

Cambridge Centre for Risk Studies
Risk Management Solutions Inc.

Consultation Document: Phase Three v0.9

Global Exposure Accumulation and Clash (GEAC) Project

MULTI-LINE INSURANCE EXPOSURE DATA SCHEMA

**Phase Three: Political and Security Risk,
Annuities and Pensions, Personal Lines,
and Commercial Lines**

Consultation Document: V0.9

Centre for
Risk Studies



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Multi-Line Insurance Exposure Data Schema: Phase Three

Consultation Document v0.9

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Part A: Overview and Progress

1. A Standardised Multi-Line Insurance Exposure Data Schema

Cambridge Centre for Risk Studies (CCRS) and Risk Management Solutions (RMS) are coordinating the development of a data schema to capture insured exposure in the main lines of insurance business.

1.1. Aims and Objectives

The project will develop an open source multi-line data schema to capture the most significant lines of insurance across all geographical markets. The data standard will be agnostic to the platform on which it is implemented.

The proposed schema will provide a standard minimum set of exposure data fields that will enable insurance industry participants, both insurers and reinsurers, to:

- a) Provide a more comprehensive and standardised framework for monitoring and reporting exposure enterprise-wide and function as a system of record, for risk managers, brokers, consultants, and analysts;
- b) Improve interchanges of data between market players to refine risk transfer to reinsurers and other risk partners, reporting to regulators, and exchanging information for risk co-share, delegated authority, and bordereau activities;
- c) Apply accumulation risk model scenarios for classes of business that currently have less well-developed models available for them;
- d) Support clash model analysis for scenarios that impact multiple lines of insurance;
- e) Enable a new generation of models and risk analytics as well as expand the scope of potential risk management applications.

The schema will aid in the development of a more unified industry through increasing the capability for dialogue and cross communication.

2. Version 0.9 Document

This document requests feedback on the structure and dictionaries of a proposed exposure data schema for the Phase Three classes of insurance business:

- 3.1 Political & Security Risk
- 3.2 Annuities and Pensions
- 3.3 Personal Lines
- 3.4 Commercial Lines

This is the sixth consultation document and proposes a version 0.9 structure of the Phase Three classes of insurance for the exposure data schema. Through this document, we intend to solicit feedback from the insurance community and continue the dialogue in the schema's ongoing development and validation. We have connected with subject matter experts over the past several months to further develop and expand the phase three schema discussed here.

We are grateful for your feedback and recommendations, and ask that completed consultation documents be submitted to Kayla Strong (k.strong@jbs.cam.ac.uk) by June 5th 2018.

The schema structure for Phase Three classes of insurance starts on page 9 of this document.

3. Consultation Document Process

Version 0.1: Principles and Prioritisation

The first stage of the project involved setting out the key principles and prioritisation of the classes of business for development of the schema. The version 0.1 consultation document, available for download [here](#), describes

the objectives of the project, provides an overview of current market practice, reviews the wide range of existing and proprietary data schemas for different classes of insurance that are currently available and how a data schema can incorporate existing standards and current practice, and proposes a set of principles to be observed when designing the schema.

The v0.1 round of consultation is now closed and we greatly appreciate the feedback that we received and gratefully acknowledge the time and contributions from the various companies and individuals who worked with us to refine the objectives. We also thank those who attended workshops and participated in telephone interviews.

We incorporated the views and feedback from the v0.1 consultation into the planning, phasing, and structure of the proposed data schema.

Version 0.5: Outline Structure and Key Components

Version 0.5 of the proposed data schema provides an outline structure for each class of business and defines the main categories of exposure data for each class of insurance. We define these as 'dictionaries' – lists of categories that can be applied to accounts to describe and classify pertinent information for accumulation purposes. In version 0.5 we seek to identify all the dictionaries required, but do not attempt to define the content of each of these dictionaries – i.e. the fields and categorisation, lists of asset types, or attributes of the exposures and coverages. This work is completed in version 0.9.

Please note: we have condensed the V0.5 report for Phase three classes of insurance into the V0.9 report. This is in response to the depth of interviews we have had pertaining to the classes of insurance.

Version 0.9 Detailed Structure

Version 0.9 uses the data structure agreed after the version 0.5 consultation to propose the detailed content of a minimum data requirement specification for that class. This involves identifying the contents of each dictionary in the schema for that class of insurance: i.e. a full listing of all the categories of sub-types of insurance, coverages, insured assets, and their attributes. This document is the V0.9 detailed structure for the Phase 3 classes of insurance.

Version 1.0 Complete Schema

The feedback from the consultation of version 0.9 is consolidated into a final consensus and published as a Version 1.0 complete minimum data standard for each class of insurance.

Version 1.0 consists of complete listings of field values, reference tables, and definitions.

We expect there to be future versions of the schema for each class of insurance business, Versions 2 and beyond, that could add greater detail and granularity, evolve or extend the schema. At present, however, we propose to develop a minimum data requirement for exposure monitoring and accumulation risk management across many classes of insurance. We prioritise breadth (i.e. developing a standard and unified view across multiple classes of insurance business) over depth (i.e. the level of detail required to capture an insurance class).

