SCOTTISH POLICE AUTHORITY

Meeting	SPA Policing Performance Committee
Date	1 September 2021
Location	Video Conference
Title of Paper	Demand and Productivity Progress Update
Presented By	Superintendent Neil MacDougall , Demand and Productivity Unit
Recommendation to Members	**For Discussion**
Appendix Attached	Yes Appendix A – DPU Performance Committee Briefing Pack

PURPOSE

The purpose of this paper is to provide an overview of the work of the Demand and Productivity Unit. The request from Performance Committee is for an update on:

- Update on plans on progress with demand and productivity work
- General direction of travel
- How it links to work with 5 year financial strategy and strategic workforce plan

This paper is framed around:
- Context
- Current Position and Activity
- DPU plans for future

The Appendix contains a full DPU briefing pack for members to supplement this paper.

Members are invited to discuss the contents of this paper and its appendix.

1.   BACKGROUND

1.1   The Demand and Productivity Unit (DPU) was created as a key deliverable of the Demand, Productivity and Performance programme (DPP) in June 2019. The DPU was built on a Minimum Viable Structure (MVS).

1.2   The DPU's first year of operations was impacted by the COVID-19 pandemic, where the DPU became an essential component for analytics and data provision to both internal and external partners and stakeholders.

1.3   In early 2020 the DPU were also subject of an SPA sponsored audit by Scott Moncrieff/Azets. The outcome report from this reinforced the importance of the data development side and its crucial connection to the work of the Chief Data Officer but acknowledged the achievements of the small team. All of these recommendations have been implemented.

2.   FURTHER DETAIL ON THE REPORT TOPIC

2.1   Current Position and Activity

2.1.1   Following closely behind the Scott Moncrieff/Azets audit, HMICS began their Demand Assessment in early 2021. This was a far more in-depth review of demand and was very positive around the work of the DPU, noting however that the reach of the function was limited due to funding constraints.

2.1.2   The HMICS recommendations that pertain to the DPU are currently being finalised through internal governance and will be covered in a refreshed tactical delivery plan for the DPU over the remainder of this financial year and next.

2.1.3   The core DPU outputs are:

- The Demand Baseline. This is an annual product and is a broad assessment of operational demand for the Force. Whilst benchmarked with other UK forces, the depth of the demand analysis distinguishes this product from most others. The new Demand Baseline Assessment model (Appendix A) demonstrates the drive to enhance the utility of this product, including recommendations and an assessment of both current and forecasted demand. This product is key to supporting Strategic Workforce Planning, Organisational Design, and is

now central to the Operational Delivery Board Tactical Assessment.

- The Local Policing Demand Profiling Tool (DPT). This product has its origins in the Resource Allocation model designed by the Local Policing Programme. The reason for the change of name was around developing the concept to better supporting Strategic Workforce Planning. The product is a more granular assessment of core demand within Local Policing alongside the resource available to meet that demand. The model is flexible and can be used to model various scenarios. The underpinning demand data will be able to support Resource Deployment work around operation Base Levels. The core demand datasets are displayed in Appendix B.

- PowerBi Dashboards. Whilst the DPU are not responsible for building dashboards for the organisation, they were the first business area to adopt this visualisation tool and to provide automated daily updates on crime, incident, missing person and VPD data. Encouraging the move to self-service remains a key focus for the DPU alongside supporting other areas to adopt PowerBi for their own data visualisation. It should be noted that a significant proportion of DPU and ICT time is required for maintenance and continuous improvement of both the dashboards and the underpinning data as well as scoping new opportunities.

2.1.4 In addition to the dependencies already outlined (Strategic Workforce Planning, Organisational Design, Resource Deployment, ODB), the DPU need to support a wider understanding of demand across the organisation. Whilst limited by resource, DPU have directly supported various business areas and projects, including APU, Public Protection Unit, Missing Persons Unit, National Intelligence Review, Force Middle Office Review, Local Policing Improvement and SCD Redesign.

2.1.5 DPU are also committed to playing a significant part in data development and improving data quality and integrity. The DPU Standard Weights and Measures has been supported by both Scott Moncrieff/Azets and HMICS and DPU technical skills combined with business knowledge are key to strategic data change programmes, such as Core Operational Systems and Force Wide Analytics. DPU also have a co-dependency with work of the Chief Data Office and are part of Data Governance structures.

2.1.6 The key DPU outputs - the Demand Baseline, DPT and the Power BI Dashboards have all been designed to support Strategic Workforce Planning. The dashboards were key to the first Strategic Workforce Plan where divisions used them to prepare their local plans. In the next iteration the plan will be supported by more advanced demand analysis from the Baseline Assessment Model and DPT.

2.1.7 The Demand Baseline Assessment Model provides a summary of current and forecast demand across operational policing. This product can support financial planning, however as a new product only recently signed off by internal governance, the work to connect these areas is in an early state.

2.2 **Plans and DPU Futures**

2.2.1 The DPU continue to work towards the objective of being an enabling function whose purpose is to measure and understand demand across Police Scotland.

2.2.2 In addition to the activities outlined above, DPU are progressing a number of areas including:

- Develop and improve the SEB-P Data Repository
- Develop and implement quality assurance and validation processes for new datasets and analysis
- Develop and improve the Microsoft Power BI Thematic Demand Dashboards
- Design and deliver soft data demand surveys, workshops, methodologies and analysis
- An enhanced Communications and Engagement plan to improve awareness of demand concepts and enable business areas
- Demand Forecasting – Data Science team project and collaborative work with the College of Policing on Scenario Based forecasting
- SCD Demand Project (plan and business case)
- Research programme around demand, forecasting and evidence based policing.
- Support to the following projects and programmes:
  - o Force Middle Office Review
  - o Public Protection Unit Review Project
  - o Resource Deployment Unit Project
  - o Force-Wide Analytics
  - o Criminal Justice Services Division Performance and Demand framework

2.2.4 DPU are set to formally become part of the revised corporate Analysis and Demand function under the Transformation Programme of the same name. This is the current vehicle to put DPU on a sustainable footing to support understanding demand across the organisation.

2.3 **Conclusion**

2.3.1 The DPU has a routine reporting schedule, supports many business areas and projects, and has a plan to expand the demand work beyond its current reach, with some national divisions being well underway in understanding demand themselves, living up to the enabling function the DPU is designed to be.

3. FINANCIAL IMPLICATIONS

3.1 *N/A*

4. PERSONNEL IMPLICATIONS

4.1 *N/A*

5. LEGAL IMPLICATIONS

5.1 *N/A*

6. REPUTATIONAL IMPLICATIONS

6.1 *N/A*

7. SOCIAL IMPLICATIONS

N/A

8. COMMUNITY IMPACT

8.1 *N/A*

9. EQUALITIES IMPLICATIONS

9.1 *N/A*

10. ENVIRONMENT IMPLICATIONS

10.1 *N/A*

RECOMMENDATIONS

Members are invited to discuss the contents of this paper.

**Demand & Productivity Unit
SPA Performance Committee
Briefing Pack September 2021**

1. Approach to Understanding Demand

DPU – Aims and Principles

The overall strategic aim of the Demand & Productivity Unit (DPU) is to measure, understand and evidence demand in order to influence at strategic and tactical levels.

