NATIONAL

ENTITLEMENT

CARD

INFORMATION ARCHITECTURE DATA FLOW DIAGRAMS

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Version No	Date	Summary of changes
1.0 FINAL	18/10/2016	Add missing NEC Number to Hotlist, issue
2.0 FINAL	07/03/2019	May 2018 Version i.e. reflecting GDPR changes
2.2 FINAL	July 2020	Removal of UCRN processing, removal of NEC Online Processing – no new functionality from v2.0
2.3 DRAFT	March 2021	Complete revision of layout; no underlying functional changes reflected
2.4 DRAFT	April 2021	Revise data file application and Local Authority Ad Hoc
2.5 DRAFT	November 2021	Rewrite to make easier to understand; reflect changes to Scheme/Suppliers
3.0 FINAL	January 2022	Issued 2.5 DRAFT

Contents

Introduction

This document contains details of the data flows associated with the National Entitlement Card scheme. It is intended to assist the reader with understanding how data is used within the scheme, and can be read in isolation, or to supplement the National Entitlement Card Scheme Data Protection Impact Assessment (DPIA).

The National Entitlement Card (NEC) is a multi-application smartcard issued by Scottish Local Authorities, including Strathclyde Partnership for Transport (SPT), to allow access to a range of services. The National Entitlement Card Programme Office (NECPO), based in Dundee City Council, acts on behalf of all Scottish Local Authorities in the supply and production of the card itself, with the Scottish Local Authorities authenticating and processing the NEC applications.

The data provided as part of an NEC application is also used in order to provide a means that an individual may choose to use to assist in confirming who they are, and to assist a Local Authority in maintaining the accuracy of the data they are responsible for.

The current Terms and Conditions for the NEC scheme can be found at https://nec.scot/nec-terms-and-conditions.

Applications can be initiated by contacting a Local Authority, Strathclyde Partnership for Transport (SPT) or an organisation authorised to act on their behalf (e.g. Improvement Service (IS)).

This document addresses Principal Data Flows, used daily to support the administration of the NEC Scheme separately from Secondary Data Flows which are used to support activities such as reporting.

