

SIF NZ DATA MODEL – STUDENT, STAFF & WHĀNAU OVERVIEW - v0.1

A primary goal for SIF New Zealand is to build a New Zealand flavour of SIF Data Model that is largely based on the SIF Australia data model. The structures describing Staff, Students, and Student's whānau members are taken directly from the SIF AU data model.

1 Conceptual Data Model

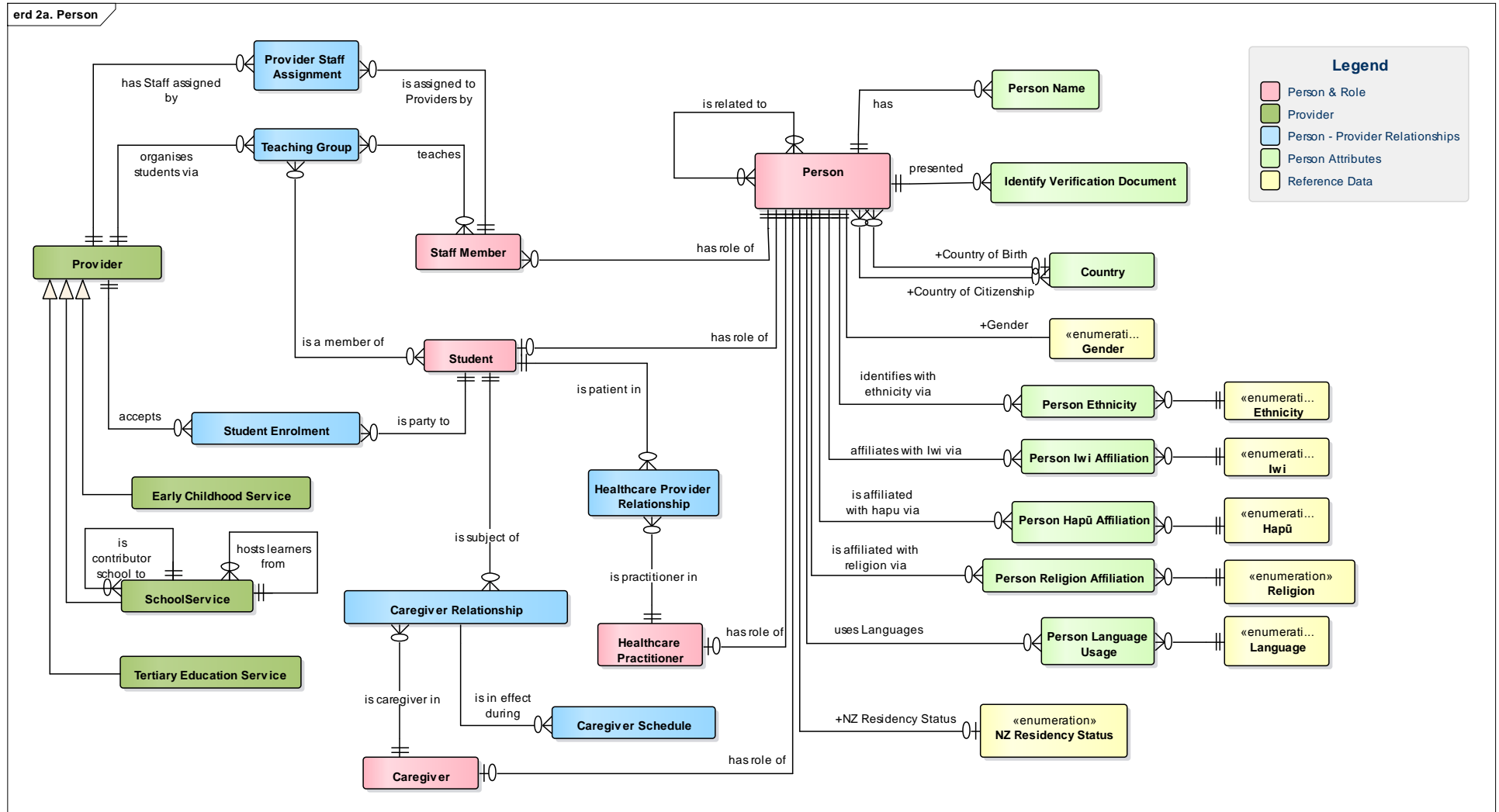


Figure 1: Person Roles & Demographics - Conceptual Model

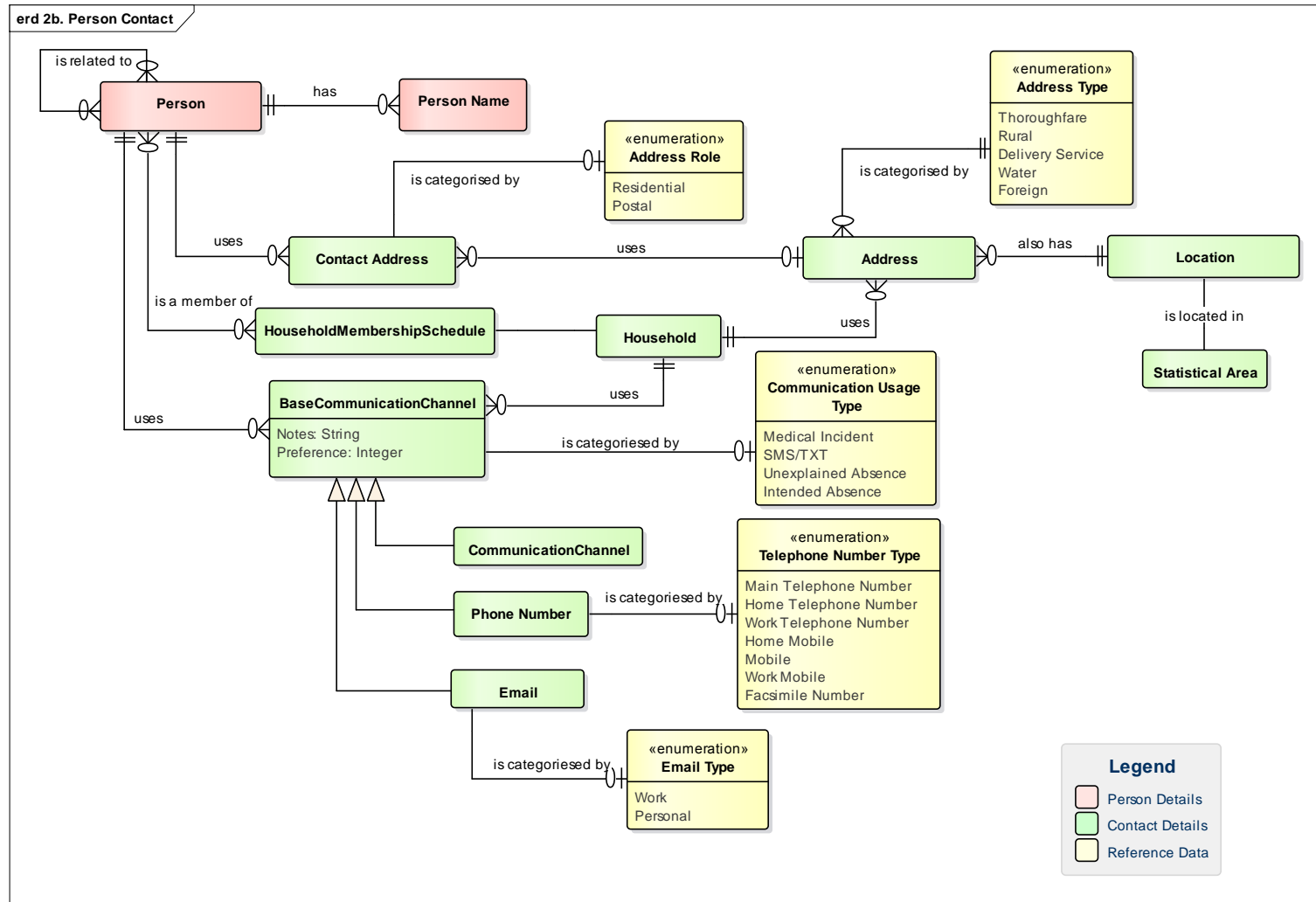


Figure 2: Person Address, & Contact Details – Conceptual Model

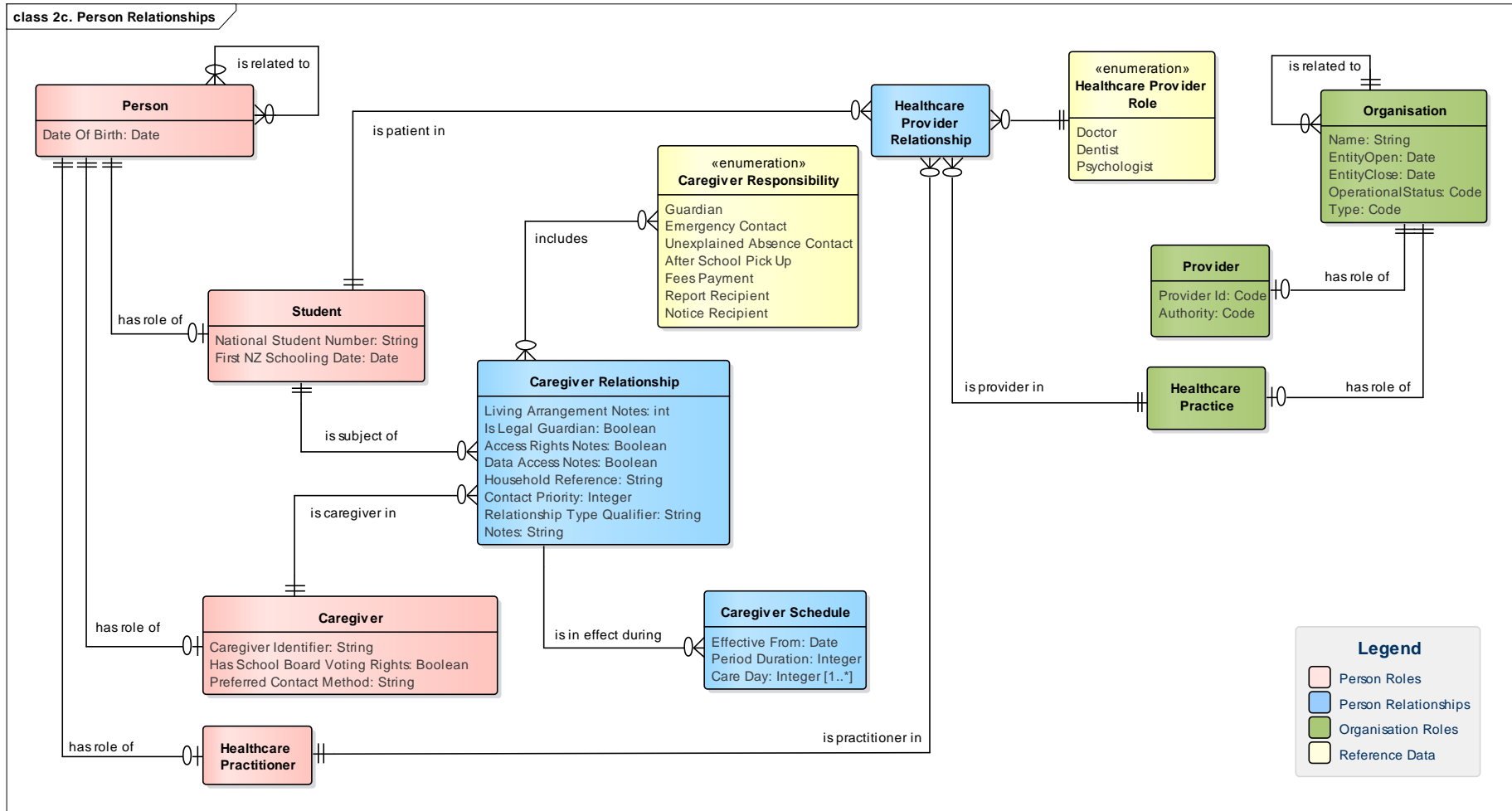


Figure 3: Person Relationships – Conceptual Model

1.1.1 Person Roles & Relationships

While a traditional Person-Organisation structure as shown in Figures 1 through 3, describes all the People and Organisations involved in the education system; it is only appropriate to record full details (eg. alternative names, citizenship, residency and other demographic data) about Students. The details recorded about staff, and students' caregivers are limited to current name, address and contact details.

1.1.2 Healthcare Practitioners.

While the conceptual model proposes describing a Student's healthcare practitioners as separate data objects, early versions of the SIF NZ data model will only be recording student's healthcare practitioners as unstructured data held in Wellbeing Characteristic data objects.

1.1.3 Contact via Household

Many addresses and other contact methods are shared by all the people who live in a particular household; although not all of a person's contact methods are connected via the households they are a member of.

We recognise that modern complex family relationships exist whereby children live with different caregivers on different nights of the week; this leads to a more complex person contact conceptual model. The CaregiverSchedule and HouseholdMemberSchedule entities are introduced in the conceptual data models to support this complexity.

1.1.4 Communication Channel

The SIF AU Data Model provides for contact mechanisms using specific types – address, phone, and email. To provide for additional potential contact mechanisms (eg Facebook page, Twitter handle for a person) it was suggested that all contact mechanisms could be represented more generically using CommunicationChannel (except for address which requires its own specific definition).