4. Phasing of the Schema Development

The development of the exposure data schema is proceeding in phases:

Phase One

- 1.1 Casualty Liability
- 1.2 Marine
- 1.3 Energy
- 1.4 Aviation

Phase Two

- 2.1 Trade Credit
- 2.2 Surety
- 2.3 Life
- 2.4 Health
- 2.5 Agriculture
- 2.6 Specialised Underwriting Classes

Phase Three

- 3.1 Political and Security Risk
- 3.2 Annuities and Pensions
- 3.3 Personal Lines
- 3.4 Commercial Lines

4.1. Classes of Insurance with Existing Data Schemas

Existing data schemas already exist for other classes of insurance that are in use and widely adopted. A complete data schema for all classes of insurance will include these existing exposure types. These schemas will not be further refined or published as part of this project, but we recommend using existing current practice for:

- Commercial Property
- Residential Property
- Homeowner Property
- Cyber Insurance
- Workers Compensation

5. Principles

The following principles, agreed during the v0.1 consultation and afterwards, have guided the development of this exposure data schema. They are described in further detail in the v0.1, available [here](#).

- 1) Exposure and Accumulation Focus
- 2) As Simple as Possible
- 3) Make the Schema Hierarchical and Extensible
- 4) Asset Descriptions Combined with Insurance Coverage
- 5) Make the Data Schema Compatible with Other Standards as Far as Possible

6. Structure of Exposure Data Schemas

The schema proposes a set of information that can be applied to an individual policy. A policy is an insurance contract with an insured party, either an organisation or an individual. An insured party may represent an 'account' to an insurance practitioner, and an account may consist of several policies, possibly in different classes of insurance.

A policy may have additional schedules attached to it, such as lists of the assets or risk objects (such as people or products) that are being insured under that policy. The schema proposes a minimum set of attributes for each of the assets or risk objects on the schedule.

The schema for each class of business includes of a number of 'dictionaries', or lists of defined categories that can be applied to account holder, policy, asset or risk object details to describe and classify information about them for accumulation purposes. These dictionaries are defined in the schema structures for each class of insurance.

6.1. Information about the Insured (Account Holder)

The account holder is identified and categorised with other high-level information that is relevant to exposure management, such as the types of the activities and operations of the account holder.

The information about the insured is standard across all classes of insurance.

For some classes of insurance, such as casualty liability, the characteristics of the insured organisation are the key determinants of the exposure, so in these classes there is a more extensive set of information required regarding the insured.

6.2. Policy Contractual and Financial Structure

Contract information about the policy is captured, including financial structure, dates of coverage inception and expiration, and the legal jurisdiction in which claims or disputes are settled.

The policy-level financial structure requires information on policy total limit, deductible, co-share and attachment point.

Information on total limit is essential for exposure management. Financial structures for insurance policies can be complex. The data schema provides the capability for defining financial terms in addition to a policy total limit, deductible, co-share and attachment point to any grouping and permutations of individual items on asset types, asset attributes, or locations.

6.3. Type of Insurance

[Dictionary List]

Each policy is characterised by the type of insurance business within the class of insurance, sometimes referred to as a “line” of insurance business, although the term “line” is sometimes applied to the whole class of insurance. Insurance type is provided as a standardised list of categories, as a dictionary (i.e. a list of agreed types) for each class of insurance. Insurance type is the accepted segmentation of the market into the range of insurance products offered to cover sets of assets and insurance needs with appropriate coverages. These products are often written using common contractual templates that are typically modified and customised for specific client needs. The potential for the schema to identify the contractual template used is discussed below.

6.4. Insurance Coverage Type

For each type of insurance, the schema identifies the coverage type which would be applied, for example physical damage, third party liability, business interruption. There can be multiple types of coverages which can be applied to one type of insurance. In these cases, an individual record will be recorded for each coverage type. For example, within Marine classes of insurance, ports and terminals insurance provides both property damage cover, and business interruption cover. Another example is Commercial General Liability (CGL), which has three coverages: bodily injury and property damage liability, personal and advertising injury liability and medical payments cover. We would list each of these separately within the schema. These are listed in the same table as the type of insurance within this consultation document, to facilitate discussion on their appropriate association to individual sub-types of insurance.

6.5. Schedule of Insured Assets

The policy can include one or more schedules of assets (‘risk objects’) being insured under this policy. A schedule is a listing of individual assets. In some cases, only the largest assets will be individually listed on a schedule with all other unlisted assets covered in aggregate under the policy total. The more that individual assets can be specified, the more exposure can be managed with accuracy and confidence. The schema supports the market practice of having assets being described both as schedules of individual assets and aggregate cover for unlisted assets.

For each item in the schedule, the schema provides the capability to assign the following information.

6.5.1. Type of Asset

[Dictionary List - Specific to Class of Insurance or Type of Insurance]

A categorisation of the individual asset on the schedule from an agreed list of types. The proposed schema dictionary provides a hierarchical system of categorising the assets typically covered in the insurance type. We try to limit the dictionary to a maximum of 10 categories in the highest level of categorisation, with each of these categories potentially able to be further divided into 10 sub-categories. For the schema version 1.0 we propose to keep this categorisation as simple as possible and to limit the categorisation to a maximum of these 100 subdivisions wherever possible, only using a third layer of categorisation of type of asset where absolutely necessary.

6.5.2. Attribute of Asset

[Dictionary List - Specific to a Particular Type of Asset]

Each type of asset has a relevant listing of one or more standard attributes that have major exposure implications, and for which exposure managers might want to analyse and review their portfolio of insured assets. We try to limit the number of attributes for each type of asset to a maximum of 10.

Attributes can be numerical metrics, open or free text fields, or descriptive categories. Where an attribute is a descriptive field, we provide an agreed dictionary list of the options for the description categories. For version 1.0 we propose to limit the number of categories to a maximum of 10 categories in the highest level of categorisation, with the potential to further divide each category of asset attribute into 10 sub-categories in future versions of the schema.