Principal Data Flows
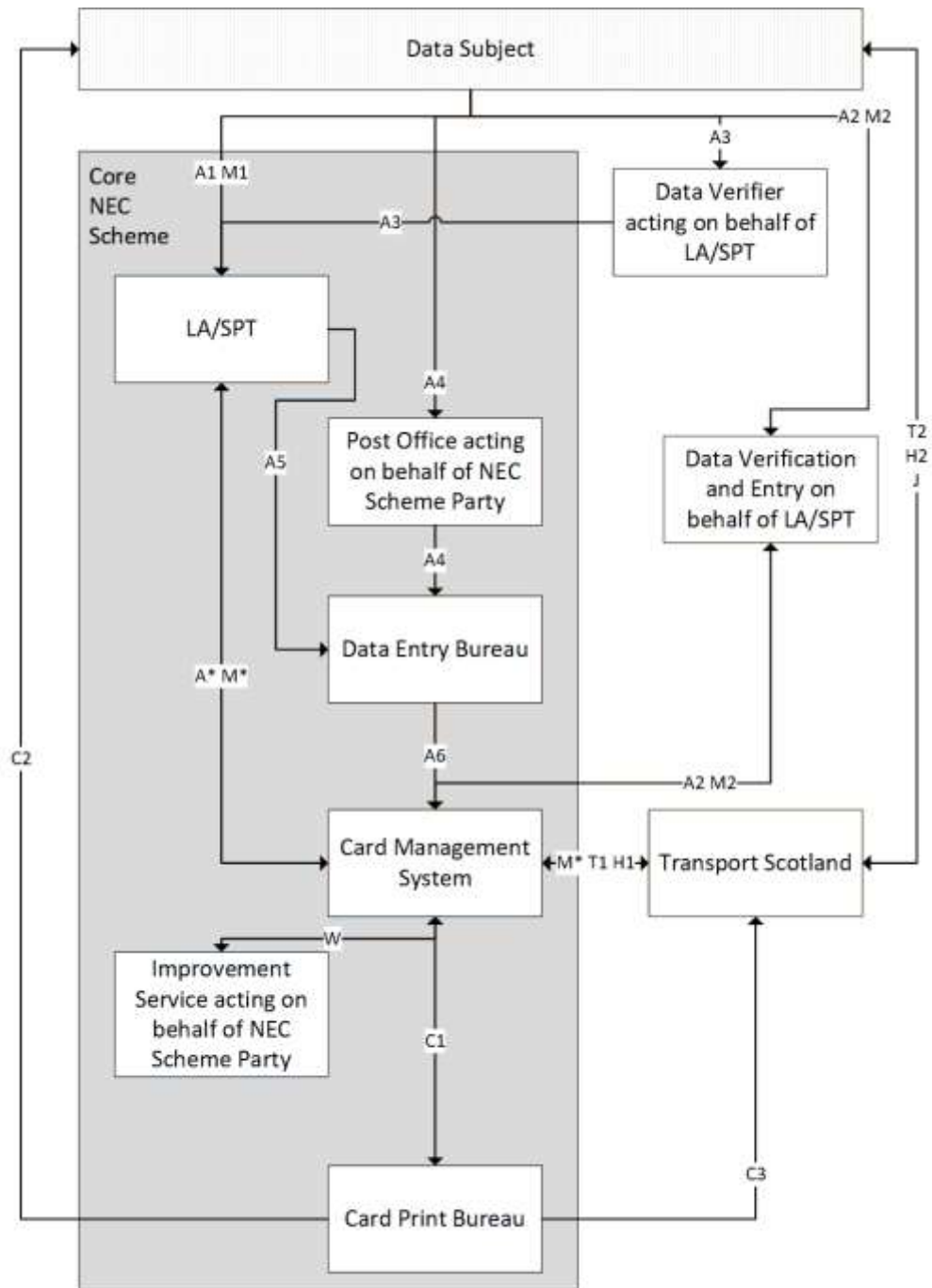
Principal NEC Scheme Dataflows – November 2021

Key:

A – Flows supporting an **A**pplication

M – Flows supporting a **M**odification

C – Flows supporting the production of a **C**ard

T – Flows supporting the addition of **T**ravel products without a card being produced

H – Flows supporting the disabling, or **H**otlisting of a card or travel product

J – Flows supporting the transfer of **J**ourney data

W – Flows allowing the individual to confirm **W**ho they are

A - Flows supporting an Application

Customers can apply for an NEC by various means. In each instance, the same core information is received either directly from the Applicant, for example in a face-to-face setting, or is extracted, with their permission, or the permission of a parent, from existing Council data sets such as school administration systems. The data presented is either verified against proofs presented with the application, or will be taken from trusted sources such as schools data.

Each Application will directly result in one or more of M, C or H flows depending on whether the applicant is new to the NEC Scheme or already has a card. See A* flow.