The DPU is made up of Data Scientists, Demand and Productivity Officers and police officers. Team skills include programming, graphic design, data science and statistical analysis, all overlaid with operational policing expertise
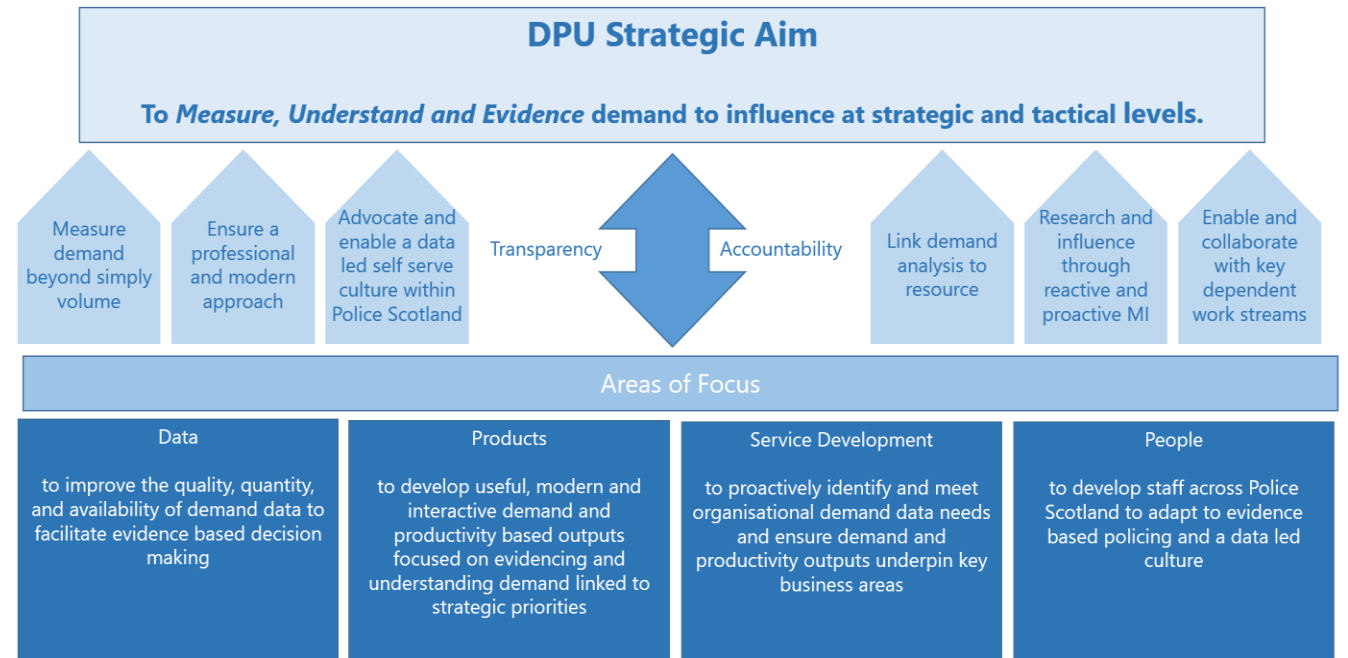
DPU have developed a variety of products to inform strategic and tactical decision making, support key business areas and to promote evidence based policing.

DPU liaise with subject matter experts from all business areas, obtain hard data from police systems and soft data through various capture methods in order to present the most holistic evidential view possible.

DPU ensure our products are future proof, with further demand analysis (SCD and OSD currently in the pipeline) and continual revision of existing products.

Key objectives and principles:

- Measure demand beyond simply volume

- Ensure a professional and modern approach

- Advocate and enable a data led, self-serve culture in Police Scotland

- Link demand analysis to resource

- Research and influence through pro-active and reactive Management Information

- Enable and collaborate with key dependent work streams

DPU Strategic Aim

To *Measure, Understand and Evidence* demand to influence at strategic and tactical levels.

Measure demand beyond simply volume | Ensure a professional and modern approach | Advocate and enable a data led self serve culture within Police Scotland | Transparency | Accountability | Link demand analysis to resource | Research and influence through reactive and proactive MI | Enable and collaborate with key dependent work streams

Areas of Focus

Data	Products	Service Development	People
to improve the quality, quantity, and availability of demand data to facilitate evidence based decision making	to develop useful, modern and interactive demand and productivity based outputs focused on evidencing and understanding demand linked to strategic priorities	to proactively identify and meet organisational demand data needs and ensure demand and productivity outputs underpin key business areas	to develop staff across Police Scotland to adapt to evidence based policing and a data led culture

Assessing Demand - Evidence Based Policing

Evidenced based Policing is using the best available evidence to inform and challenge operational policing practices and decisions. From a demand perspective, this allows the organisation to make better informed use of our resources. It is an ongoing process, aiming to increase understanding of demand by building a body of evidence and adapting to change. Data capture is the initial piece of the puzzle. The DPU layers internal and external research with professional experience and judgement to provide a rich, balanced assessment of demand to better inform analysis and understanding.

Best available evidence includes:

Organisational Data Sources

Qualitative Research

Professional Experience and Judgement

Academic Research
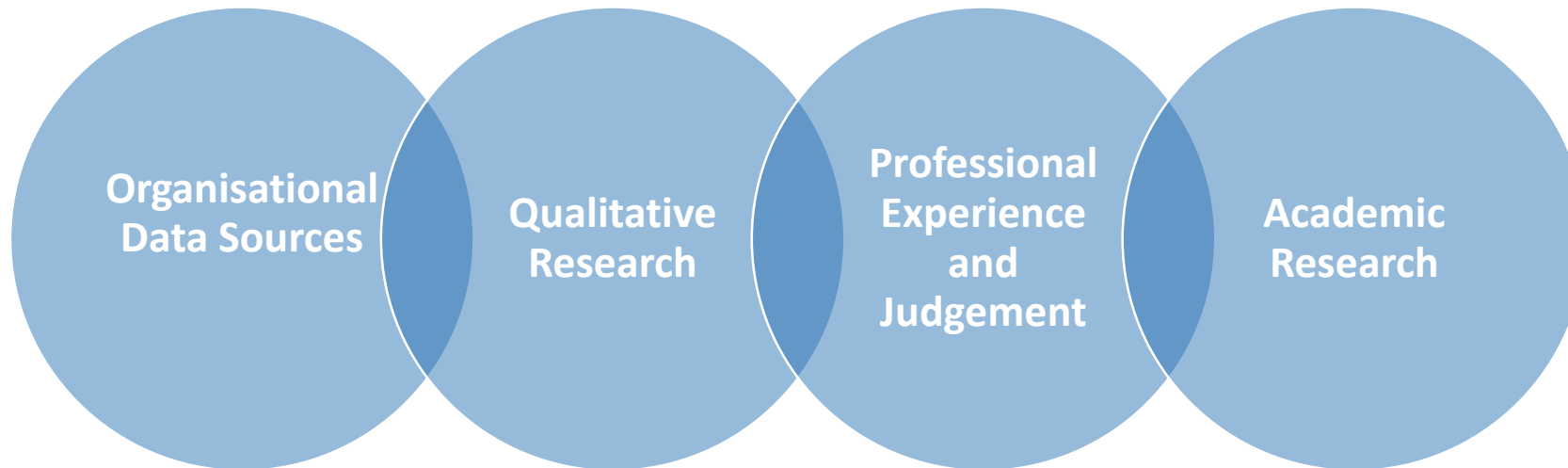
What is Demand?

'For the police service, demand goes far beyond 'calls for service' and is instead the combination of public demand, protective demand, internal demand, failure demand and hidden demand'. NPCC Demand reference Group (2017)

Historically:
Traditional measures of demand analysis within policing have been limited to volumetric measures of crime statistics and other police activity. True workload has never previously been measured effectively.

Currently:
The DPU strives to measure demand in terms of time (opposed to simply volume) and examining what this demand means for the future. Necessary analysis includes trends, surge demand, seasonal demand and failure demand, allowing for a much richer understanding of demand, how it changes over time and how it impacts the organisation.