However replacing phone and email definitions would represent too large a departure from the existing SIF model. Instead it was decided to continue to represent address, phone and email using the existing SIF constructs. CommunicationChannel has been introduced and allows for future requirements for any new channels for an organisation (eg Facebook page, Twitter account).

1.1.5 Address & Geospatial Location

The SIF NZ Data Model departs from the SIF AU Data Model, as it does not break Address down into separate fields for street number, street name, street type, prefix & suffix. A simple Line1, Line2, Line3, Suburb, City, State & Country structure is sufficient for all known integrations.

The Address and Location structure is included as depicted in Figure 1, whereby Organisations use Addresses, and operate from Locations. While Locations have an Address, not all Addresses refer to Locations. (ref: P O Box, Private Bag and other classes of service address that don't denote any particular geographic location).

Each Location is located in a number of Statistical Areas, one of each spatial area type defined by Statistics New Zealand in Figure 4:

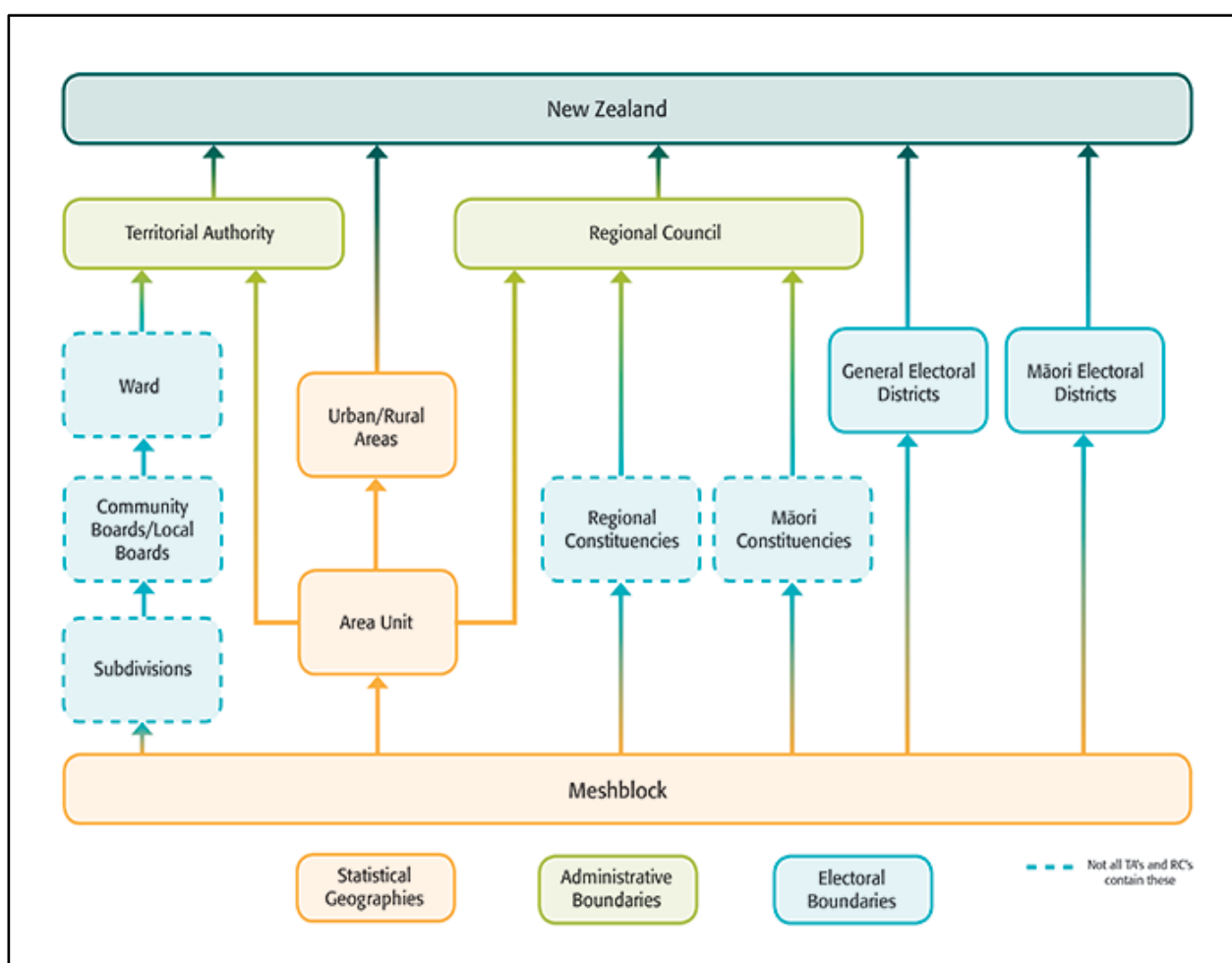


Figure 4: Spatial Area Types – ex Stats New Zealand

The SIF NZ Data Model spatial area type enumeration recognises the following spatial area types:

Code	Description	Definition per Stats NZ
AE	Area Unit	Area units are aggregations of meshblocks. They are non-administrative areas that are in between meshblocks and territorial authorities in size. Area units must either define or aggregate to define, regional councils, territorial authorities and urban areas.
GE	General Electoral District	The general electoral districts as constituted under the Electoral Act 1993.
CB	Community Board (aka Local Board within Auckland)	Local boards provide governance at the local level within Auckland Council. They enable democratic decision making by, and on behalf of communities within the local board area.
ME	Māori Electoral District	Māori electoral districts are the voting districts for parliamentary elections for people who choose to be on the Māori Electoral Roll.
MB	Mesh Block	A meshblock is the smallest geographic unit for which statistical data is collected and processed by Statistics New Zealand. A meshblock is defined by a geographic area, which can vary in size from part of a city block to a large area of rural land. Each meshblock borders on another to form a network covering all of New Zealand, including coasts and inlets and extending out to the 200-mile economic zone.

Code	Description	Definition per Stats NZ
RC	Regional Council	The Local Government Act 2002 requires the boundaries of regions to conform as far as possible to one or more water catchments. When determining regional boundaries, the Local Government Commission gave consideration to regional communities of interest when selecting water catchments to be included in a region. It also considered factors such as natural resource management, land use planning and environmental matters.
TA	Territorial Authority	A territorial authority is defined under the Local Government Act 2002 as a city council or district council. There are 67 territorial authorities consisting of 12 city councils, 53 districts, Auckland Council, and Chatham Islands Council.
UA	Urban Area	Urban Areas are statistically defined areas with no administrative or legal basis. There is a three part hierarchical sub-division of urban areas into: main urban areas, secondary urban areas, minor urban areas. Together the populations in main, secondary and minor urban areas comprise the statistically defined urban population of New Zealand. The urban area classification is designed to identify concentrated urban or semi-urban settlements without the distortions of administrative boundaries.
WA	Ward	Wards are defined under the Local Electoral Act 2001 and result from the division, for electoral purposes, of the district of a territorial authority. The ward system was designed to allow for the recognition of communities within a district and to increase community involvement in the local government system.