Data Item	Used in	Notes
Title (optional)	A1 A2 A3 A5 A6 A*	Optional
Gender (optional)	A1 A2 A3 A4 A5 A6 A*	Optional
First Name	A1 A2 A3 A4 A5 A6 A*	Required
Middle Name (optional)	A1 A2 A3 A4 A5 A6 A*	Optional
Surname	A1 A2 A3 A4 A5 A6 A*	Required
Date of Birth	A1 A2 A3 A4 A5 A6 A*	Required
Address	A1 A2 A3 A4 A5 A6 A*	Required
Phone number - contact	A1 A2 A3 A4 A5 A6 A*	At least one contact requested
Mobile number - contact	A1 A2 A3 A4 A5 A6 A*	At least one contact requested
Email address - contact	A1 A2 A3 A4 A5 A6 A*	At least one contact requested
Photograph (age dependent)	A1 A2 A3 A4 A5 A6 A*	Not required for under 12 except Young Scot and Disabled travel concessions
Alternative delivery address (optional)	A1 A2 A3 A*	If required
Current school/college/university	A1 A3 A*	If required, may be captured as part of alternative delivery details for first issue of card.
Requested card type	A1 A2 A3 A4 A5 A6 A*	
Requested travel concession	A1 A2 A3 A4 A5 A6 A*	If required; may include expiry date for concession
Young Scot indicator	A1 A2 A3 A4 A5 A6 A*	
Volunteer indicator	A1 A2 A3 A5 A6 A*	
Agreement to Terms and Conditions (NEC)	A1 A2 A3 A4 A5 A6 A*	Act of providing details signifies Agreement on CMS; may not be captured formally in A1
Parental Approval for Travel	A1 A2 A3 A5 A6 A*	Required for concessionary travel to be issued to under 16 year olds; may also include proof of approval and/or proof of parental responsibility
Photograph referee contact details	A1 A2 A3 A5 A6 A*	If required
Proof of person	A1 A2 A3 A4 A5 A6 A*	Required to check name and date of birth
Proof of address	A1 A2 A3 A4 A5 A6 A*	Required to check address belongs to Customer
Proof of photograph	A1 A2 A3 A4 A5 A6 A*	Required to check photograph belongs to Customer
Proof of entitlement	A1 A2 A3 A5 A6 A*	Required to check Customer is entitled to card type/travel concessions if not from person or address (i.e. residency); may include expiry date of proof
Validation Stamp	A1 A3 A4 A5 A6 A*	Paper forms will normally carry some kind of validation stamp
External System Reference	A1 A*	In certain circumstances an external reference is captured to allow the record created in CMS to be associated with another system's record, using Secondary flow L

A1 Customer engages directly with LA/SPT

The applicant may engage directly with the LA/SPT in a number of different ways; not every organisation supports each of the following for every applicant: face-to-face; paper application forms; via school-based invitations. Subject to verification, most data is recorded into the Card Management System (CMS) by the LA/SPT via a secure connection; however, some paper forms will have data verified, and be sent to a Data Entry Bureau (see A5) for further processing.

A2 Customer engages with body verifying and entering data on behalf of LA/SPT

Each LA can choose to engage a processor to enter data received from the applicant directly into CMS via a secure connection on their behalf once it has been verified. An example of this would be the getyournec.scot and parentsportal.scot online card application services run by Improvement Service. These services are managed directly by Improvement Service with individual Local Authorities.

A3 Customer engages with body verifying data on behalf of LA/SPT

Some applicants may be able to provide data to the LA/SPT indirectly via a body that verifies data before passing directly to the LA/SPT. This data may be transferred either by paper forms or by electronic data file for the LA/SPT to process. Examples would include independently run schools, certain charities or certain Scottish Prison Service establishments.

A4 Customer engages with Post Office who send paper form to Data Entry Bureau

Applicants for the travel concession available to those aged over 60 years can apply via a Post Office in some LA/SPT areas. The Post Office will verify the data provided on the form, which is then sent securely by each Post Office branch via mail directly to a Data Entry Bureau, to form part of Data Flow A6.

A5 Paper form sent by LA/SPT to Data Entry Bureau

Certain application forms received by the LA/SPT and verified by them will be sent to a Data Entry Bureau via mail, to form part of Data Flow A6.

A6 Paper form processed by Data Entry Bureau

There is currently a single shared Data Entry Bureau. Paper forms received either via flow A4 or A5 are scanned and their data added into the CMS on behalf of the relevant LA/SPT via a secure connection. Paper forms are held securely by the Bureau for a period of up to six months to allow time for cards requested to be produced and any queries resolved; after this time, they are securely destroyed.

A* LA/SPT processes data relating to an Application

On successful completion of an application, a card is produced (see flows C).

