
# This example calculates the latest value and year-on-year change
processed <- data %>%
  filter(indicator_name == "Sample Economic Metric") %>%
  arrange(year) %>%
  mutate(
    # Calculate year-on-year change
    yoy_change = indicator_value - lag(indicator_value),
    yoy_pct = (yoy_change / lag(indicator_value)) * 100
  )

# Get the latest value for summary
latest <- processed %>%
  filter(year == max(year)) %>%
  pull(indicator_value)

latest_year <- processed %>%
  filter(year == max(year)) %>%
  pull(year)
```

2.2.1 Latest Value

The most recent value for this indicator is **** (as of).

```r
# Create a line chart showing the trend over time
ggplot(processed, aes(x = year, y = indicator_value)) +
  geom_line(colour = weca_palette["forest_green"], linewidth = 1.2) +
  geom_point(colour = weca_palette["forest_green"], size = 3) +
  scale_y_continuous(labels = scales::comma) +
  labs(
    title = "Sample Economic Indicator Trend",
    x = "Year",
    y = "Indicator Value",
    caption = "Source: Example data"
  ) +
  theme_weca()
```

```
Error in `weca_palette["forest_green"]`:
! object of type 'closure' is not subsettable
```

2.2.2 Key Findings

- The indicator has shown [describe trend - increasing/decreasing/stable]

- Latest year-on-year change: [insert value]
- Policy implications: [describe what this means for the priority area]

2.3 Indicator 1: [Your Indicator Name]

Data source: [Specify source] **Last updated:** [Date] **Refresh schedule:** [Annual/Quarterly/Monthly]

2.3.1 Overview

[Describe what this indicator measures and why it matters for economic growth]

```
# Your code here
# Follow the pattern from the worked example above:
# 1. Load data
# 2. Process/filter/aggregate
# 3. Create visualization with theme_weca()
# 4. Calculate key statistics
```

2.3.2 Findings

[Your narrative findings here]

2.4 Indicator 2: [Your Indicator Name]

Data source: Last updated: Refresh schedule:

[Repeat structure above - add up to 10 indicators total]

2.5 Summary

[Summary of key findings across all indicators in this chapter. What is the overall picture for economic growth?]

2.6 Python Example (Alternative)

The example below shows how to achieve the same analysis using Python instead of R.

```
# import pandas as pd
# import matplotlib.pyplot as plt
# from pathlib import Path
#
```

```
# # Load data with project-relative path
# project_root = Path(__file__).parent.parent.parent  # Navigate to project root
# data_path = project_root / "data" / "examples" / "example_indicator.csv"
# df = pd.read_csv(data_path)
#
# # Filter and process
# economic_data = df[df['indicator_name'] == 'Sample Economic Metric'].copy()
# economic_data = economic_data.sort_values('year')
#
# # Calculate year-on-year change
# economic_data['yoy_change'] = economic_data['indicator_value'].diff()
# economic_data['yoy_pct'] = (economic_data['yoy_change'] /
#                             economic_data['indicator_value'].shift(1)) * 100
#
# # Create chart (matplotlib - theme_weca for Python to be added later)
# fig, ax = plt.subplots(figsize=(10, 6))
# ax.plot(economic_data['year'], economic_data['indicator_value'],
#         marker='o', linewidth=2, color='#1D4F2B')
# ax.set_xlabel('Year')
# ax.set_ylabel('Indicator Value')
# ax.set_title('Sample Economic Indicator Trend')
# plt.show()
```

Part II

Infrastructure & Place

Chapter 3

Public Transport Connectivity

Connecting the region through better public transport

3.1 Context

This chapter tracks indicators related to public transport connectivity across the West of England. Up to 10 indicators can be included, covering metrics like bus ridership, punctuality, accessibility, network coverage, and passenger satisfaction.

3.2 Setup

```
# Load required packages
library(tidyverse)

# Source the WECA theme and helper functions
source(here::here("scripts", "R", "theme_weca.R"))
source(here::here("scripts", "R", "helpers.R"))
```

3.3 Indicator 1: [Your Transport Indicator]

Data source: [Specify source]
Last updated: [Date]
Refresh schedule: [Annual/Quarterly/Monthly]

3.3.1 Overview

[Describe what this indicator measures and why it matters for public transport connectivity]

```
# Your code here
# See chapters/01-economy/index.qmd for a worked example pattern:
# 1. Load data using load_csv()
# 2. Process/filter/aggregate data
# 3. Create visualization with theme_weca()
# 4. Calculate key statistics using format_number()
```

3.3.2 Findings

[Your narrative findings here]

3.4 Indicator 2: [Your Transport Indicator]

Data source: Last updated: Refresh schedule:

[Repeat structure - add up to 10 indicators total]

3.5 Summary

[Summary of key findings across all transport indicators. What is the overall picture for public transport connectivity?]

Chapter 4

Affordable and Sustainable Homes

Creating and building affordable/sustainable homes

4.1 Context

This chapter tracks indicators related to housing affordability and sustainability across the West of England. Up to 10 indicators can be included, covering metrics like housing completions, affordability ratios, energy efficiency, social housing supply, and planning permissions.

4.2 Setup

```
# Load required packages
library(tidyverse)