6.5.3. Location of Asset

For individual assets that are in fixed locations, the physical location is a key attribute in determining its exposure to geospatial hazards and assists in exposure accumulation analysis and modelling of geographical perils. The schema captures the latitude and longitude coordinate of the geographical centroid of the asset, together with an assessment of the precision of that locator. The exposure data schema encourages the capture of geographical location information with the highest accuracy possible, using geocoding to the best precision available. Where geocoding is derived from address interpretation, for example knowing that the asset is within an administrative region, the centroid of the administrative region can be used. This location will be independent of the insured's location, which will be captured within the "Information about the Insured" Dictionary (Table 1). These dual locations support the exposure modelling of assets, while also preserving the insured's legal jurisdiction.

6.6. Inclusions and Exclusions

The schema provides the ability to include a full depiction of the causes of loss that are included in the coverage and excluded from it, as a schedule of inclusions and exclusions. Market practice is either the provision of All Risks coverage, sometimes accompanied by exclusion clauses for certain causes of loss (and write-backs where exclusions are reinstated), or the provision of Named Peril coverage, with an explicit contractual listing of specific causes of loss that are covered. There will be space provided within the schema where both the inclusions and exclusions can be listed, if needed.

Each type of insurance is often written using common contractual templates that are typically modified and customised for specific client needs. Different contractual templates are across the market, typically with US and European markets using different wording structures. We will provide a space where these wordings can be listed, referencing the insurer's specific amendments as needed.

Examples of contractual wording templates include:

- LMA 3030 (Terrorism Insurance Physical Loss or Physical Damage Wording)
- CL380 (Institute Cyber Attack Exclusion Clause)

- LMA5287 (Property & Plant Testing & Commissioning Clause)
- LMA5203 (Limited Nuclear Risk Exclusion Clause)
- NMA 464 (War and Civil War Exclusions Clause)

Part B: Schema Structure for Phase Three Classes of Business

This section describes the outline structure and key components of the exposure data schema for the following classes of insurance business:

- Political & Security Risk
- Annuities and Pensions
- Personal Lines
- Commercial Lines

Please review and comment on the proposed structure and where possible, propose content for the various dictionaries required.

7. Information about the Insured (Account Holder)

Information about the insured will be collected at a primary level, which various policies and lines of insurance can reference. We suggest that the information is desirable but not essential, and will be filled in as available. Additional user defined fields are available to account for specific organisational requirements.

Table 1: Information About the Insured

a) Name (Common)	
b) Full Legal Name	
c) Organisation Identifier Coding Information (DUNS Number)	
d) Unique identified (Insurance Organisation Specific)	
e) Size of company: Annual revenue	
f) Size of company: Total number of employees	
g) Size of company: Total Payroll	
h) Size of company: Annual Turnover	
i) Activity/Business Sector of Company, NAICS Code	i. 2012 Code
	ii. 2017 Code
j) Insurance Aggregation Business Sectors ¹	
k) Subsidiaries Schedule	
l) Counterparty Schedule	
m) Location	i. Street Address

¹ Insurance Aggregation Business Sector refers to the broad industry sector the insured fits best. This was initially developed during the Centre for Risk Studies Cyber Schema, and has proven a valuable reference for aggregation calculations.

	ii. City
	iii. State/County/Province
	iv. Country
	v. Zip/Postal Code
	vi. Longitude and Latitude or Location Well Known Text
	vii. Legal Jurisdiction
	n) Currency Units
o) Credit Rating (or schedule of credit ratings)	

A) Please comment on the proposed information about the insured, outlined above.

8. Policy Level Exposure Capture

The schema proposes a set of information that will be applied to each individual policy. A policy is an insurance contract with an insured. For commercial lines, the insured is an organisation. An insured may represent an ‘account’ to an insurance practitioner, and an account may consist of several policies.

The following information is proposed for each policy. The information is desirable but not essential, and will be filled in as available. Additional user defined fields are available to account for organisational specific requirements.

Table 2: Information About the Policy

a) Policy Number		
b) Office		
c) Division		
d) Insurance Product Name		
e) Class of Insurance		
f) Currency	i. Currency Date	
g) Claims Occurrence ²	i. Claims Made	
	ii. Occurrence	

² Claims occurrence refers to how the claim is launched or recognised. This is particularly important for liability coverage, which has different policies specific to each type of claim occurrence.

	iii. Occurrence Notified		
h) Claims Trigger Pathway ³	i. Causation		
	ii. Opening of a Construction Site		
	iii. Manifestation		
i) Civil legal liability exposure ⁴			
j) Policy Financial Structure	i. Total Insured Value		
	ii. Policy Co-share Percent		
	iii. Policy Attachment Point		
	iv. Policy Self Insured Retention (SIR)		
	v. Policy Deductible		
	vi. Total Policy Limit		
	vii. Total Limit Type	1. Split limit - limit per person	
		2. Split limit - limit per occurrence	
		3. Combined single limit	
	viii. Aggregate Limit		
	ix. Maximum any one life (MAOL)		
	x. Layer	1. Primary layer	
2. First excess layer			
3. Second excess layer			
4. Third excess layer			
xi. Policy Exposure (calculated field based on values above)			
xii. Payment Term	1. Maximum Credit Period		
	2. Maximum Extension Period		
	3. Stop Shipment Period		
k) Currency Units			

³ Claims Trigger pathway refers to how the claim occurs. This is particularly important for Trade Credit, which requires this level of detail for underwriting and risk aggregation.