In addition, during the course of processing an application, the LA/SPT may need to conduct additional processing to ensure that data is correctly managed and that the Applicant receives the correct card and services as efficiently as possible. LA/SPT involvement in this way may typically be ensuring that

existing cardholders who have submitted a second application are correctly handled by treating the application as a modification and that queries over unclear or inaccurate data are resolved,

M - Flows supporting a Modification

If a Customer already has an NEC, modifications associated with their existing data are normally received from them directly. A modification may also be required if the Customer reports their card is not working or is lost or stolen, or if the card or travel product requires renewal due to an expiry date being reached. Similarly, if the Customer is no longer eligible for certain services, this will also be a modification.

Additionally, where it is determined that a Customer with an existing card has made a new application, data from the application is used to modify their existing data with a view to ensuring that each Customer's data is maintained and that they have access to the correct card and services.

It is possible for modifications to take place without Customer interaction; this will normally be done only to rectify data errors, but is also used as means of ensuring universally available travel products are available to existing cardholders. See M*.

Each modification may directly result in one or more of C, T or H flows depending on what data has been modified. In certain instances, modifications to data do not need to result in another data flow. See M*.

Data Item	Used in	Notes
Title (optional)	M1 M2 M*	Optional
Gender (optional)	M1 M2 M*	Optional
First Name	M1 M2 M*	Required
Middle Name (optional)	M1 M2 M*	Optional
Surname	M1 M2 M*	Required
Date of Birth	M1 M2 M*	Required
Address	M1 M2 M*	Required
Phone number - contact	M1 M2 M*	At least one contact requested
Mobile number - contact	M1 M2 M*	At least one contact requested
Email address - contact	M1 M2 M*	At least one contact requested
Photograph (age dependent)	M1 M2 M*	Not required for under 12 except Young Scot and Disabled travel concessions
Alternative delivery address (optional)	M1 M2 M*	If required
Requested card type	M1 M2 M*	
Requested travel concession	M1 M2 M*	If required; may include expiry date for concession
Young Scot indicator	M1 M2 M*	
Volunteer indicator	M1 M2 M*	
Agreement to Terms and Conditions (NEC)	M1 M2 M*	Act of providing details signifies Agreement on CMS; may not be captured formally in A1
Parental Approval for Travel	M1 M2 M*	Required for concessionary travel to be issued to under 16 year olds; may also include proof of approval and/or proof of parental responsibility
Photograph referee contact details	M1 M2 M*	If required
Proof of person	M1 M2 M*	Required to check name and date of birth
Proof of address	M1 M2 M*	Required to check address belongs to Customer
Proof of photograph	M1 M2 M*	Required to check photograph belongs to Customer
Proof of entitlement	M1 M2 M*	Required to check Customer is entitled to card type/travel concessions if not from person or address (i.e. residency)
Card and Product Status	M*	Received by CMS from Transport Scotland

M1 Customer engages directly with LA/SPT

The Customer may engage directly with the LA/SPT in a number of different ways; not every organisation supports each of the following for every applicant: face-to-face, e-mail or telephone. Subject to verification of the Customer and the modified data, the modified data is recorded into the Card Management System (CMS) by the LA/SPT via a secure connection.

M2 Customer engages with body verifying and entering data on behalf of LA/SPT

Each LA can choose to engage a processor to enter data received from a Customer directly into CMS via a secure connection once both Customer and data have been verified. An example of this would be the getyournec.scot and parentsportal.scot online card application services run by Improvement Service. These services are managed directly by Improvement Service with individual Local Authorities.

M* LA/SPT processes data relating to an Application

Where a card is not working, lost, stolen, or expired, or where any photograph, name or LA/SPT symbols on the card are changed as a result of a modification (for example, a change of address), or where a travel product resulting from the modification cannot be provided or removed without issuing a new card, H flows are triggered with respect to the existing card and any associated travel products, with C flows for any replacement issued.

Where the modification is to a travel product that can be actioned without issuing a new card, H flows are triggered with respect to any existing travel products that need to be removed, with T flows for any replacement travel product required.