Looking Forward:
The 2021 HMICS Assessment of Demand acknowledged the sophisticated capability of the DPU in its initial period of operation and made 12 recommendations which focussed on the importance of Police Scotland furthering its understanding of demand. The DPU will implement these recommendations in order to develop its current understanding further and enhance areas of demand analysis such as 'forecasting'.

Defining and Measuring Demand:
How the DPU defines the organisations' Demand Drivers & Demand Categories is explained further on the following slides.

Demand Definitions and Drivers

Baseline Demand

> **Baseline Demand** – Perennial, routine demand which requires constant level of resources to maintain day to day functionality as a police service.

The 4 Demand Drivers ●

Seasonal Demand – Demand which is affected by the seasons and as such has no fixed calendar dates.
Cyclical Demand – Similar to Seasonal but occurs on a regular basis in a generally predictable and cyclical manner.
Surge Demand – Planned or Spontaneous one off event or incident which results in increase in demand either during or after the event.
Trend Demand – New or unseen crimes or incidents which create unprecedented demand for a period of time.

The 3 Categories of Demand ●

**Public** – Demand generated from the public reporting crimes or incidents.
Protective – Proactive demand generated to reduce or mitigate an element of public demand and risk. Can also be generated by partner agencies.
Internal – Demand created by systems, processes and procedures.

Failure Demand ●

Internal – Demand generated as a result of a failure of Police Scotland.
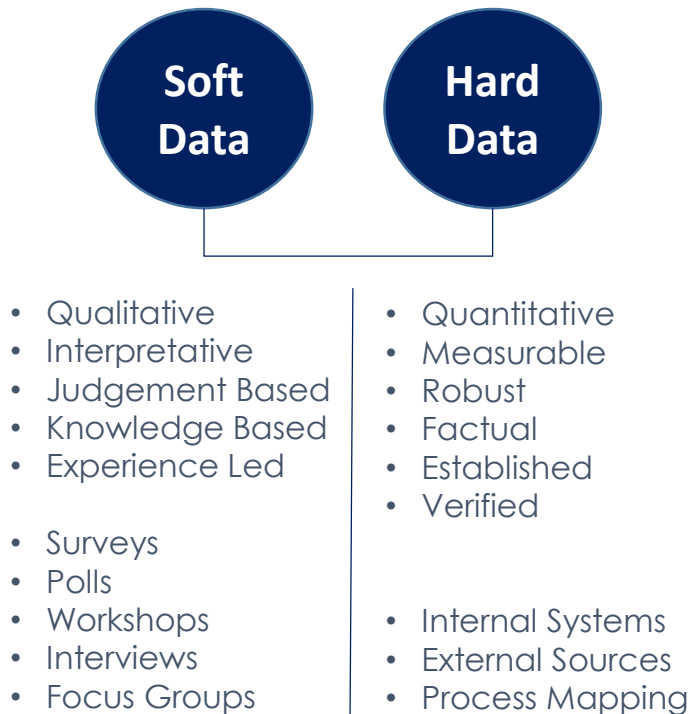**External** – Demand generated as a result of partner agency failures.

Hidden Demand ●

Hidden – Demand which cannot be fully known or measured until it is presented.
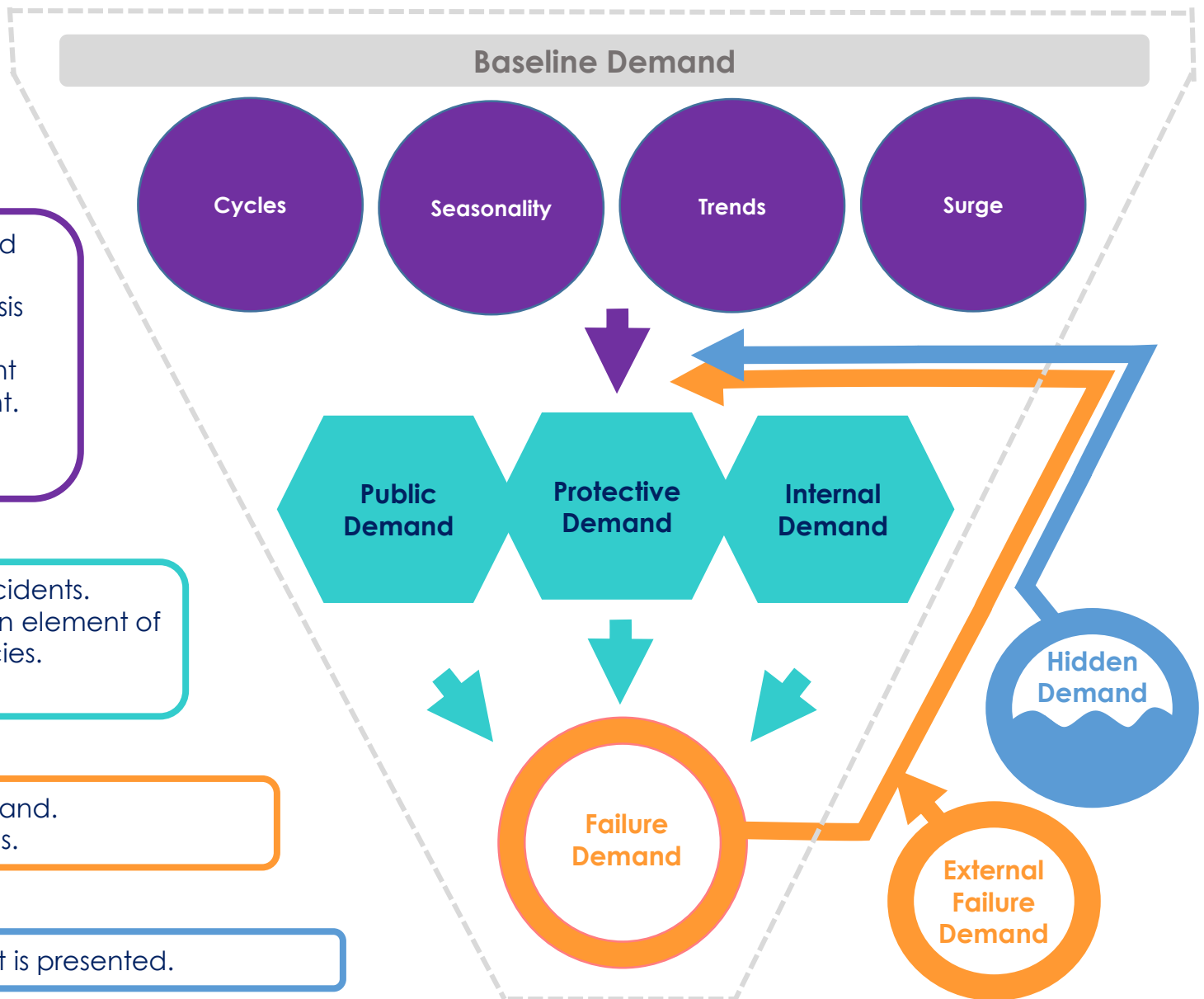
Measuring Demand

In order to effectively measure demand it is vital to uncouple demand from purely volumetric measurement wherever possible. The DPU adopts both hard and soft data capture methodologies to achieve this. This combination is often required to develop datasets to understand the actual workload and resource activity required to meet the demand, rather than just volumetric statistical information i.e. numbers of crimes and incidents. The application of these methodologies will vary thematically depending on the data available and how much that alone can tell us about demand. The three principles below underpin the DPU's understanding of demand measurement.