The actual spatial areas code values recognised by the SIF NZ Data Model, when representing a statistical area are defined by Stats New Zealand in the following standards:

Statistical Area Type	Referenced Standard
Area Unit	<u><i>Statistics NZ Classification of Area Unit</i></u>
General Electoral District	<u><i>Statistics NZ General Electoral District</i></u>
Community Board	<u><i>Statistics NZ Community Board (codes 07601 - 07621)</i></u>
Māori Electoral District	<u><i>Statistics NZ Māori Electoral District</i></u>
Mesh Block	<u><i>Statistics NZ Statistical Standard for Meshblock</i></u>
Regional Council	<u><i>Statistics NZ Regional Council</i></u>
Territorial Authority	<u><i>Statistics NZ Territorial Authority</i></u>
Urban Area	<u><i>Statistics NZ Urban Area</i></u>
Ward	<u><i>Statistics NZ Ward</i></u>

NOTE: The SIF NZ Data Model does not include enumeration code sets for these externally defined codes. Implementation projects should investigate making use of the Code Sets Registry capability defined by the SIF Global Infrastructure, to make these code sets available to any particular implementation of the SIF Data Model.

2 Logical Data Model

The concepts introduced in the conceptual models above are realised in the StudentPersonal, StudentContactPersonal, StudentContactRelationship, StaffPersonal, StaffAssignment and TeachingGroup data objects. The StudentPersonal, StaffPersonal and StudentContactPersonal data objects are constructed re-using a number of common data types, to ensure consistency across the SIF NZ data model:

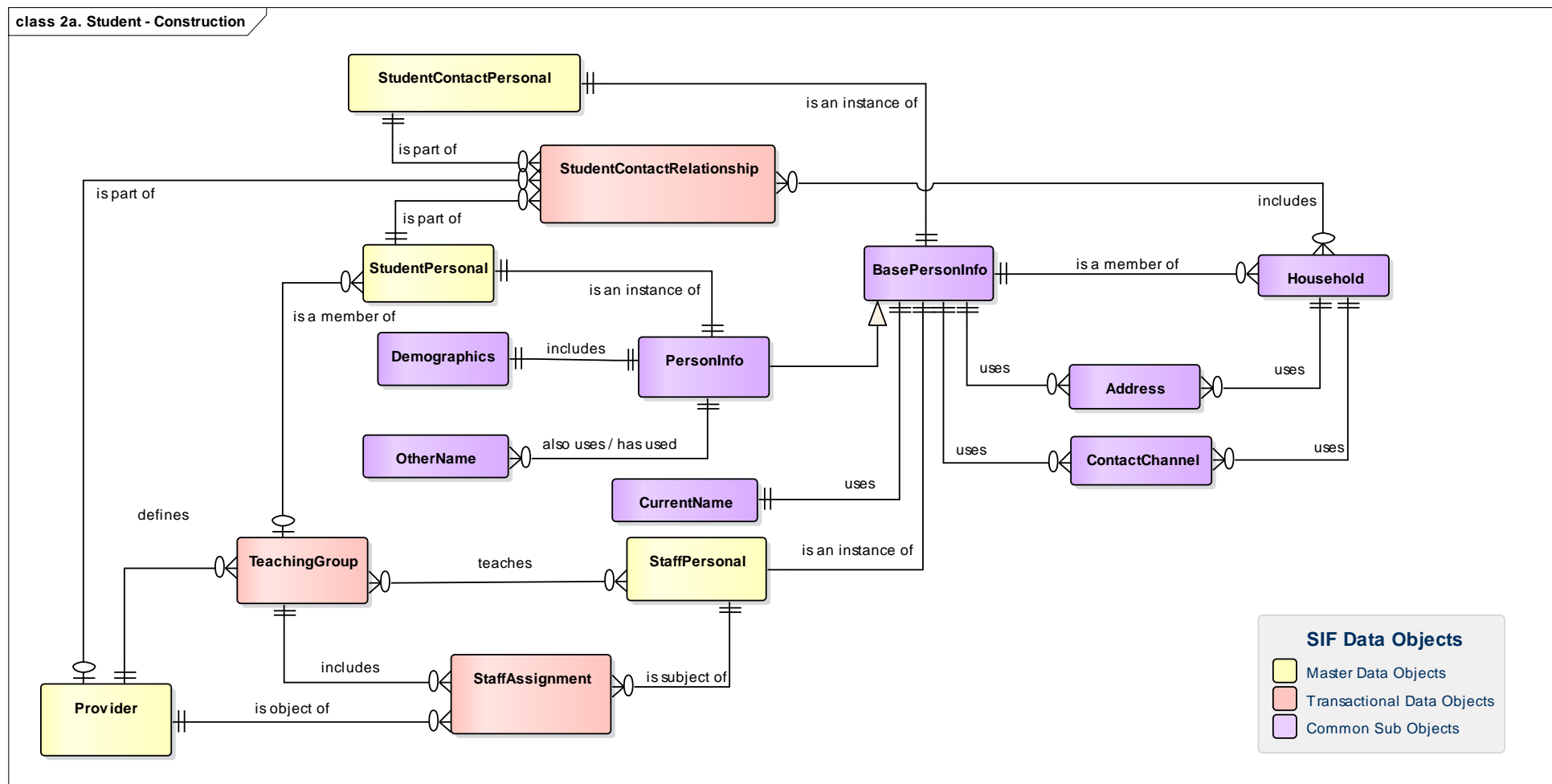


Figure 5: Student, Staff & Whānau - Logical Model

2.1 PersonInfo & BasePersonInfo

Because systems collect less information about staff and student whānau members (eg: OtherNames, and Demographic information is not collected for these classes of person), the PersonInfo common type of the SIF AU data model, is divided into PersonInfo and BasePersonInfo common objects. In the SIF NZ data model; the StudentContactPersonal data object uses the full PersonInfo common type, while StudentContactPersonal and StaffPersonal data objects are restricted to the subset of fields defined in BasePersonInfo common type.

2.2 Person contact information & households

The multiple relationships that BasePersonInfo and StudentContactRelationship have with Household mean the SIF NZ data model supports a considerable number of mechanisms for attaching address and contact channel information to Students, their whānau and Staff.