# Source the WECA theme and helper functions
source(here::here("scripts", "R", "theme_weca.R"))
source(here::here("scripts", "R", "helpers.R"))
```

4.3 Indicator 1: [Your Housing Indicator]

Data source: [Specify source] **Last updated:** [Date] **Refresh schedule:** [Annual/Quarterly/Monthly]

4.3.1 Overview

[Describe what this indicator measures and why it matters for affordable and sustainable homes]

```
# Your code here
# See chapters/01-economy/index.qmd for a worked example pattern:
# 1. Load data using load_csv()
# 2. Process/filter/aggregate data
# 3. Create visualization with theme_weca()
# 4. Calculate key statistics using format_number()
```

4.3.2 Findings

[Your narrative findings here]

4.4 Indicator 2: [Your Housing Indicator]

Data source: Last updated: Refresh schedule:

[Repeat structure - add up to 10 indicators total]

4.5 Summary

[Summary of key findings across all housing indicators. What is the overall picture for affordable and sustainable homes?]

Part III

Skills & Opportunity

Chapter 5

Future-Ready Skills

Empowering residents with future-ready skills

5.1 Context

This chapter tracks indicators related to skills development and training across the West of England. Up to 10 indicators can be included, covering metrics like qualification levels, apprenticeships, adult learning participation, skills gaps, and employment outcomes.

5.2 Setup

```
# Load required packages
library(tidyverse)

# Source the WECA theme and helper functions
source(here::here("scripts", "R", "theme_weca.R"))
source(here::here("scripts", "R", "helpers.R"))
```

5.3 Indicator 1: [Your Skills Indicator]

Data source: [Specify source] **Last updated:** [Date] **Refresh schedule:** [Annual/Quarterly/Monthly]

5.3.1 Overview

[Describe what this indicator measures and why it matters for future-ready skills]

```
# Your code here
# See chapters/01-economy/index.qmd for a worked example pattern:
# 1. Load data using load_csv()
# 2. Process/filter/aggregate data
# 3. Create visualization with theme_weca()
# 4. Calculate key statistics using format_number()
```

5.3.2 Findings

[Your narrative findings here]

5.4 Indicator 2: [Your Skills Indicator]

Data source: Last updated: Refresh schedule:

[Repeat structure - add up to 10 indicators total]

5.5 Summary

[Summary of key findings across all skills indicators. What is the overall picture for future-ready skills development?]

Part IV

Green Jobs and Growth

Chapter 6

Green Jobs and Growth

Making the West of England the home for green jobs and growth

6.1 Context

This chapter tracks indicators related to green economy and environmental sustainability across the West of England. Up to 10 indicators can be included, covering metrics like green jobs, renewable energy, carbon emissions, electric vehicle uptake, and green business growth.

6.2 Setup

```
# Load required packages
library(tidyverse)

# Source the WECA theme and helper functions
source(here::here("scripts", "R", "theme_weca.R"))
source(here::here("scripts", "R", "helpers.R"))
```

6.3 Indicator 1: [Your Green Economy Indicator]

Data source: [Specify source] **Last updated:** [Date] **Refresh schedule:** [Annual/Quarterly/Monthly]

6.3.1 Overview

[Describe what this indicator measures and why it matters for green jobs and growth]

```
# Your code here
# See chapters/01-economy/index.qmd for a worked example pattern:
# 1. Load data using load_csv()
# 2. Process/filter/aggregate data
# 3. Create visualization with theme_weca()
# 4. Calculate key statistics using format_number()
```

6.3.2 Findings

[Your narrative findings here]

6.4 Indicator 2: [Your Green Economy Indicator]

Data source: Last updated: Refresh schedule:

[Repeat structure - add up to 10 indicators total]

6.5 Summary

[Summary of key findings across all green economy indicators. What is the overall picture for green jobs and growth?]

Part V

Child Poverty

Chapter 7

Child Poverty

Lifting children and families out of poverty

7.1 Context

This chapter tracks indicators related to child poverty and family wellbeing across the West of England. Up to 10 indicators can be included, covering metrics like child poverty rates, free school meals eligibility, household income, access to services, and educational outcomes.

7.2 Setup

```
# Load required packages
library(tidyverse)

# Source the WECA theme and helper functions
source(here::here("scripts", "R", "theme_weca.R"))
source(here::here("scripts", "R", "helpers.R"))
```

7.3 Indicator 1: [Your Child Poverty Indicator]

Data source: [Specify source] **Last updated:** [Date] **Refresh schedule:** [Annual/Quarterly/Monthly]

7.3.1 Overview

[Describe what this indicator measures and why it matters for lifting children and families out of poverty]

```
# Your code here
# See chapters/01-economy/index.qmd for a worked example pattern:
# 1. Load data using load_csv()
# 2. Process/filter/aggregate data
# 3. Create visualization with theme_weca()
# 4. Calculate key statistics using format_number()
```

7.3.2 Findings

[Your narrative findings here]

7.4 Indicator 2: [Your Child Poverty Indicator]

Data source: Last updated: Refresh schedule:

[Repeat structure - add up to 10 indicators total]

7.5 Summary

[Summary of key findings across all child poverty indicators. What is the overall picture for lifting children and families out of poverty?]