Soft Data

Hard Data

- Qualitative
- Interpretative
- Judgement Based
- Knowledge Based
- Experience Led

- Surveys
- Polls
- Workshops
- Interviews
- Focus Groups

- Quantitative
- Measurable
- Robust
- Factual
- Established
- Verified

- Internal Systems
- External Sources
- Process Mapping

Volume: Volumetric measurement is the starting block of demand measurement but a purely volume based approach does not capture the true demand.

Example: Crime Investigation - we have good volumetric data for recorded crime but to measure actual demand we need more information to understand how many resources we need to meet the demand. We can measure how many crimes we have, however in order to accurately calculate true crime demand we also need to measure how much time it takes to investigate. Volume of crime × Time to investigate = Crime demand.

Risk: A robust risk assessment of the volume of demand is useful if available. This can add a further dimension towards understanding demand when a risk and harm element is considered .

Example: Management of Registered Sex Offenders – we have good volumetric data for Registered Sex Offenders from VISOR, however we are able to understand demand better when broken down into risk categories. We can say that it generally takes more resources to manage a high risk case than a low risk one.

Demand: Once we have assessed volume and risk, we need to convert both these measures into **demand**. This will allow the organisation to understand the actual resource required to meet the demand. This is the final piece and must be achieved through both hard data analysis and soft data capture in discussion with subject matter experts.

Example: Missing Persons – Volume is obtained through the Missing Person database. Risk is also understood through analysis of this data, showing the proportions of Low, Medium and High risk. Operational Inspectors are then surveyed to capture the demand in terms of resources required during Medium and High risk missing person investigations (with minimum resourcing used for Low). Combined, these elements provide an enriched data source, from which we are able to assess the demand generated by missing persons investigations as an FTE figure.

Example Analysis - Crime Volume v Demand

Demand & Productivity Unit

The graph on the right shows the change in **Total Investigation Time** and **Total Volume of Crime** from FY **2016/17** to **2020/21**. Using the values of 2016/17 as a baseline of 100, the following years are compared to this to see how each variable has changed. From 2017-2019 we see a drop in volume yet investigation time has remained steady at just above baseline.
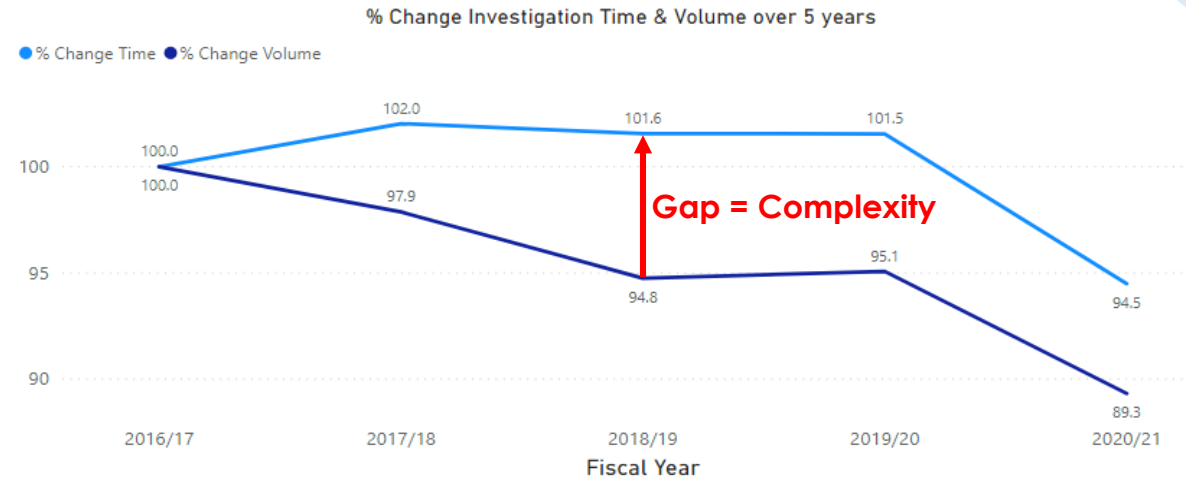
What this means?
This indicates although **volume** of crime has decreased, there is still an increased level of **demand** which remains static.
This indicates that proportion of crime which is of a complex nature has increased.

% Change Investigation Time & Volume over 5 years
● % Change Time ● % Change Volume

Gap = Complexity

Crime Group	% of Total Investigations	% of Total Investigation Time
1	2%	7%
2	3%	8%
3	21%	30%
4	12%	14%
5	6%	7%
6	28%	28%
7	27%	6%

Total Investigations vs Investigation Time
■ % of Total Investigations ■ % of Total Investigation Time
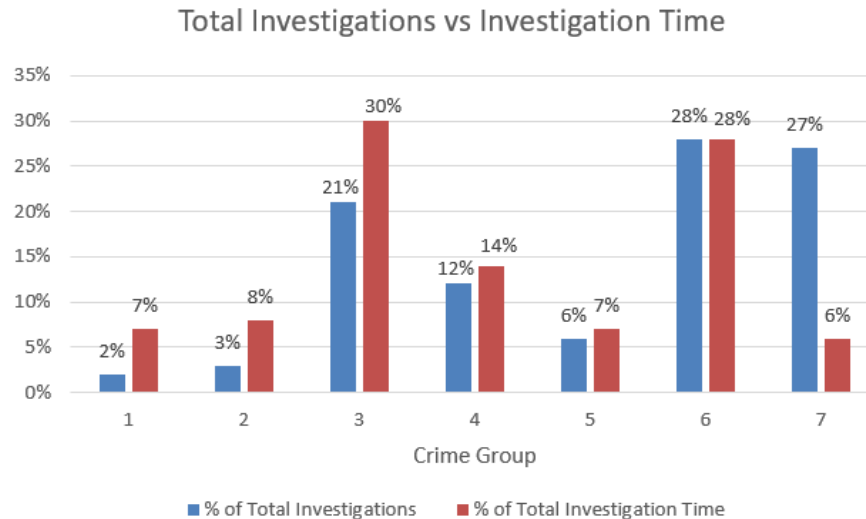
Analysis from the DPU's National Crime Investigation Surveys provide an evidence base for the assumption that Groups 1-2 contribute a disproportionate demand compared to 3-7.
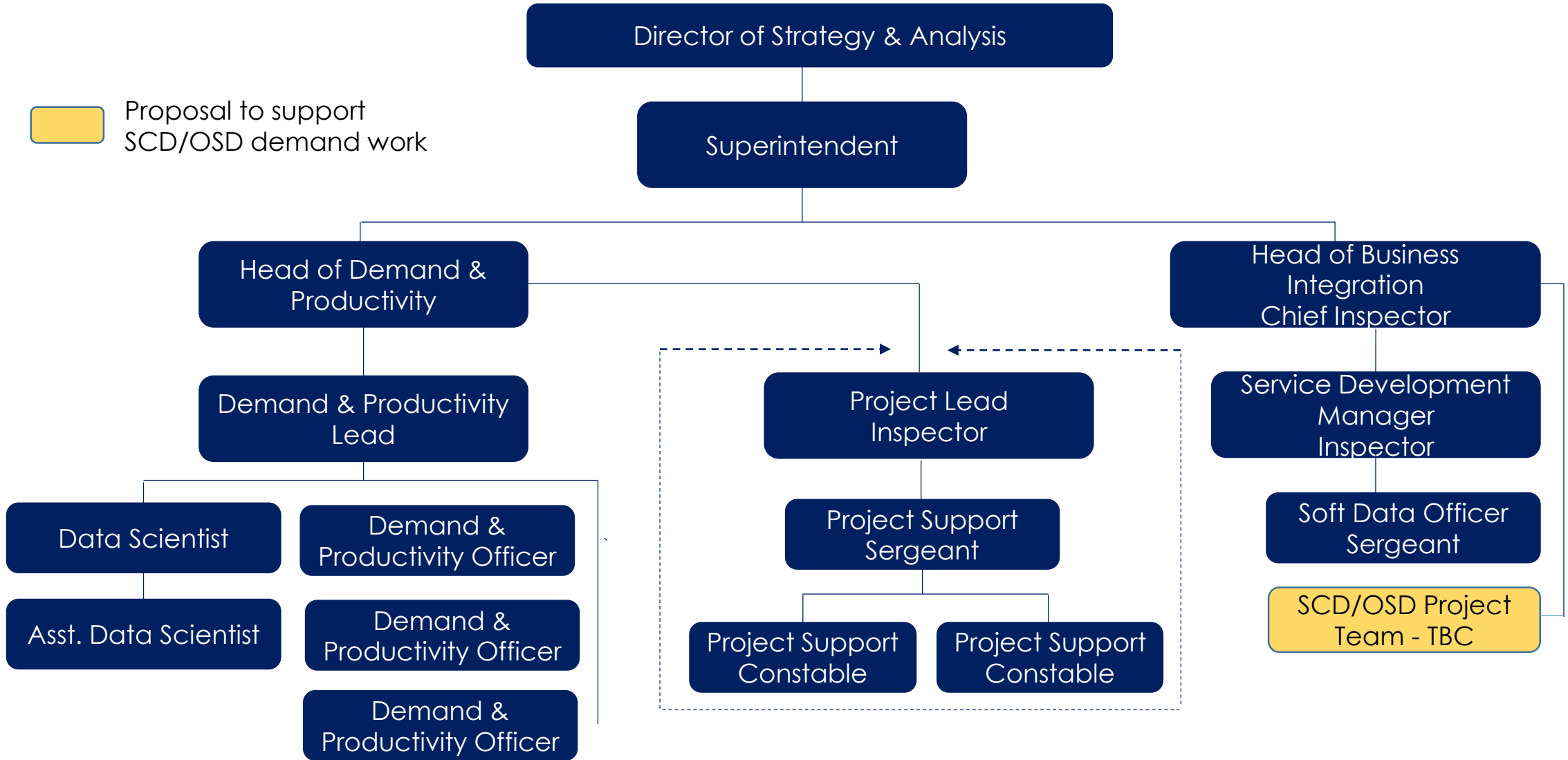
We see from the graph to the left that the proportion of investigation time for **Group 1-2** compared to their overall volume is at least **4 times** greater. **Group 3** accounts for **30%** of total investigation time with **Group 6** offences taking an additional **28%**. Groups 3 and 6 account for a correspondingly high proportion of volume.