SIF NZ Data Object	Contact Information:
StudentPersonal	Data object includes: <ul style="list-style-type: none"> • AddressList, PhoneList, & EmailList fields • HouseholdContactInfoList which can either define a household or reference a previously defined household. • Can use neither, instead using the Household reference from the StudentContactRelationship data object.
StudentContactPersonal	Data object includes: <ul style="list-style-type: none"> • AddressList, PhoneList, & EmailList fields • HouseholdContactInfoList which can either define a household or reference a previously defined household. • Can use neither, instead using the Household reference from the StudentContactRelationship data object.
StudentContactRelationship	Data object includes: <ul style="list-style-type: none"> • HouseholdList which can reference a previously defined household (on either StudentPersonal or StudentContactPersonal data objects)
StaffPersonal	Data object includes: <ul style="list-style-type: none"> • AddressList, PhoneList, & EmailList fields • HouseholdContactInfoList which can either define a household or reference a previously defined household.



It is up to individual SIF implementation projects to decide which of these mechanisms are to be used in any particular implementation. Options include:

- Address, Phone & Email list fields directly on all three person role data objects.
- Address, Phone & Email list fields directly on StaffPersonal data object; and via household on StudentPersonal and StudentContactPersonal data objects.
- Directly on StaffPersonal, via household for StudentPersonal data objects, and via StudentContactRelationship household for whānau members.
- Vice versa, directly on StaffPersonal, via household for StudentContactPersonal data objects, and via StudentContactRelationship household for students.

3 Student Personal Data Object

From the conceptual and logical models presented above, the StudentPersonal data object is implemented (with StudentPersonal and StudentPersonals as the matching API endpoints), with structure as depicted:

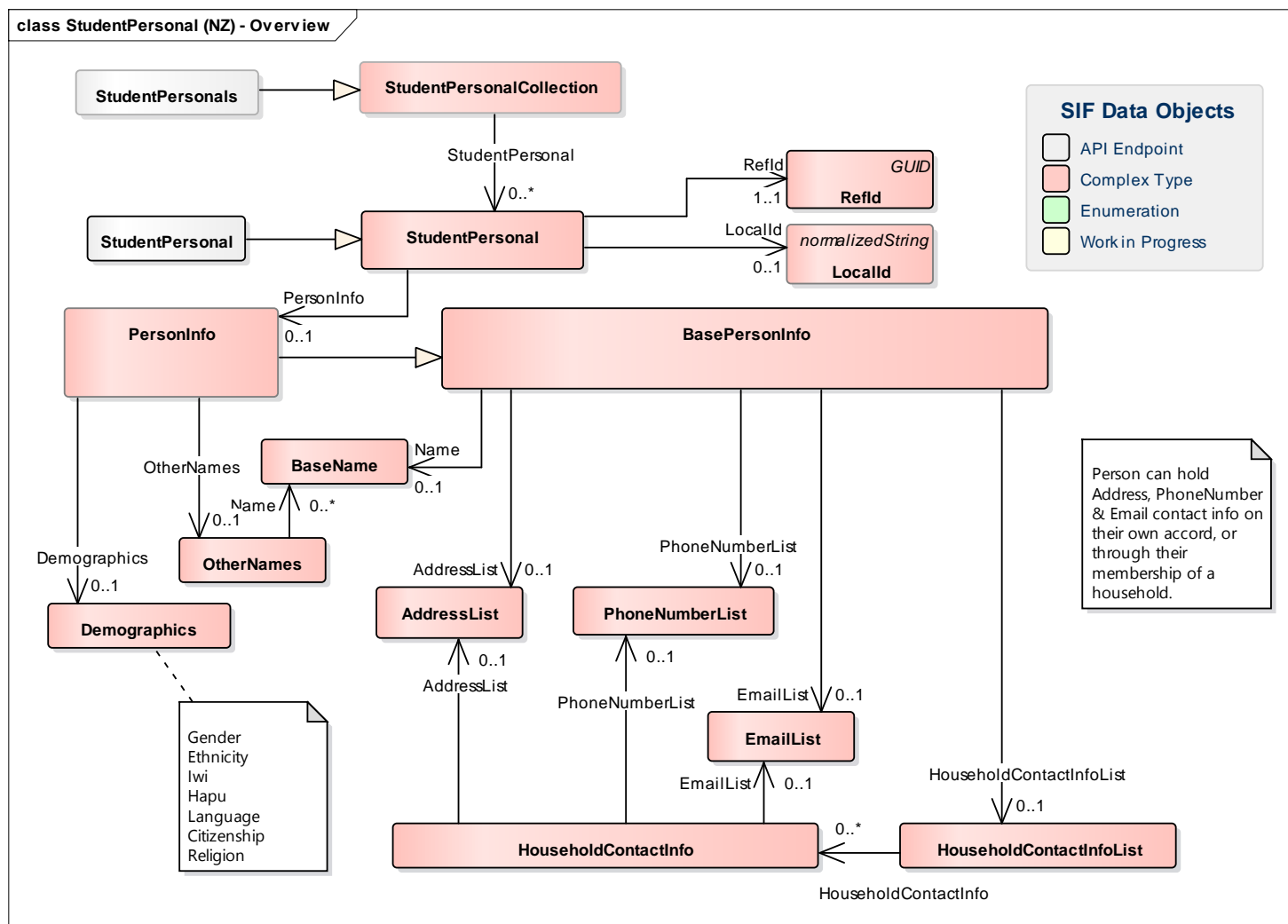


Figure 6: StudentPersonal Data Object

3.1 Student Personal – Core Identity

The core identity data of Students is collected via the StudentPersonal person Info structure:

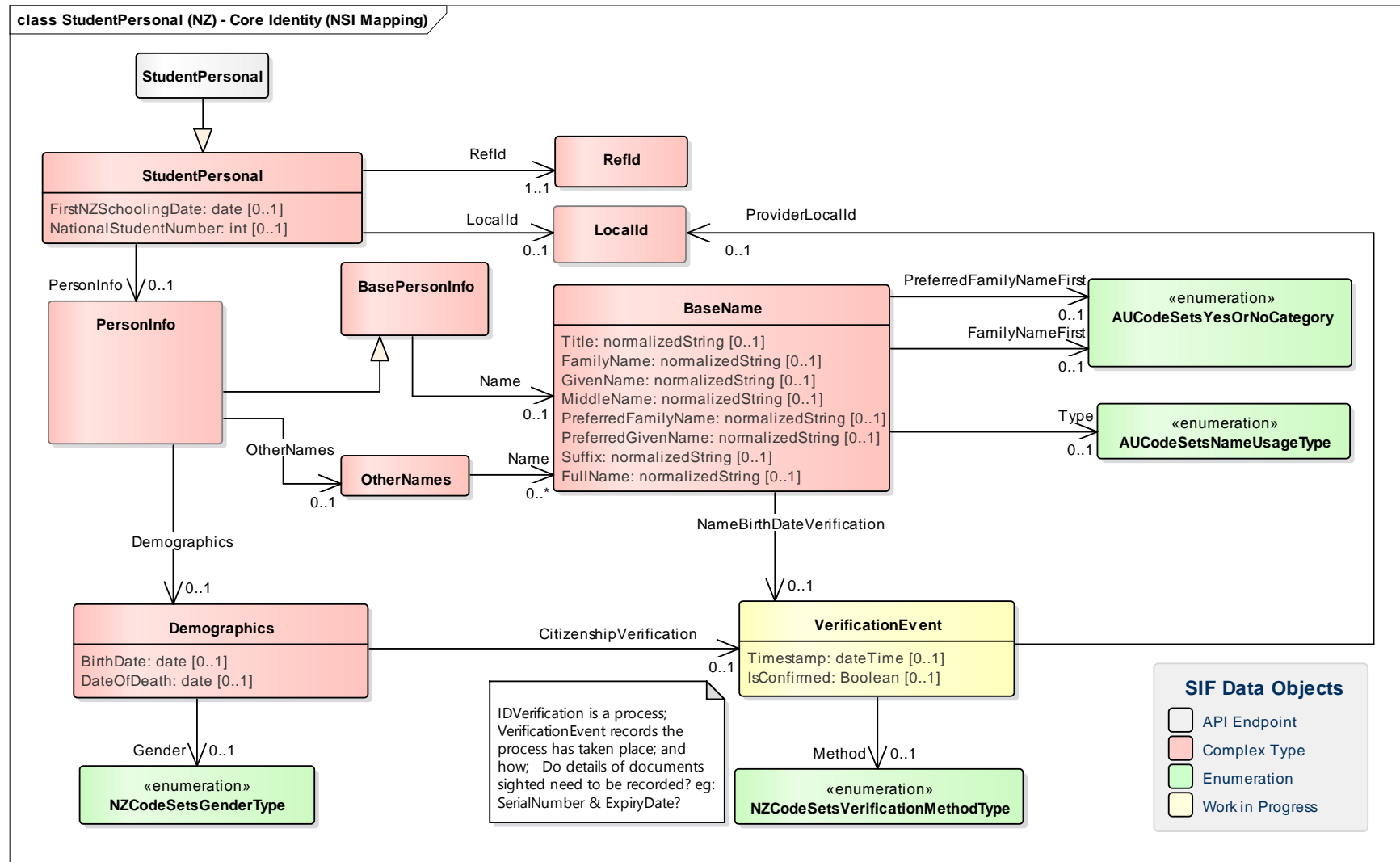


Figure 7: Student Personal - Core Identity

3.3 Student Personal – Demographics

Demographic data is only collected about Students. It is not collected about Staff or Student's Whānau.

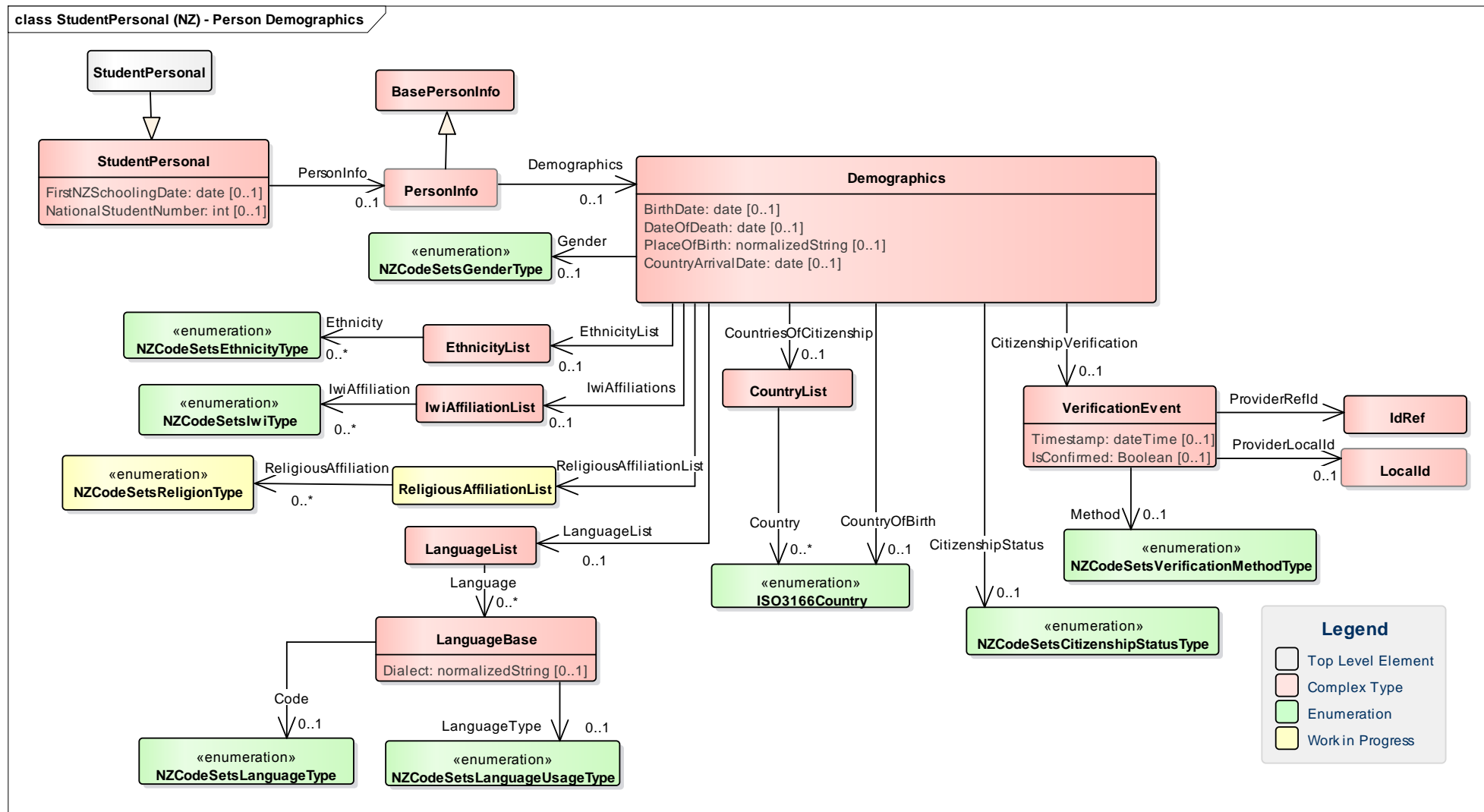


Figure 9: Student Contact - Demographics

4 Student Contact Personal Data Object

Student's whānau members are recorded using the StudentContactPersonal data object (with API endpoints):