⁴ For liability policies we want to capture the legal exposure of the policy which is a collection of various civil tort claims like wrongful act, breach of duty; wrongful act, error and omission; misstatement; breach of confidentiality, etc.

l) Inception Date		
m) Expiration Date		
n) Retroactive Date		
o) Fully Retroactive Policy? ⁵	(Yes or No)	
p) Cedent Name ⁶		
q) Coverage territory		
r) Location	i. Street Address	
	ii. City	
	iii. State/County/Province	
	iv. Country	
	v. Postal Code	
s) Named Peril(s)		
t) Inclusions Listing	i. LMA Wording	
	ii. Peril Listing	
u) Exclusions Listing	i. LMA Wording	
	ii. Peril Listing	
v) Terms and conditions		
w) Blanket coverage details	(text field)	

B) Please comment on the proposed information about the policy, outlined above.

⁵ Policies that are fully retroactive are termed historical coverage or full retroactive coverage.

⁶ Only where applicable.

9. Political and Security Risk Insurance

Political and Security Risk insurance provides risk transfer for potential loss from political events. Financial charges and losses can arise from political processes, whether through violent means or government action, which can interfere with organisational operations and trade. Losses can be due to physical damage and associated interruption, but may also extend to cover devaluation, contract frustration, and other financial impacts. As a coverage, Political and Security risk is often able to cover risks and perils which are typically excluded from standard commercial policies. The insurance promotes trade and business in unfamiliar or emerging markets, and plays a growing role in the insurance market.

9.1. Types of Insurance and Coverages within Political Risk and Security

[Dictionary: Political and Security Risk – Types of Insurance]

We classify political risk and security insurance by either security risk (crisis management) or political risk. This differentiation depends on whether confiscation risk is included within the coverage, which is reserved for political risk insurance. The dictionary lists the sub insurance types found within each category, and the associated coverage.

Table 3: Types of insurance within Political Risk and Security.

Insurance Type	Sub Insurance Type	Coverage
Security Risk/ Crisis Management	Political Violence	Physical Damage
		Contents
		Business Interruption
		Bodily Injury and Property Damage Liability
	Liability Terrorism	Bodily Injury and Property Damage Liability
		Legal Costs
		Environmental Liability
	Kidnap and Ransom	Emergency Evacuation Costs
		Consultancy Costs
	Maritime Piracy	Release of Ship
	Active Shooter	Business Interruption
		Physical Damage
		Physical Damage, Extra Expense
		Contents
	Nuclear, Biological, Chemical, Radiological (NBCR)	Physical Damage
		Contents
		Business Interruption
Bodily Injury and Property Damage Liability		
Contingency	Event Cancellation	

Political Risk	Political Risk	Physical Damage
		Contents
		Business Interruption
		Bodily Injury and Property Damage Liability
		Confiscation
		Expropriation
		Nationalisation
		Deprivation
		Forced abandonment / Divestiture
		Currency Inconvertibility (CI) and Transfer Restrictions/Exchange Transfer (ET)
		Contract Frustration
		Non-payment (Trade Credit)
	Import/Export Embargoes	
	Nuclear, Biological, Chemical, Radiological (NBCR)	Physical Damage
		Contents
Business Interruption		
Bodily Injury and Property Damage Liability		
Structure Trade Credit	Non-payment	
	Non-delivery	
	Non-honouring	

C) Please comment on the proposed types of political risk and security insurance and their associated coverages, outlined above.

9.2. Asset Types Covered by Political Risk and Security Insurance

Assets which can be covered by political risk and security insurance are unlimited due to the nature of the coverage. Broadly speaking, we believe that they can be categorised as either a person, a property item, or an event. We do not believe that they require a dictionary for identification. The policy information reflected in section 8 captures the information required for underwriting.

D) Please comment on the proposed decision of not having an asset dictionary specifically for Political Risk and Security insurance. Are you aware of broad asset categorizations used within Political Risk and Security Insurance?

9.3. Fixed Locations, Jurisdictions, and Geographical Area of Operation

[Dictionary: Political and Security Risk – Fixed Locations, Jurisdictions, and Geographical Area of Operation]

Fixed assets, such as housing property or events, can be individually located by latitude and longitude coordinates or a geospatial object to provide geo-referencing for risk analysis and exposure management. When considering mobile assets, such as people, location can be selected by the policy’s listed location, or the location of maximum duration.

E) Please comment if you feel this is sufficient. Is there anything else we need to consider?

9.4. Named Perils

[Dictionary: Political and Security Risk – Named Perils]

Named Perils play a specialized role in political risk and security insurance. Although perils are referenced in other schemas within the project, they are dependent within the political risk and security schema for shaping the policy, which heavily considers inclusions and exclusions. We propose the following named perils for use in Political and Security Risk Policies.

Table 4: Names Perils in Political and Security Risk Policies⁷

Act of Terrorism
Sabotage
Riots, Strikes and/or Civil Commotion
Malicious Damage
Insurrection, Revolution or Rebellion
Mutiny and/or Coup D'état
War and/or Civil War
Counter-insurgency

F) Please comment if this encompasses the predominant named perils within crisis management. Are there additional perils we should list?

⁷ Peril list based upon the Beazley Political Risk Physical Damage wording

G) Do you have any further suggestions or comments related to the political risk and security insurance?

10. Annuities and Pensions

Annuities and pensions facilitate the payment of savings over a pre-agreed time. Although similar in practice, annuities and pensions can be differentiated by the process they are established; Annuities are purchased in full, while pensions are contributed throughout one's life. Considering ownership, annuities are a private commercial agreement, while pensions can be arranged through either a government or a private employer. The insurers are often responsible for managing the pension on behalf of employers or individuals, and can effectively absorb the longevity risk.