Group 7 values include ticketing offences and we see a large volume of crime but only **6%** of total investigation time – or demand - for the year.

2. Structures and Data Quality

Demand and Productivity Unit – Current Permanent Structure

Director of Strategy & Analysis

Superintendent

Proposal to support SCD/OSD demand work

Head of Demand & Productivity

Head of Business Integration
Chief Inspector

Demand & Productivity Lead

Project Lead Inspector

Service Development Manager Inspector

Data Scientist

Demand & Productivity Officer

Project Support Sergeant

Soft Data Officer Sergeant

Asst. Data Scientist

Demand & Productivity Officer

Project Support Constable

Project Support Constable

SCD/OSD Project Team - TBC
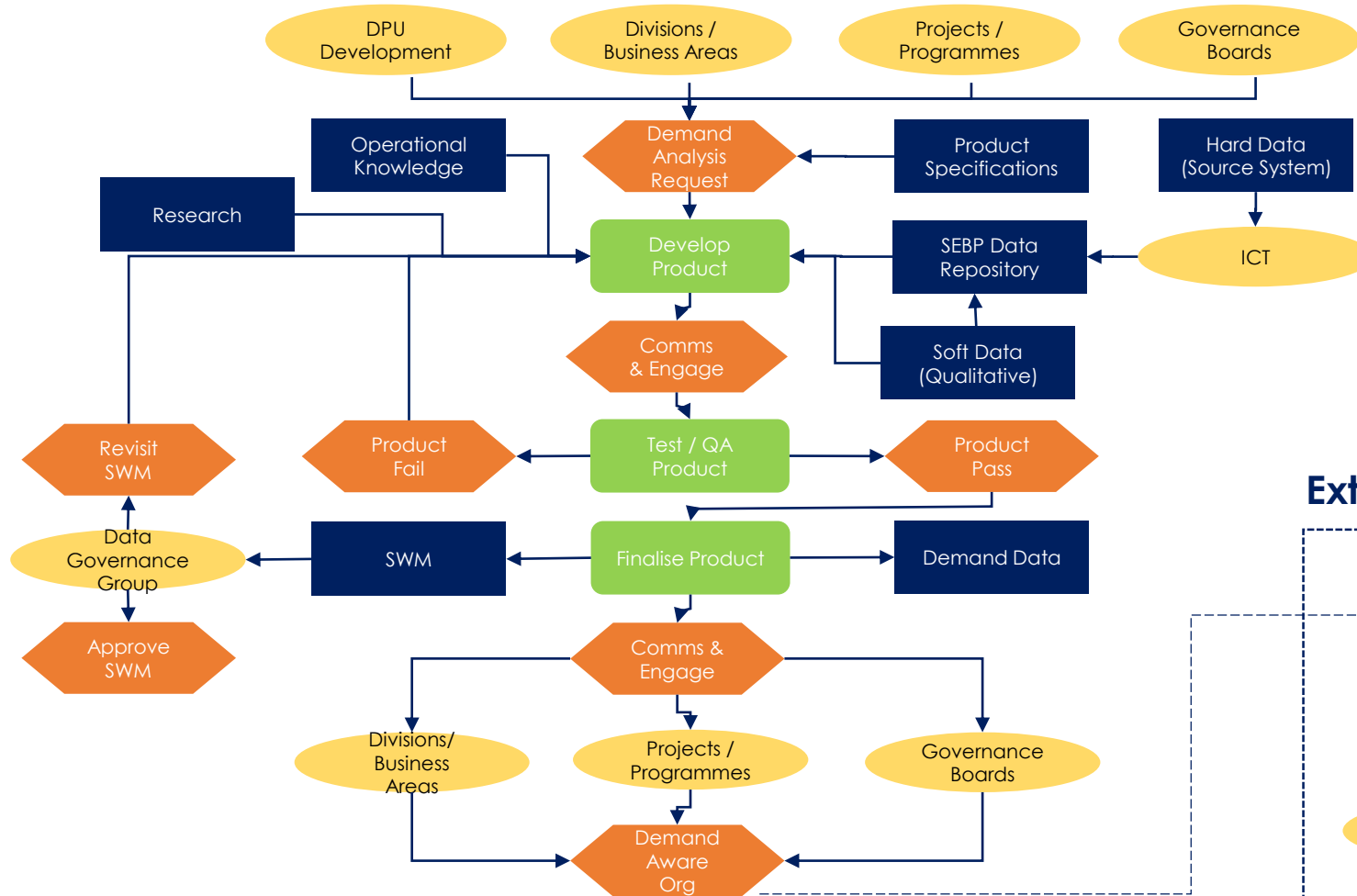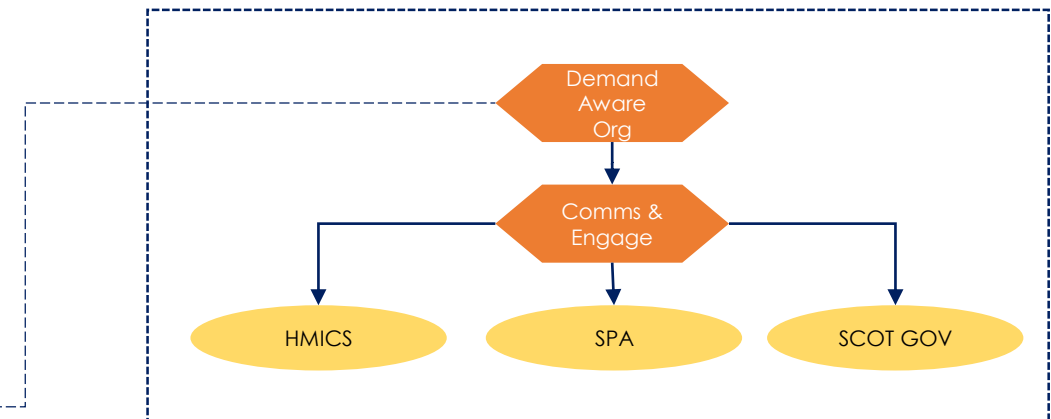
Demand & Productivity Officer

Demand Framework

The framework below is designed to illustrate how the DPU operate to meet their strategic aims and objectives – to measure, understand and evidence demand in order to influence at strategic and tactical levels.