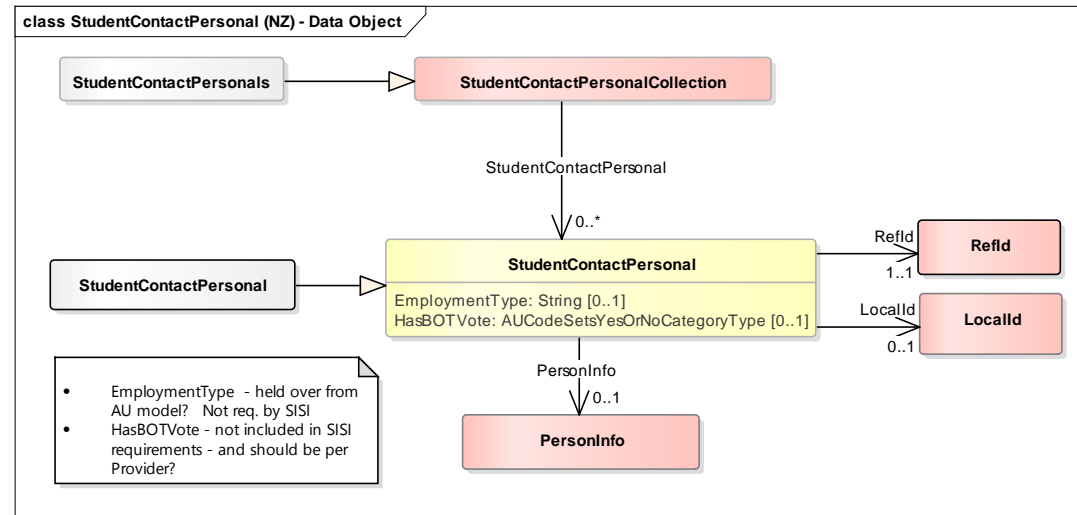


Figure 10: Student Contact Personal Data Object

4.1 Student Contact Personal – Details

Complexity around multiple names, and demographics that are recorded about Students, are not recorded about StudentContacts.

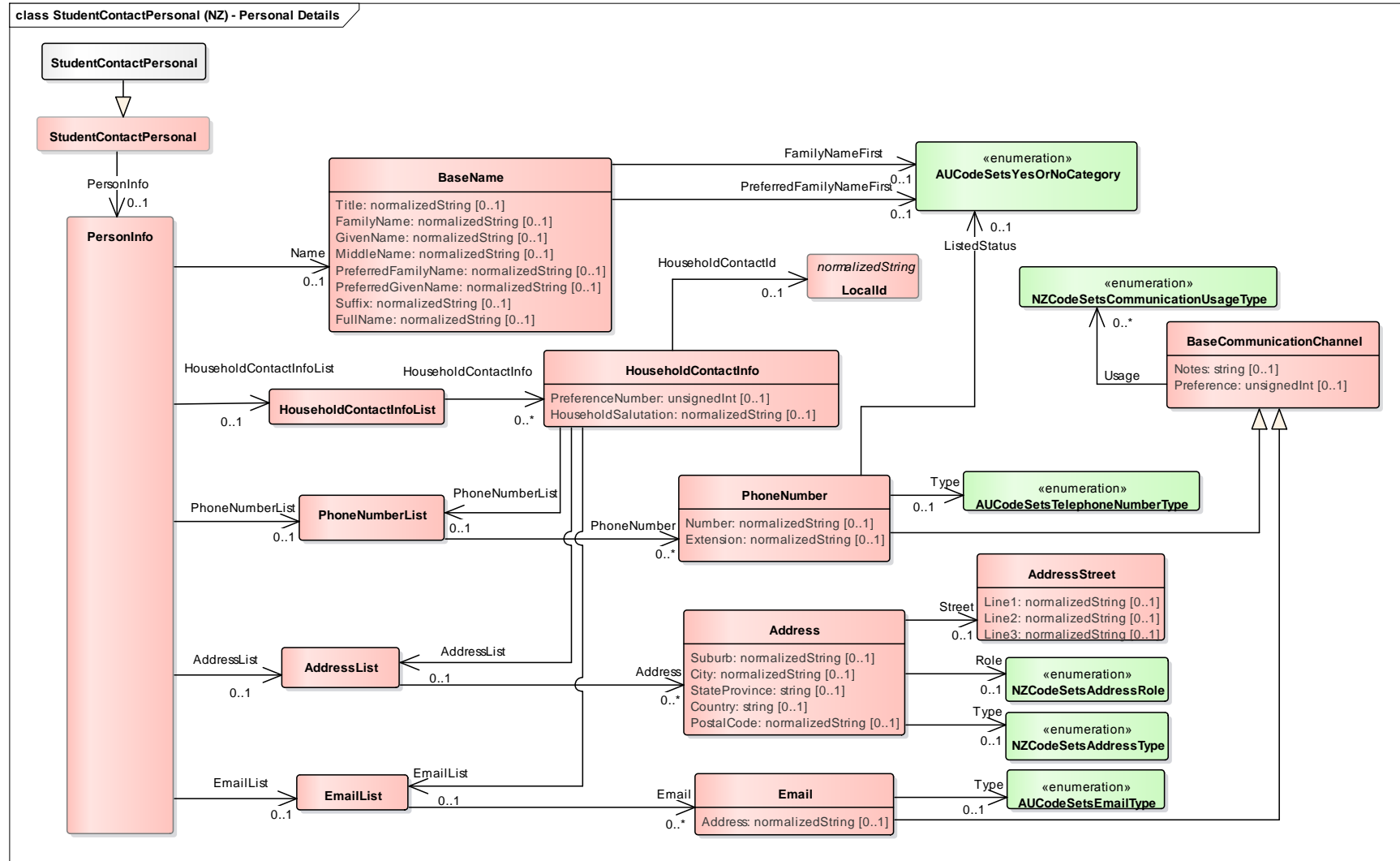


Figure 11: Student Contact Personal Details

6 Staff Personal Data Object

Staff members details are recorded using the StaffPersonal data object (with API endpoints):