In addition, during the course of processing a modification, the LA/SPT may need to conduct additional processing to ensure that data is correctly managed and that the Applicant receives the correct card and services as efficiently as possible. LA/SPT involvement in this way may typically be ensuring that queries over unclear or inaccurate data are resolved.

There is also a data flow between the CMS and Transport Scotland which ensures that the current status of the card and travel products as reported by the transport infrastructure can be determined. Note that this does not include journey information, but shows for example whether travel products can be added to an existing card using T flows, whether travel products made available by flow T2 have in fact been collected or not and whether a card or travel product has been successfully hotlisted.

If a new travel product is universally available to certain existing Customers, e.g. a travel product for a certain age group, the relevant modifications to make the product available to each qualifying Customer may be made.

C -Flows supporting the production of a Card

If it is determined that a new physical card is required as a result of an application or modification, three separate data flows occur which allow the card to be produced with the correct information held both physically visible and encoded within the electronic memory within the card. Information associated with each card produced is sent to Transport Scotland who co-ordinate the transport infrastructure in Scotland which recognises the card, developed to the ITSO smartcard standard used by most UK public transport services (https://www.itso.org.uk).

Data Item	Used in	Notes
NEC Number	C1 C2 C3	Printed and encoded on card
ISRN Number	C1 C2 C3	Created at Card Print Bureau; printed and encoded on card; returned to CMS for recording
Photograph	C1 C2	Printed on card (not required for under 11 year olds, except where disabled concessionary travel is claimed)
Name on Card	C1 C2	Printed on card
Name	C1 C2	Used for card dispatch; not printed or encoded
Postcode	C1 C3	Postcode of cardholder's main address; part of C3 only if cardholder eligible for national concessionary travel product when card produced
Gender	C1 C2 C3	Part of C3 only if cardholder eligible for national concessionary travel product when card produced. Value used here restricted to one of the available ITSO options (Male, Female, Not Known; option Not Specified not used)
Date of Birth	C1 C2 C3	Part of C3 only if cardholder eligible for national concessionary travel product when card produced
Travel Concession Type(s)	C1 C2 C3	Encoded and may be printed on card - Depending on type only if cardholder requested national concessionary travel product when card produced or cardholder eligible for national concessionary travel product when card produced
Delivery Address	C1 C2	Used for card dispatch; not printed or encoded
Card Expiry Date	C1 C2	Printed and encoded on card when not indefinite, i.e. on Disabled, Young Scot and Junior cards.
Travel Shell Expiry Date	C1 C2 C3	Encoded on card; may match Card Expiry Date
Concessionary Travel Product Expiry Date(s)	C1 C2 C3	Encoded on card - Depending on type only if cardholder requested national concessionary travel product when card produced or cardholder eligible for national concessionary travel product when card produced
Production Status	C1	Returned from Card Print Bureau to CMS

C1 Card production request sent to Card Print Bureau

Once it has been determined that a card is required, the CMS sends the relevant data via a secure connection to the single central Card Print Bureau. The status of card production, along with the data only created during card production, is returned to the CMS to keep data up-to-date.

C2 Card produced and sent to Applicant

The Card Print Bureau uses the data provided in flow C1 to print and encode electronically the card. The card is then sent to the appropriate address, normally the home address of the Customer. However, the card may be sent to an alternative address in certain circumstances. For example, if the application was one of a group co-ordinated by a school, the school may receive and distribute the cards.

C3 Card details sent to Transport Scotland

The Card Print Bureau will also send details of card produced to Transport Scotland. This information is principally held in a system known as a HOPS and is used to ensure that the card can be managed within the national ITSO infrastructure.

T - Flows supporting addition of Travel products (without a card being produced)

In certain circumstances, travel products can be added to an existing card without it needing to be replaced. Whether this will be possible will be determined during a modification data flow. The exact manner by which a travel product is added to the card can vary but relies on the Customer presenting their card to an appropriate device.