Data Quality & Accessibility

- SEBP Data Repository is a cleansed and consolidated dataset for analytics.

- Change Data Capture routines are run against source systems to populate SEBP Data Repository daily.

- Automated error handling scripts capture failures in data transfer and flag to ICT for immediate action without user intervention.

- New Data Sources go through rigorous functional and user acceptance testing before live deployment.

- Aperture Data Studio (Experian UK) is a data quality tool used to profile and cleanse/transform data.

- Historic changes to data are captured and provide viewable snapshots for statistical reporting consistency.

- Role based access controls are implemented to allow access to information and functionality only to those specifically allowed access and to deny those who are not based on their position in organisation.

- Role maintenance is tightly managed between ICT and DPU through fully audited service requests.

Standard Weights and Measures (SWM)

- Each DPU product requires calculations to support demand and productivity analysis.

- To ensure consistency, transparency and reliability across the organisation standard weights and measures need to be quality assured, documented and approved.

- The SWM document ensures that all measures are captured in a set format to provide Police Scotland with an organisational taxonomy of calculations, assumptions and weightings based on hard and soft data.

- SWM's will be dynamic and complex so will need to be continually assessed to ensure they remain accurate. An agreed lifespan and review period will be defined for each.

- The Data Governance Group is working with DPU to absorb the SWM's into Police Scotland's Data Catalogue currently under development for future governance.

- Quality Assurance (QA) will involve internal review from DPU/APU and the business area involved.

- Post QA the data owners stipulated within the Data Catalogue will be responsible for approving/signing off the SWM listed.

- This standard will inform the planning stages of both projects and business as usual activity.

3. Products and Methodologies

Demand Baseline

Demand Profiling Tool (DPT)

Power BI Demand Dashboards
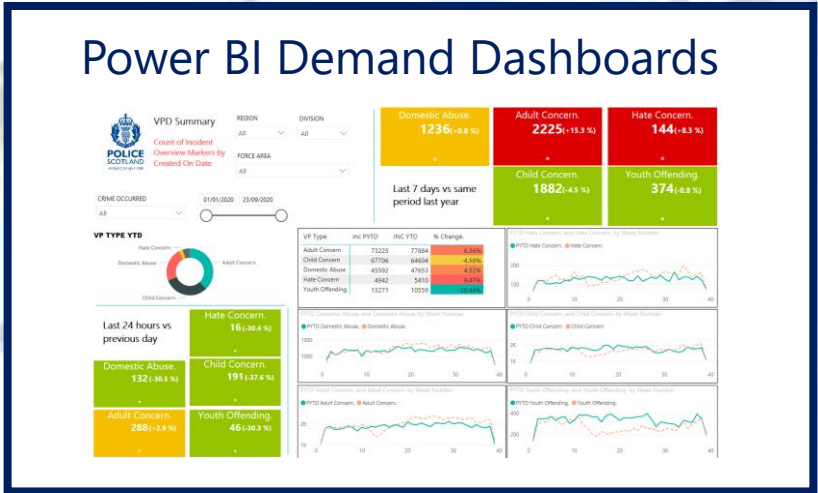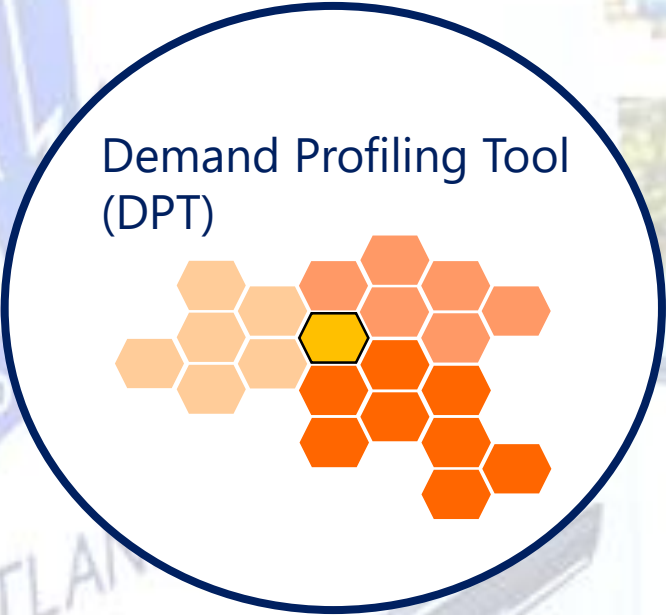
Demand Baseline Report

- A broad assessment of operational demand produced annually by the DPU.

- Analysis of trends, surges and forecasted demand, determines the "baseline of demand" i.e. the demand that is always there and requires to be serviced.

- The key distinction from other large-scale policing demand products is its focus on demand, rather than only volumetric measures.

- Integrated to the Operational Delivery Board Tactical Assessment to support operational policing.

- Contains recommendations designed to enable demand management and resource decisions.

- Also supports Workforce Planning, Finance and Organisational Design.

- Recent developments include the Demand Baseline Assessment Model (explained on the following slides)

Demand Baseline Assessment Model

To further develop the utility of the baseline product a Demand Baseline Assessment Model has been developed. This model provides a summary and risk assessment of changing demand. Its intention is to better support strategic decision-making from a demand focused evidence base. The three stage process is outlined below.

Data Analysis
- What does the data tell us?
- What are the trends, surges and what does the future look like?

Business Area Engagement
- What do the experts know and how do they view demand changes?
- Are changes a cause for concern?

Horizon Scanning
- Using all available sources, what is the likely impact on the area of demand?

Category

Category
Demand expected to increase significantly. Capacity and capability requires action.
Sustained and/or expected increase in demand. Capacity and capability requires review.
Little or no change in demand. Capacity and capability exists.
Demand decreasing. Capacity and capability may be reviewed.

The second step is a secondary assessment by the DPU designed to offer suggested action to address the demands identified:

Treat

Demand we can influence through a problem solving approach, and find the most efficient way to manage.