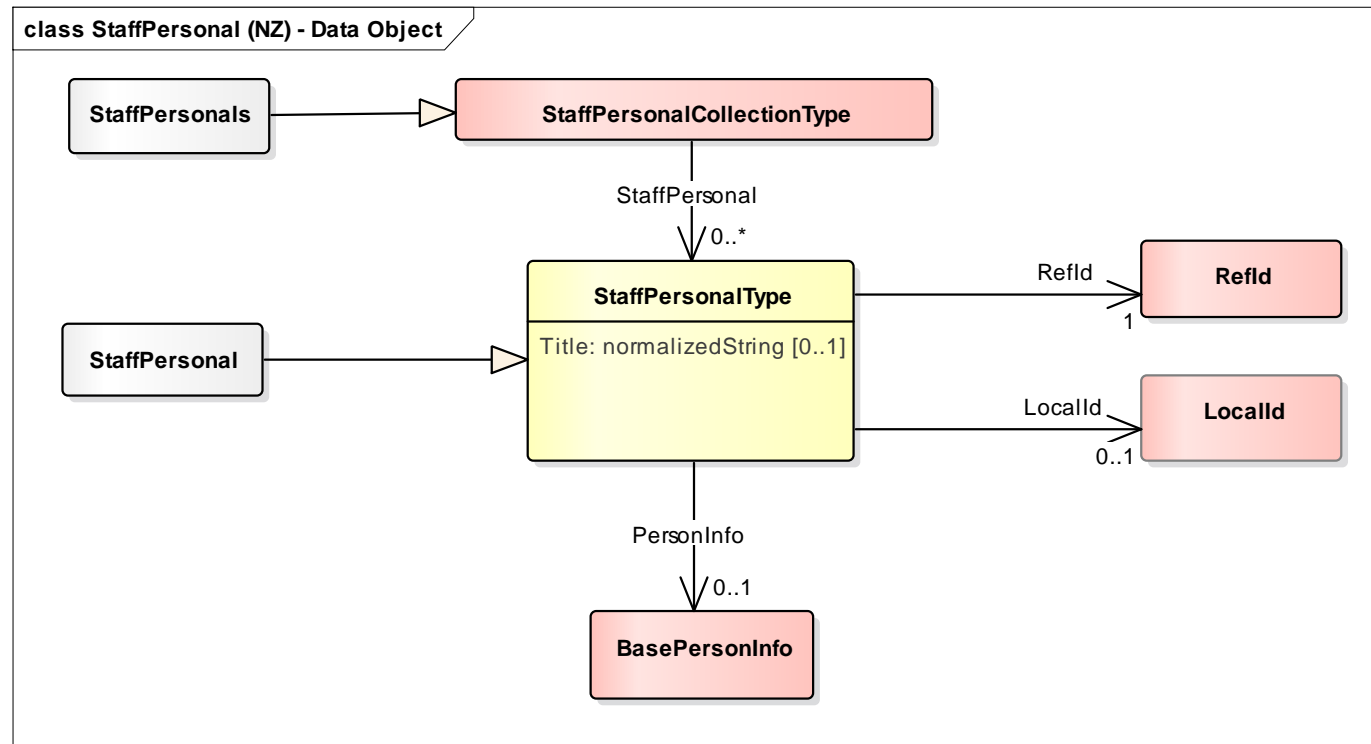


Figure 13: Staff Personal Data Object

6.1 Staff Personal Details

Complexity around multiple names, demographics (and perhaps even contact details) that are recorded about Students, may not be recorded about staff members:

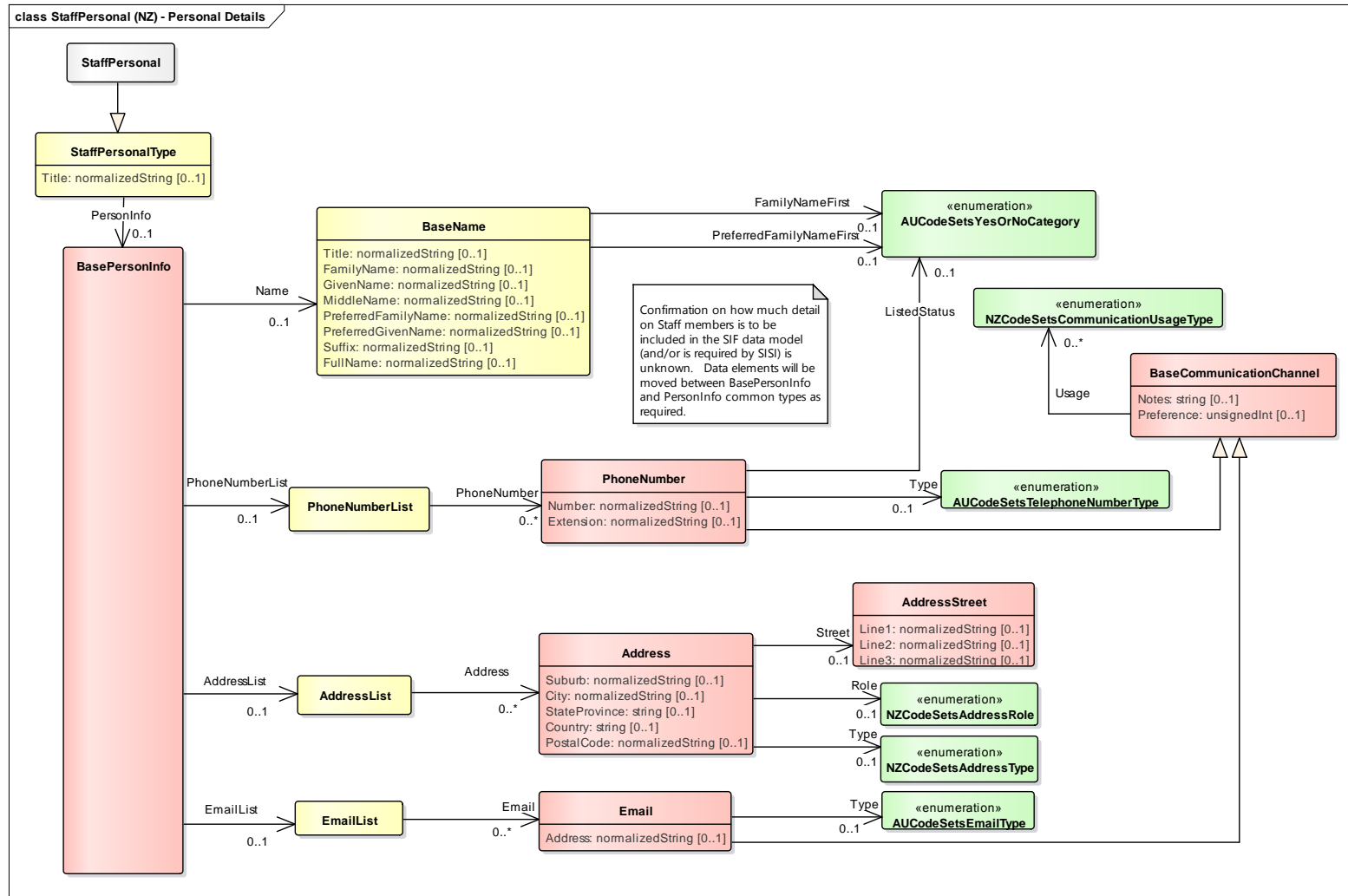


Figure 14: Staff Personal Details

7 Document Control

7.1 Amendment History

Version No	Description of Change	Changed By	Date
0.1	Assembled from various working documents as part of SIF NZ Data Model v3.0.1 publication process.	Stuart McGrigor	29 Jun 2018

7.2 Related Documents

Ref #	Document Title	Version	Link

7.3 Distribution List

Name	Role	Function

7.4 Document Details

Document ID	
Document Last Saved Date	03-Jul-2018
Link to MoE Filenet Folder	<i>SIF NZ Data Model - Background – Student, Staff & Whānau</i>