Data Item	Used in	Notes
NEC Number	T1 T2	
ISRN Number	T1 T2	
Date of Birth	T1 T2	Date of Birth –Only if cardholder eligible for national concessionary travel product when card produced
Travel Concession Type(s)	T1 T2	Encoded and may be printed on card - Depending on type only if cardholder requested national concessionary travel product when card produced or cardholder eligible for national concessionary travel product when card produced
Concessionary Travel Product Expiry Date(s)	T1 T2	Encoded on card - Depending on type only if cardholder requested national concessionary travel product when card produced or cardholder eligible for national concessionary travel product when card produced

T1 Travel product request sent to Transport Scotland

The relevant data is sent to Transport Scotland to record and acknowledge the request. Transport Scotland then make the travel product available by whatever means they currently support. This is achieved centrally by Transport Scotland making relevant parts of the ITSO infrastructure aware that the card has a travel product available.

T2 Travel product made available to Customer's Card

When the card is presented to an appropriate device (e.g. a mobile phone running a relevant application connected to the national ITSO infrastructure, or a ticket machine with the appropriate configuration), the product can be electronically added to the card, and the result of this interaction can be recorded.

H - Flows supporting the Hotlisting of a card or travel product

Where a card, or a travel product has to be made invalid for transport use, for example because it is being replaced or has been reported stolen, it is added to what is known as a hotlist. Details from this hotlist are communicated via the national ITSO infrastructure to prevent the continued use of the invalid card or product for travel.

Data Item	Used in	Notes
NEC Number	H1 H2	
ISRN Number	H1 H2	
Hotlist Date	H1 H2	
Hotlist Reason	H1 H2	Will indicate why card is being hotlisted
Hotlist Type	H1 H2	Indicates whether the travel shell or a travel type is to be hotlisted
Travel Concession Type	H1 H2	Indicates travel type to be hotlisted

H1 Hotlisting request sent to Transport Scotland

When it is determined that a card or travel product needs to be made invalid, the appropriate request is made to Transport Scotland and acknowledged. This request may not be made immediately if there should be a delay to allow a new card to be delivered to the Customer.

H2 Hotlisting applied to Customer's Card

The process used by Transport Scotland to apply the hotlisting to the Customer's card varies. In certain instances, the travel product or card hotlisting message may only be sent to the national ITSO infrastructure when it is clear through journey information received that either the product or card is still actively being used.

Once the hotlisting message is sent to the national ITSO infrastructure, when a card is subsequently used on a device (e.g. ticket machine) that has received the message, a hotlisted product may be removed, and the device operator will be advised that card or product is hotlisted.

J – Flows supporting the transfer of Journey data

Data relating to journeys made by Customers using a travel product that is managed by Transport Scotland (e.g. a national concessionary bus travel product) is provided by public transport operators to Transport Scotland so that they can be appropriately reimbursed. The bulk of this data is not NEC Scheme data and is not available to LAs/ SPT. However, it is used by Transport Scotland as part of the decision-making related to flow H2.

| Data Item	Used in	Notes
NEC Number	J	
ISRN Number	J	
Journey data	J	Includes details of operator, service number, date, time, journey ticket issued for (should correspond to journey made) supplied to Transport Scotland

W – Flows allowing the individual to confirm Who they are

The Improvement Service can be asked by an individual to verify that they have a National Entitlement Card issued to them with the details they have provided. The photograph, when optionally forming part of this data flow, is only used to allow a human to confirm that the individual making the request is indeed the Customer owning the card after other details have been matched.