Terminate

Demand that we no longer need to service

Transfer

Demand we are not best placed to manage so seek a collaborative approach

Transform

Demand that requires larger scale transformation under change programme
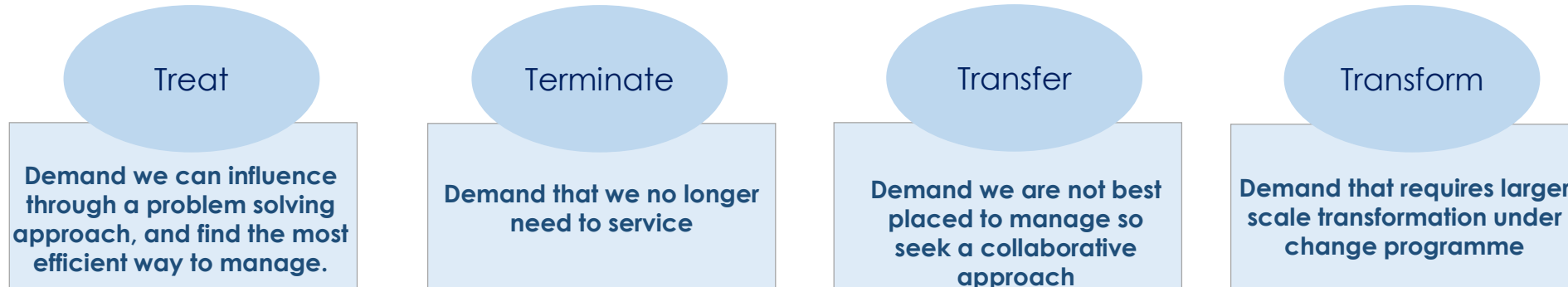
The final step is an assessment by ODB who will review the **Demand Category** and **DPU Assessment**. ODB will then decide on direction and ownership of each demand recommendation as appropriate. Note that some areas are already subject to action by the organisation, as should be expected.

Demand Assessment Model Framework

Category
Demand expected to increase significantly. Capacity and capability requires action.
Sustained and/or expected increase in demand. Capacity and capability requires review.
Little or no change in demand. Capacity and capability exists.
Demand decreasing. Capacity and capability may be reviewed.

Area of Demand	Sub Category
Responding to the Public – Request for service	999 Calls
	101 Calls
	Online Contact
Responding to the Public – Incident Response	Total Volume of incidents
	Attended Incidents (at scene)
	Total overall deployment time at incidents
Crime	Crime Demand
	Violent Crime
	Sexual Crime
	Protective Crime Demand
Investigations –Criminal Justice	Outstanding Warrants
	Offenders on Bail
	Custody Overall Throughput
	Processing/Wait-times
	Court Attendance

Demand Assessment Model Framework (continued)

Demand &
Productivity Unit

Category
Demand expected to increase significantly. Capacity and capability requires action.
Sustained and/or expected increase in demand. Capacity and capability requires review.
Little or no change in demand. Capacity and capability exists.
Demand decreasing. Capacity and capability may be reviewed.

Area of Demand	Sub Category
Protecting Vulnerable People	Adult Concerns
	Child Concern
	Youth Offending
	Child Sexual Abuse & Exploitation
	Drugs
	Hate Crime & Concern
	Domestic Abuse
	Missing Person
	Mental Health
	Human Trafficking
	Forced Marriage
	Honour Based Abuse
Managing Offenders	RSO
Serious and Organised Crime	Overall Total
Other Specialist Departments	Armed Policing
	Roads Policing
	Events/ Operations
	Public Order
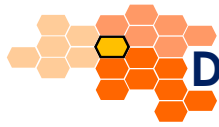
Demand Profiling Tool (DPT)

What is the DPT?

The tool assesses the Core Demand being placed on each local policing division in comparison to their resources. It is the culmination of the most extensive and far reaching demand analysis undertaken by the DPU to date. It has been created with the co-ordinated input of DPU analysts and data scientists, through engagement with business areas and those those working on the frontline of local policing across the country.

Data from 17 areas of core demand has been examined and assessed through interrogation of existing systems paired with further large scale national data collection exercises, including the Crime Investigation Survey, Abstractions Survey and Missing Persons Data Collection Exercise.

The Scoring

Each Divisions demand level is scored between 0-50, with corresponding explanations provided for each category.

| Score	Category
42 to 50	Significant Risk of Core Demand not being fully resourced. Very unlikely there is any capacity for Preventative Policing.
33 to 41	Risk of Core Demand not being fully resourced. Unlikely there is any capacity for Preventative Policing.
25 to 32	Capacity for Core Demand only. Significant demand prioritisation required to allow for Preventative Policing.
16 to 24	Capacity for Core Demand. Likely that demand prioritisation is required to allow for Preventative Policing.
8 to 15	Capacity for Core Demand & Preventative Policing
0 to 7	Good Capacity for Core Demand & Preventative Policing

Range Explained

Due to the complex and ever changing nature of demand, the pressure on any one division may shift from day to day and gradually over longer periods of time. In order to address this, demand levels are assessed in terms of a 3-year average, and a demand 'range' is produced.
This provides an indicative range of scores for each division, and it is likely that if processes, resourcing levels and demand levels remain consistent, the division will be operating within this range.

Example

The division shown here has a score range between 34 – 42.
As indicated by the descriptive categories above, this division is at risk of being unable to meet its core demand, with a chance this risk may become significant (indicated by the higher score of 42) if resourcing and/or service delivery amendments are not made.

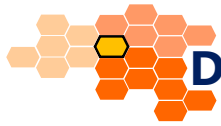| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
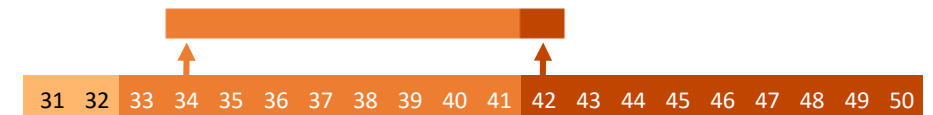
Core Data Components

Below is a summary of the areas of Core Demand which have been measured in each of the 13 Local Policing Divisions by the DPU as part of the DPT.
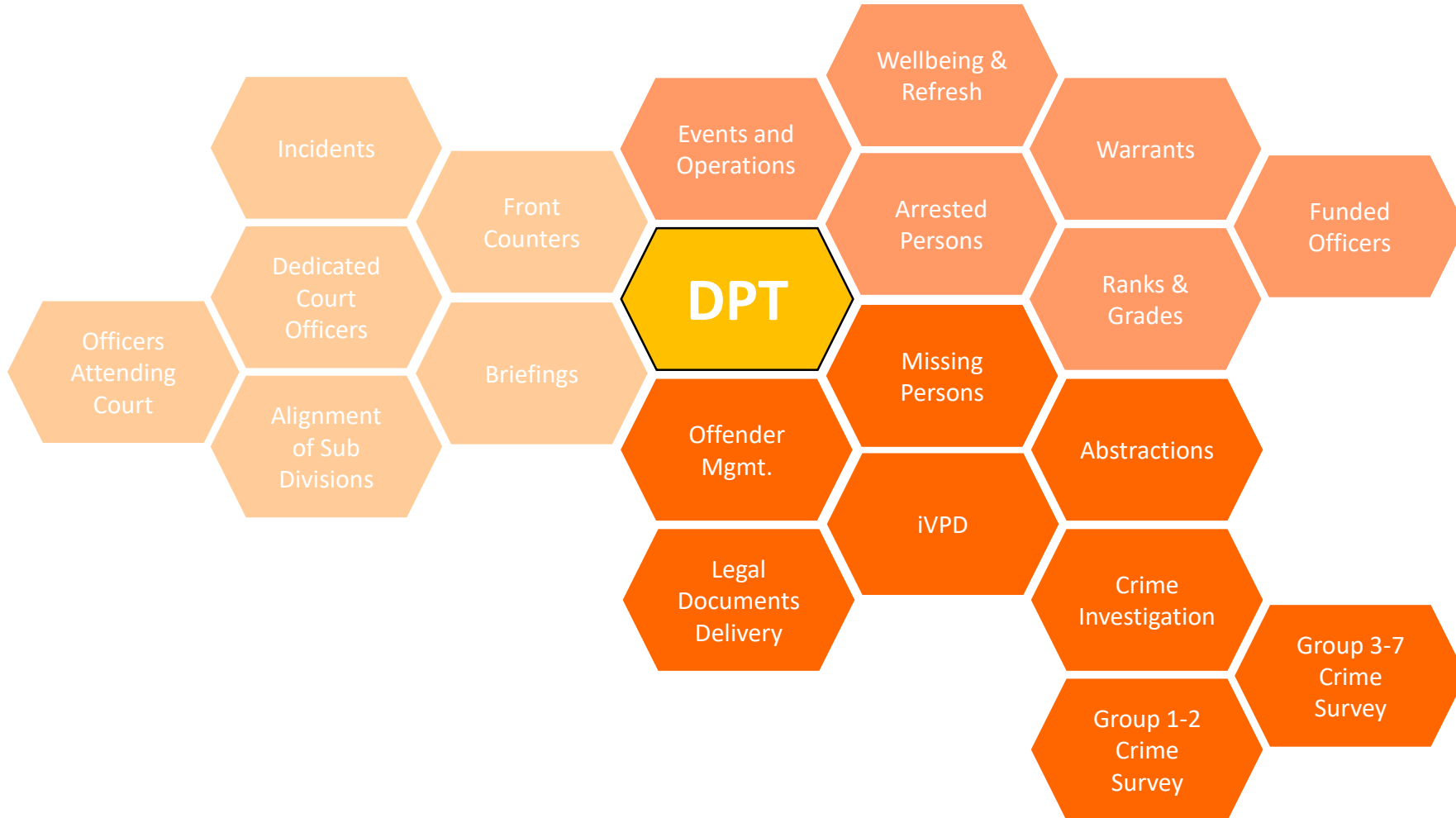
DPT – Behind the Scoring