Annuities and pensions operate differently than other insurance products, with different actors, partnerships, and structures. As a result, annuities and pensions have a variation of the structure described in the introduction.

10.1. Information About the Pensioner or Annuitant

Annuity and pension agreements require information about the insured individual or corporation. We propose the information needed for corporate level coverage is captured within Table 1: Information About the Insured

We propose that additional information may be captured for an individual. This is summarised in Table 5, below.

Table 5: Additional Insured Details: Pensioner and Annuitant

Date of Birth	
Nationality	
Location of Habitual Residence	Street Address
	City
	State/County/Province
	Country
	Postal Code
Gender	
Marital Status	Single
	Married/ Registered Civil Partnership
	Separated
	Divorced
	Widowed
Dependent Name	
National Insurance Number	
Single Contribution Value ⁸	
Regular Contribution Value ⁹	Frequency

⁸ If applicable

⁹ If applicable

Retirement Age ¹⁰	
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H) Please comment on the suggested information pertaining to the pensioner or annuitant. Is there additional information that should be included not listed above?

10.2. Types of Annuities and Pensions

Annuities and pensions are distinct yet closely related concepts. We identify the taxonomy of each independently.

Table 6: Types of Annuities

Annuity Deferral	Annuity Contingency	Annuity Variability
Deferred	Certain/ Guaranteed	Fixed
		Fixed Index/ Equity Index
		Variable
	Contingent	Fixed
		Fixed Index/ Equity Index
		Variable
Immediate	Certain/ Guaranteed	Fixed
		Fixed Index/ Equity Index
		Variable
	Contingent	Fixed
		Fixed Index/ Equity Index
		Variable

I) Please comment on the suggested types of annuities.

Table 7: Types of Pensions

Pension Type	Pension Sub-Type (1)	Pension Sub-Type (2)	Pension Sub-Type (3)
State Pension/ Public Pension			
Private Pension	Defined Contribution/ Money Purchase Pension Scheme	Employer Arranged	Executive pension plan
			Group personal pension
		Personally Arranged	Master trust pension
			Self-Invested Personal Pension (SIPP)
			Small Self-Administered Schemes (SSAS)
		Stakeholder pension	

¹⁰ If applicable

	Defined Benefit/ Final Salary/ Career Average	Workplace Arranged	
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J) Please comment on the suggested types of pensions.

K) Please comment on the Pensions and Annuities Schema. Is there any additional information required which has not been captured?

11. Personal Lines

Personal lines are a broad category which includes multiple lines of insurance. We propose these can be summarised as:

- i. Residential Property
 - a. Property Damage
 - b. Contents
- ii. Personal Auto
- iii. Personal Travel insurance
- iv. Personal Accident

This structure is inherently different than how we have previously considered lines during modelling, but suggests that this more closely aligns with how insurance portfolios are organised. This category sits in close conjunction with Section 12, Commercial Lines. The included lines of insurance are detailed below.

11.1. Residential Property

Residential property is insurance taken to cover residential property and contents damage.

We made the conscious decision from the outset of the project to use existing schemas. This is due to the wide number of pre-existing property schemas already in place within the industry.

11.2. Personal Auto

Auto insurance provides coverage for automobiles and the liabilities associated with their operation. Many jurisdictions legally require auto insurance to cover bodily injury liability and property damage liability.

i. Types of Insurance and Coverages within Auto

[Dictionary: Auto – Types of Insurance]

We propose that Auto insurance can be broadly classified by coverages. This is summarised in Table 8: Types of insurance and coverages within Personal Auto.

Table 8: Types of insurance and coverages within Personal Auto.

Type of Insurance	Sub-Type of Insurance	Coverages
Personal Auto	Personal Auto Policy (PAP)	Part A – Liability Coverage
		Part B – Medical Payments Coverage
		Part C – Uninsured Motorists and Underinsured Motorists Liability Insurance (UM/UIM)
		Part D – Damage to Your Auto
		Part E – Duties After an Accident or Loss
		Part F – General Provisions

L) Please comment on the proposed types of auto coverages, outlined above.

ii. Asset Types Covered by Auto Insurance

We propose asset types within auto can be classified in the following categories. Please note that this list has been adapted from the American National Standard’s “Manual on Classification of Motor Vehicle Traffic Accidents”, 2007 and HM Revenue & Customs’ “Classifying Vehicles, Parts and Accessories”, 2017.

Table 9: Types of asset within Personal Auto.

Asset Type	Asset Sub Type	Asset Sub Type (1)	
Bus	Van Sized Bus		
	Small Bus		
	Large Bus		
	School Bus		
	Other Bus		
Garage			
Motorcycle	Moped		
Other Automobile			
Other motor vehicle	Low Speed Vehicle	All-Terrain Vehicle	
	Tanks		
	Armoured vehicle		
Passenger Cars			
Truck	Light Truck		
	Medium Truck		
	Heavy Truck		
	Single Unit Truck		
	Truck Combination	Single Unit Truck and Full Trailer	
		Single Unit Truck and Semi-Trailer	
		Truck Tractor and Semi-Trailer	
Truck Tractor, Semi-Trailer and Full Trailer			
Utility Vehicle	Mini		
	Small		
	Midsize		
	Full-Size		
	Large		
Van	Cargo Van		
	Passenger Van		

M) Please comment on the proposed asset types covered by auto insurance.

iii. Auto Asset Attributes

To support the underwriting process, we propose the following attributes are required about the automotive asset.