Data Item	Used in	Notes
NEC Number	W	Supplied by Improvement Service
Name	W	Supplied by Improvement Service
Date of Birth	W	Supplied by Improvement Service
Address	W	Supplied by Improvement Service
Card type	W	Supplied by Improvement Service; optional allows individual to be established as e.g. a Young Scot cardholder
Photograph	W	Returned to Improvement Service

Seconday Data Flows
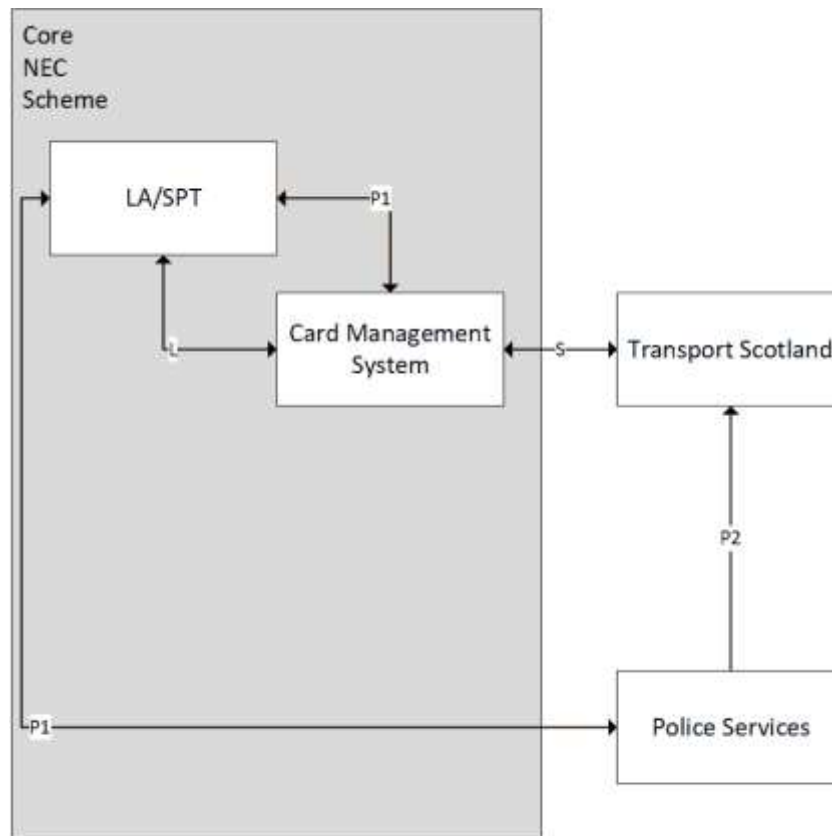
Secondary NEC Scheme Dataflows – November 2021

Key:

L – Flows supporting a **L**ocal Authority data maintenance

S – Flows supporting **S**tatistical analysis by Transport Scotland

P – Flows supporting Police Services

L – Flows supporting a Local Authority in data maintenance

Each Local Authority may request an extract of data relating to the cards produced on its behalf. This may include some or all of the following data which can be used by the local authority. The exact contents of this extract are under discussion with Local Authorities and suppliers, and is expected to be a sub-set of the data below.

Data Item	Used in	Notes
Applicant ID	L	
Application ID	L	
Application Status	L	
Created By	L	
NEC Number	L	
Photograph ID	L	
Photograph	L	
Gender	L	
Title	L	
Name	L	
Date of Birth	L	
Deceased indicator	L	
Deceased date	L	No longer used
Address	L	
Postcode	L	
UPRN	L	
Local Authority	L	
Telephone	L	
Mobile	L	
Email	L	
Data Sharing indicator (no longer collected, set to No or equivalent)	L	No longer used
Terms & Conditions indicator	L	
Proof of Person	L	
Proof of Residency	L	
Disability/Disabilities type	L	
Card Expiry Date	L	
Card Type	L	
Mifare Number	L	Electronic card identifier
ISRN Number	L	
Encoded On Date	L	
Printed On Date	L	
Despatched On Date	L	
Expired On Date	L	
YP Bus indicator	L	No longer used
YP Rail indicator	L	No longer used
Ferry indicator	L	
TS Ferry Voucher Number	L	
Card Status	L	
Barcode	L	
Establishment Code	L	
Replacement Date	L	
Replacement Reason	L	
Hot List Date	L	
Hot List Reason	L	
Legacy No.	L	
Pupil ID	L	
HE/FE indicator	L	No longer used
YP/YS indicator	L	