Division	Demand
B	105%
F	98%
Y	86%
X	82%
S	73%

Assigned Demand Score 0-50

Division	Score
B	38
F	31
Y	21
X	17
S	9

**Score Informs Operational Status**

Score	Category
42 to 50	Significant Risk of Core Demand not being fully resourced. Very unlikely there is any capacity for Preventative Policing.
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8 to 15	Capacity for Core Demand & Preventative Policing
0 to 7	Good Capacity for Core Demand & Preventative Policing

Demand % is defined as:
Each Divisions "Core Demand" as a % of their current resource.

"Core Demand" is calculated by allowing for **all tasks to be completed to the fullest extent**, therefore this % should be seen as indicative, and not to be considered as an absolute % of demand. For example, a Division may surpass 100%, which is theoretically impossible, but what this does indicate is that some element of Core Demand within that Division is not currently being met (e.g. Refreshments/Warrants etc.)

Scoring reduces confusion over the indicative %'s, and instead allows the user to draw conclusions on the current **Operational Delivery Status** of each Division.

A Range is thereafter applied to each score to account for the changing nature and 'unknowns' of demand.
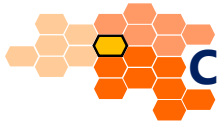
Case Study – Demand Surge during Summer

The below should be considered a conceptual piece which demonstrates the impact of the following ODB "Look Forward" trends on a fictitious Local Policing Division (Y) over the upcoming summer period.

In this scenario, surge demand has been anticipated for the following reasons:

- An increase in events of both international and domestic significance with the resultant increase in requests for mutual aid and public order policing. This will have knock on effects on Crime, Incidents, Custodies and other areas.
- Increase in vulnerability due to economic hardship and the ongoing effects of the pandemic with a resultant increase in missing persons/VPDs.
- Increase in crime through both seasonal increase and the easing of pandemic restrictions.
- Increased anti social behaviour especially around tourist hot spots and within urban areas.

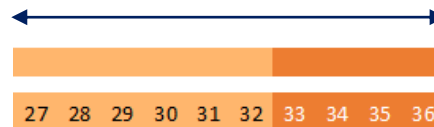Current 'Summer' **Demand Range** based on 3Yr Avg. of Previous Summers

Y (Prev. Summers) Range

| 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
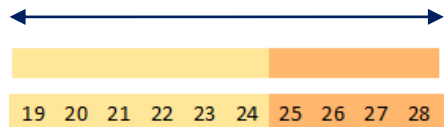
This is how the scoring of Y Division changes if we perform the following changes:

- Increased Incidents (10%)
- Increased Crime (25%)
- Increased Custodies (25%)
- Increased Missing Persons (25%)
- Increased Vulnerable Persons (25%)
- Increased Events (40%)
- Increased Abstractions (25%)
- Increased Court Attendance (25%)

Y (Predicted) Range

| 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |

Score	Category
42 to 50	Significant Risk of Core Demand not being fully resourced. Very unlikely there is any capacity for Preventative Policing.
33 to 41	Risk of Core Demand not being fully resourced. Unlikely there is any capacity for Preventative Policing.
25 to 32	Capacity for Core Demand only. Significant demand prioritisation required to allow for Preventative Policing.
16 to 24	Capacity for Core Demand. Likely that demand prioritisation is required to allow for Preventative Policing.
8 to 15	Capacity for Core Demand & Preventative Policing
0 to 7	Good Capacity for Core Demand & Preventative Policing

Demand Dashboards

Microsoft PowerBi is a data visualisation tool, implemented and managed by Police Scotland's ICT function. DPU were the first business area to adopt PowerBi and have built and maintain several dashboards across demand and performance subject areas.

All dashboards can be filtered for divisional and regional comparisons to enable high level analysis. Users have the ability to 'self-serve' and drill down into the underlying data in order to answer key operational and strategic questions. DPU actively support building awareness of PowerBi, promoting the benefits for business areas from utilising this tool.

Crime Dashboards developed analysing overall crime groups, crime categories and classifications, recorded and detected crimes by divisions and regions, seasonality and per 10k population data. Overall crime volume and categories are available to compare against 5 year averages, previous year figures, % of crimes recorded and detected with the ability to filter to all levels including subdivision and multi-member ward.

Incident Dashboard developed providing a demand heat map showcasing of incidents by time and day, allowing for comparisons on individual types to take place. Incident Volumes can also be analysed by division, comparing previous year, 3 year average and incident demand by incident type to compare data.

Missing Person Dashboard developed analysing missing person demand and risk. Data complied showing high level analysis of missing persons including name, location missing from, time taken to trace, markers attached including mental health and dementia markers, allowing previous year, high, medium and low risk categories and FTE demand.

VPD Dashboard developed showcasing an overview of all incident markers for VPD including Adult Concern, Child Concern, Domestic Abuse and Youth Offending, allowing for regional, divisional and category types to take place producing yearly comparison by fiscal year and weekly breakdowns for further analysis.

DPU Future – Next Steps

The organisation is working to agree an improvement plan following the HMICS Demand Assessment and its 12 recommendations. Whilst this plan remains to be agreed via internal governance and cannot yet be shared in full, the following is an indication of likely DPU activity to be progressed in the coming months:

• Continuous improvement of the strategic demand outputs

• Enhance forecasting capabilities via data science project and collaboration with UK Policing

• Integration of the DPT with the Strategic Workforce Plan (SWP) to supplement self-assessment via demand dashboards

• Refine Power BI demand dashboards to provide the information required to support operational policing

• Adapt the demand methodologies and apply them to national and specialist functions in order to more accurately measure the extensive demand within these areas.

• Support and enable operational change programmes e.g. Force Middle Office Review, Local Policing Improvement

• Continue to support and enable corporate programmes including SCOMIS to SEB-P transition, Core Operational Systems implementation and Force-Wide Analytics

• Effective and sustained Communication and Engagement with stakeholders.