Table 10: Personal Auto Asset Attributes

Asset	Asset Attribute
Automotive	Gross weight of vehicle
	Type of vehicle
	Vehicle use
	Policy holder's name
	Name of any declared person who can use the car
Garage	Type of Operations
	Type of Assets Held Onsite ¹¹
	Average Number of Assets Onsite

N) Please comment on the proposed asset attributes outlined. Are there additional attributes which are typically collected?

iv. Fixed Locations, Jurisdictions, and Geographical Area of Operation

[Dictionary: Auto Insurance – Fixed Locations, Jurisdictions, and Geographical Area of Operation]

Fixed assets, such as garages, can be individually located by latitude and longitude coordinates or a geospatial object to provide geo-referencing for risk analysis and exposure management. When considering mobile assets, which accounts for most auto assets, location can be selected by jurisdiction, the policy's listed location, or the location of maximum duration.

O) Please comment if you feel this is sufficient. Is there anything else we need to consider?

11.3. Personal Travel Insurance

Personal travel insurance provides coverage for unforeseen events which occur while traveling. A core component of travel insurance relates to travel health insurance, which provides health coverage while away from one's permanent jurisdiction.

i. Types of Insurance and Coverages within Personal Travel Insurance

[Dictionary: Personal Travel Insurance – Types of Insurance]

We propose that personal travel insurance can be broadly classified by type and coverage. We believe that the coverage is consistent for each type of insurance. Types of insurance are summarised in Table 11: Types of Personal Travel Insurance. Types of coverages are summarised in Table 12: Personal Travel Insurance Coverage Types.

¹¹ See Table 6: Types of asset within Auto for a comprehensive list of potential assets.

Table 11: Types of Personal Travel Insurance

Type of Insurance (Type of Traveller)	Sub Type of Insurance (Policy Type)	Sub Type of Insurance (2) (Destination)	Sub Type of Insurance (3) (Duration)
Individual	Single Trip	Worldwide Travel Insurance	Short Stay
			Long Stay
		Jurisdiction Specific Travel Insurance	Short Stay
			Long Stay
	Annual Multi Trip	World Wide Travel Insurance	
		Jurisdiction Specific Travel Insurance	
Multi-Person	Single Trip	Worldwide Travel Insurance	Short Stay
			Long Stay
		Jurisdiction Specific Travel Insurance	Short Stay
			Long Stay
	Annual Multi Trip	World Wide Travel Insurance	
		Jurisdiction Specific Travel Insurance	

Table 12: Personal Travel Insurance Coverage Types

Coverage	Sub Coverage
Package Plan (Comprehensive)	
Travel Medical Insurance	Evacuation
	Travel Accident
Specialty	Winter Sports Travel Insurance
	Backpackers Insurance
	Over 65s Travel insurance
Cancellation, Curtailment, Travel Disruption	
Personal Baggage, Business Items and Money	
Personal Liability	
Hi-jack, Kidnap and Kidnap for Ransom	

ii. Asset Types Covered by Personal Travel Insurance

We propose that when considering “assets” within personal travel insurance, we are describing the insured (a person). When considering personal group policies, individual asset tables will need to be created for each of the insured travellers.

P) Please comment on our recommendation of individual asset tables for travellers under a group policy. Does this align with the amount of information typically received for modelling purposes?

iii. Personal Travel Insurance Asset Attributes

A majority of the required information about the insured will be collected in Table 1: Information About the Insured. In addition to this information, we also suggest the attributes be stored, summarised in Table 13: Personal Travel Insurance Attributes.

Table 13: Personal Travel Insurance Attributes

Attribute	Sub Attribute
Gender	
Date of Birth	
Age	
Address	
Travel Jurisdiction	
Pre-existing/Chronic Conditions	

Q) Please comment on the proposed travel insurance asset attributes.

iv. Fixed Locations, Jurisdictions, and Geographical Area of Operation

[Dictionary: Personal Travel Insurance – Fixed Locations, Jurisdictions, and Geographical Area of Operation]

Geography and jurisdiction plays a fundamental role for personal travel insurance, yet often suffers from a distinct lack of detail. We propose that the jurisdiction identified within the asset attributes is the location used during risk modelling. For multiple trips or worldwide policies, this is potentially not an option, and geography may not be available.

R) Please comment if you feel this is sufficient. Is there anything else we need to consider or alternatives that are used in practice?

11.4. Personal Accident Insurance

Accident insurance is essentially a lump sum of money which is paid in the case of a sudden accident. The money is given to the insured and can be used to help pay for medical expenses or funeral costs. We understand that accident insurance can either be taken out as a stand-alone policy, or as a benefit included within another product. Within the GEAC schema, it is maintained as an independent line of insurance.

Accident insurance can be purchased as a group insurance policy or personal insurance policy. Typically group insurance policies are purchased by employers, whilst personal accident insurance is purchased by individuals for their own use. We discuss group accident insurance within the commercial lines of insurance section. This starts on page 31.

i. Types of Personal Accident Insurance

We suggest that there are no further sub-types of personal accident insurance. We suggest the following coverages are available within personal accident insurance:

Table 14: Personal Accident Coverage Types

Coverage Types
Death
Funeral Expenses
Permanent total disablement
Permanent partial disablement
Temporary total disablement
Temporary partial disablement
Medical Expenses

S) Are you aware of any further differentiation in types or additional coverages in Personal Accident Insurance?

ii. Asset Types Covered by Personal Accident Insurance

The individual receiving the coverage is the asset within the policy.

iii. Personal Accident Insurance Asset Attributes

We propose the following information is captured regarding the insured individual. We recognise that the amount of information available will vary depending on policy type, and recommend information is included as it is provided to the insurer. What is listed below is considered the minimum information required.