S – Flows supporting Statistical analysis by Transport Scotland

Transport Scotland are required to conduct statistical analysis associated with cardholders who are eligible for the national concessionary travel schemes. This includes reporting on how the schemes are used by various groups defined by protected characteristics such as age or sex, or by geographic and associated attributes (e.g. statistical units such as local authority areas, or the deprivation level of the local area). The data to support this can and does from part of the C3 data flow, but there may be instances where an attribute changes – normally the postcode – without the need for a card to be created. This flow supplements C2 to ensure that Transport Scotland reporting can be as accurate as possible.

Data Item	Used in	Notes
NEC Number	S	
ISRN Number	S	
Postcode	S	Postcode of cardholder's main address;
Gender	S	
Date of Birth	S	

P - Flows supporting Police Services

The Data Protection Act 2018 allows law enforcement agencies the right to request personal data in certain circumstances. The Police Service of Scotland (known as Police Scotland) and the British Transport Police have entered into agreements with Dundee City Council, acting on behalf of Scottish Local Authorities, and with Transport Scotland which formalise the way data is exchanged with the police services in certain defined circumstances, namely investigations into missing vulnerable persons or serious crime. These data flows represent what has been agreed for these cases; in the rare cases where the police services or other law enforcement agencies request data not covered by the agreement (e.g. counter-terrorism requests from other UK agencies), similar data flows are encouraged.

The flows are designed to minimise the exposure of personal data, particularly that relating to the police investigation, to NECPO and Transport Scotland personnel. The flows may take place in any order depending on whether the information required by the police is journey-related and held by Transport Scotland (P2 follows P1) or personal data held by the NEC Scheme Parties (P1 follows P2).

Data Item	Used in	Notes
Name	P1	Police Service may supply or request
Gender	P1	Police Service may supply or request
Address(es)	P1	Police Service may supply or request
Date of Birth	P1	Police Service may supply or request
NEC Number	P1 P2	Police Service may supply or request
ISRN number	P1 P2	Police Service may supply or request
Photograph (if required)	P1	Police Service may request
Journey Data	P2	Police Service may supply or request; includes details of operator, service number, date, time, journey ticket issued for and/or journey made

P1 Police Service request for information sent to LA/SPT

The Police Service, will submit a pro forma, with approval from a senior officer, confirming the known personal and/or card number data. In normal circumstances, NECPO will respond to requests on behalf of the NEC Scheme parties. If a match can be found with the details provided, the requested personal and/or card number data will be returned.

P2 Police Service request for information sent to Transport Scotland

The Police Service, will submit a pro forma, with approval from a senior officer, confirming the known journey and/or card number data. If a match can be found with the details provided, the requested journey and/or card number data will be returned.

Appendix A – Proofs

As the National Entitlement Card can be used to give access to a number of different services, and as it can be used as a proof of age or other entitlement to services, it is only issued when a person, their address, photograph and entitlement has been verified by checking certain documentary or other evidence or proofs.

The up to date list of principal acceptable proofs of person, residence and photograph can be found at https://nec.scot**/**proofs.

The up to date list of acceptable proofs of entitlement for the Transport Scotland Concessionary Travel Scheme for the disabled can be found at
https://transport.gov.scot/concessionary-travel/60plus-or-disabled/.

Appendix B – Validation Points

Across Scotland there are a number of locations Customers may visit to have their proofs verified and their NEC application validated in person. These are operated by or on behalf of the Customer's Local Authority or SPT. Different Local Authority areas may use Customer Service locations, Libraries, the SPT Travel Centre, Post Offices, etc. Locations vary by Local Authority and over time. Some locations may only accept certain types of application as e.g. applications for different age groups may be handled separately. A list of Validation Points for each Local Authority area can be found at https://nec.scot/validation-points .

Glossary of Terms

Please refer to the NEC Common Glossary document for assistance.