Table 15: Personal Accident Asset Attributes

Asset Attributes
Name
Date of Birth
Location
Sex

T) Please comment if additional information is collected regarding the insured employees.

iv. Fixed Locations, Jurisdictions, and Geographical Area of Operation

We assume location will be the same as the location listed in Table 24: Group Accident Employee Attributes. If an alternative location is required, it can be identified in this section.

U) Please comment on the geographic information required for Group Accident Insurance? How is location typically represented?

12. Commercial Lines

Commercial lines are a broad category which includes multiple lines of insurance. We propose these can be summarised as:

- i. Commercial Property
 - a. Property Damage
 - b. Business Interruption
 - c. Contents
- ii. Commercial Auto
- iii. Business Travel insurance
- iv. Group Accident

This structure is inherently different than how we have previously considered lines during modelling, but suggests that this more closely aligns with how insurance portfolios are organized. This category sits in close conjunction with Section 11, Personal Lines. The included lines of insurance are detailed below.

12.1. Commercial Property

Commercial property is insurance taken to cover commercial property, business interruption, and contents damage.

We made the conscious decision from the outset of the project not to pursue a property schema. This is due to the wide number of pre-existing property schemas already in place within the industry.

12.2. Commercial Auto

Auto insurance provides coverage for automobiles and the liabilities associated with their operation. Many jurisdictions legally require auto insurance to cover bodily injury liability and property damage liability.

i. Types of Insurance and Coverages within Auto

[Dictionary: Auto – Types of Insurance]

We propose that Auto insurance can be broadly classified by both type of insurance and coverages. This is summarised in Table 16: Types of insurance and coverages within Commercial Auto.

Table 16: Types of insurance and coverages within Commercial Auto.

Type of Insurance	Sub-Type of Insurance	Coverages	Sub Coverage	
Commercial Auto Insurance Commercial Car Insurance Truck Insurance Fleet Insurance	Business Auto Coverage	Property Damage Liability		
		Bodily Injury Liability		
		Physical Damage	Comprehensive Physical Damage Coverage Collision Coverage	
		Auto Medical Payments		
		Uninsured and Underinsured Motorist Coverage		
	Garage Coverage	Liability Coverage		Garage Operations Non-Auto Loss Exposure
			Garage Keepers Coverage	
		Physical Damage Coverage		
		Motor Carrier Coverage	Motor Carrier Coverage	

V) Please comment on the proposed types of auto insurance and their associated coverages, outlined above.



ii. Asset Types Covered by Commercial Auto Insurance

We propose asset types within auto can be classified in the following categories. Please note that this list has been adapted from the American National Standard’s “Manual on Classification of Motor Vehicle Traffic Accidents”, 2007 and HM Revenue & Customs’ “Classifying Vehicles, Parts and Accessories”, 2017.

Table 17: Types of asset within Commercial Auto.

Asset Type	Asset Sub Type	Asset Sub Type (1)	
Bus	Van Sized Bus		
	Small Bus		
	Large Bus		
	School Bus		
	Other Bus		
Garage			
Motorcycle	Moped		
Other Automobile			
Other motor vehicle	Low Speed Vehicle	All-Terrain Vehicle	
	Tanks		
	Armoured vehicle		
Passenger Cars			
Truck	Light Truck		
	Medium Truck		
	Heavy Truck		
	Single Unit Truck		
	Truck Combination	Single Unit Truck and Full Trailer	
		Single Unit Truck and Semi-Trailer	
		Truck Tractor and Semi-Trailer	
Truck Tractor, Semi-Trailer and Full Trailer			
Utility Vehicle	Mini		
	Small		
	Midsize		
	Full-Size		
	Large		
Van	Cargo Van		
	Passenger Van		

W) Please comment on the proposed asset types covered by auto insurance.

iii. Auto Asset Attributes

The sub-type of insurance dictates to the asset attribute collected. This is summarised within Table 18: Commercial Auto Asset Attributes.

Table 18: Commercial Auto Asset Attributes

Sub-type of Insurance	Asset	Asset Attribute
Business Auto Coverage	Automotive	Type of Insured Motor Vehicle
		Covered Auto Symbols Number ¹²
Garage Coverage	Garage	Type of Operations
		Type of Assets Held Onsite ¹³
		Average Number of Assets Onsite
Motor Carrier Coverage	Truck	Type of Operation
		Type of Asset Used
		Average Number of Assets Inventory
		Average number of Trips per Year
		Average Length of Trip
		Jurisdiction of Trips

Table 19: Covered Auto Symbols for Commercial Auto

Symbol Number	Coverage Range
1	Any Auto
2	Owned Autos Only
3	Owned Private Passenger Autos Only
4	Owned Autos Other Than Private Passenger Autos Only
5	Owned Autos Subject to No-Fault
6	Owned Autos Subject to a Compulsory Uninsured Motorist Law
7	Specifically Described Autos
8	Hired Autos Only
9	Non-owned Autos Only
19	Mobile Equipment Subject to a Motor Vehicle Insurance Law

¹² Covered auto symbols identify the type of coverage applied to commercial autos, ranging from specific coverage to broad coverage. These symbols are listed in Table 9: Commercial Auto Asset Attributes

¹³ See Table 6: Types of asset within Auto for a comprehensive list of potential assets.

X) Please comment on the proposed asset attributes outlined. Are there additional attributes which are typically collected?

iv. Fixed Locations, Jurisdictions, and Geographical Area of Operation

[Dictionary: Auto Insurance – Fixed Locations, Jurisdictions, and Geographical Area of Operation]

Fixed assets, such as garages, can be individually located by latitude and longitude coordinates or a geospatial object to provide geo-referencing for risk analysis and exposure management. When considering mobile assets, which accounts for most auto assets, location can be selected by jurisdiction, the policy's listed location, or the location of maximum duration.

Y) Please comment if you feel this is sufficient. Is there anything else we need to consider?

12.3. Business Travel insurance

Business travel insurance provides coverage for unforeseen events that occur while traveling for business. A core component of travel insurance relates to travel health insurance, which provides health coverage while away from one's permanent jurisdiction.

i. Types of Insurance and Coverages within Business Travel Insurance

[Dictionary: Business Travel Insurance – Types of Insurance]

We propose that business travel insurance can be broadly classified by type and coverage. We believe that the coverage is consistent for each type of insurance. Types of insurance are summarised in Table 20: Types of Business Travel Insurance. Types of coverages are summarised in Table 21: Business Travel Insurance Coverage Types

Table 20: Types of Business Travel Insurance

Type of Insurance (Destination)	Sub Type of Insurance (Duration)
Worldwide Travel Insurance	Short Stay
	Long Stay
Jurisdiction Specific Travel Insurance	Short Stay
	Long Stay

Table 21: Business Travel Insurance Coverage Types

Coverage	Sub Coverage
Package Plan (Comprehensive)	
Travel Medical Insurance	Evacuation
	Travel Accident
Cancellation, Curtailment, Travel Disruption	
Employee Replacement Expenses	
Personal Baggage, Business Items and Money	
Personal Liability	

Hi-jack, Kidnap and Kidnap for Ransom	
Winter Sports	

ii. Asset Types Covered by Business Travel Insurance

We propose that when considering “assets” within business travel insurance, we describe the insured person.

Z) Please comment on our recommendation of individual asset tables for travellers under a group policy. Does this align with the amount of information typically received for modelling purposes? Or may multiple persons be captured as one asset when considering personal travel insurance?

iii. Business Travel Insurance Asset Attributes

The information about the insured, captured in Table 1: Information About the Insured, will be specific to the issuing organisation, or company taking out the insurance policy. The individual assets’ information would likely differ. We summarise the attributes required below.

Table 22: Business Travel Insurance Attributes

Attribute	Sub Attribute
Name	
Gender	
Date of Birth	
Age	
Address	
Travel Jurisdiction	
Pre-existing/Chronic Conditions	

AA) Please comment on the proposed travel insurance asset attributes. Would pre-existing or chronic conditions be recorded within a business travel insurance policy?

iv. Fixed Locations, Jurisdictions, and Geographical Area of Operation

[Dictionary: Personal Travel Insurance – Fixed Locations, Jurisdictions, and Geographical Area of Operation]

Geography and jurisdiction plays a fundamental role for personal travel insurance, yet often suffers from a distinct lack of detail. We propose that the jurisdiction identified within the asset attributes is the location used during risk modelling. For multiple trips or worldwide policies, this is potentially not an option, and geography may not be available.

BB)Please comment if you feel this is sufficient. Is there anything else we need to consider or alternatives which are used in practice?

12.4. Group Accident Insurance

Accident insurance is essentially a lump sum of money which is paid in the case of a sudden accident. The money is given to the insured and can be used to help pay for medical expenses, funeral costs, cover absences and rehire staff. We understand that accident insurance can either be taken out as a stand-alone policy, or as a benefit included within another product. Within the GEAC schema, it is maintained as an independent line of insurance.

Accident insurance can be purchased as a group insurance policy or personal insurance policy. Typically group insurance policies are purchased by employers, whilst personal accident insurance is purchased by individuals for their own use. We discuss personal accident insurance within the personal lines of insurance section. This starts on page 23.

v. Types of Group Accident Insurance

We suggest that there are no further sub-types of group accident insurance. We suggest the following coverages are available within the group accident insurance:

Table 23: Group Accident Coverage Types

Coverage Types
Death
Funeral Expenses
Permanent total disablement
Permanent partial disablement
Temporary total disablement
Temporary partial disablement
Medical Expenses

CC)Are you aware of any further differentiation in types or additional coverages of Group Accident Insurance?

vi. Asset Types Covered by Group Accident Insurance

We propose that the employees within the organisation are the assets within the policy. Each insured employee requires an individual record.

DD) Please comment on our recommendation of viewing each employee as individual assets. Does this align with your current practice?

vii. Group Accident Insurance Asset Attributes

We propose the following information is captured regarding each employee. We recognise that the amount of information available will vary depending on policy type, and recommend information is included as it is provided to the insurer.

Table 24: Group Accident Employee Attributes

Employee Attributes
Name
ID Number
Date of Birth
Location
Occupation
Sex

EE) Please comment if additional information is collected regarding the insured employees.

viii. Fixed Locations, Jurisdictions, and Geographical Area of Operation

We assume location will be the same as the location listed in Table 24: Group Accident Employee Attributes. If an alternative location is required, it can be identified in this section.

FF) Please comment on the geographic information required for Group Accident Insurance? How is location typically represented?

Feedback

Thank you for taking part in the Phase 3 version 0.9 consultation for the development of a multi-line insurance data schema.

We will credit the individuals and organisations who have assisted in the development of the schema in the final publication. If you are comfortable with being credited, please provide your name, job title and organisation, and list any colleagues who assisted and who should be credited.

Please list the names, job titles, and organisation of people who helped with responses to this consultation.

Please email your completed consultation document by June 5th, 2018 to:

Kayla Strong
Research Assistant

Centre for Risk Studies at University of Cambridge.
Email: k.strong@jbs.cam.ac.uk

References

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