**Cambridgeshire Total Transport Pilot**

**Output Specification for a Flexible Minibus Scheduling Tool**

**Introduction**

Background

The Total Transport Programme is funded by the Department for Transport and is seeking to implement a cross-sector approach to the delivery of supported passenger transport services.

Cambridgeshire County Council is one of 37 local authorities to have bid successfully for central government funding through the Total Transport programme. The Council has been awarded a grant to research, design and implement a pilot Total Transport scheme, to be operational from September 2016. Cambridgeshire’s Pilot will be centred on Ely, covering the East Cambridgeshire district north of Burwell. The principle behind Total Transport is simple – that, on the ground, it doesn’t make sense for different vehicles to collect neighbours who are making similar journeys but for different purposes (healthcare, education, social care, etc.) The Pilot will integrate services that are currently commissioned separately and provided by different operators. This approach will allow resources to be allocated and coordinated more efficiently to provide services that meet passengers’ needs as well as saving costs.

The Pilot will include all Council transport in the area: Home to School Transport (mainstream and special educational needs); Looked after Children’s transport; Adult Social Care (ASC) transport; Local Bus; and, Community transport. The Council is also working with the Cambridgeshire and Peterborough Clinical Commissioning Group (CCG) to include non-emergency patient transport in the Pilot. At present Council funded transport in the pilot area involves approximately 50,000 vehicle journeys and 700,000 passenger trips, costing close to £3million a year.

The funding that the Council has been awarded for its Total Transport Pilot includes funding to design and embed new IT systems to help manage transport services, collect, manage and share information, including across County Council IT systems (i.e. finance systems); we are seeking an IT partner to help us to deliver that vision.

Requirement

The Council wants a web-browser based software solution which allows demand for transport to be matched with available resources (contract(s), vehicles, drivers and passenger assistants), enabling efficient and cost effective route planning and scheduling. **The scheduling system will need to be available in time for the start of the Pilot in September 2016, allowing for installation and training during the summer of 2016.**

The Council plans to use an existing supplier for a mainstream school transport scheduling system. **This specification is for a system to schedule a flexible minibus service across the pilot area.** The core of this service will be journeys to and from Highfield Special School in Ely; these journeys will be scheduled between 7:30am and 9am in the morning and from approximately 3pm to 4:30pm in the afternoon. The flexible minibus service will provide transport for adult social care, community transport and local bus passengers (replacing several fixed route bus services) and will operate during the day between the morning and afternoon school runs and possibly after the afternoon return journeys from school to home have been completed.

SEN transport accounts for c. 50,000 journeys and adult social care, community transport and local bus services account for c. 81,000 of the c.719,000 journeys funded by the Council in the Pilot area in 2015.

It is currently envisaged that the flexible minibus service will operate like a Community Transport scheme, with registered users. **It is therefore essential that a data base of service users can be built up from booking data.**

In addition to adult social care, community transport and local bus passengers, we are working with the Cambridgeshire and Peterborough Clinical Commissioning Group (CCG) exploring option for the flexible minibus to provide non-emergency patient transport in the Pilot area.

The Council has not yet contracted for the flexible minibus service, which may delivered through contracts with multiple providers or by a single contract, it is therefore essential that the scheduling system is capable of operating across multiple transport operators.

The Council’s current thinking is that the system will be used by a **Booking and Information Centre** that will be **run by a third-party** (e.g. operating from a local volunteer bureau in the Pilot area) so that **both the staff running this service and Council staff will need to be able to access and use the system**. Our current thinking is that there will be 4 Booking and Information Centre users and 2 Council staff using the system.

The system should integrate with existing council administration and finance systems, enabling effective contract management, strategic planning and cost saving. As well as integrating scheduling, administration and finance systems it is expected that the preferred solution will be built around an Geographical Information System (GIS), based on Ordnance Survey map and address data (for consistency with the mainstream scheduling system) for route planning and optimisation.

While initially conceived as a planning and administration tool for the Council, it would be desirable if the preferred solution could support future development as a public portal, so that eligible users could use it to request travel.

While initially required to manage the Total Transport Pilot flexible minibus service, the scheduling system should be scalable so that it has potential to be used across the County for all Council funded transport services.

Guidance to bidders

The following *Output Specification* represents Cambridgeshire County Council’s *Requirements* for transport scheduling / optimisation software or service. Bidders are asked to respond to the output specification with *Contractor’s Proposals* setting out how the output requirements will be fulfilled. *Contractors Proposals* shall include technical and functional detail, including, where relevant *method statements* and *references (*i.e. where similar software / services are being used by a local authority, community or commercial transport operator or similar). If necessary, the Council reserves the right to ask shortlisted bidders to demonstrate their software or service, using suitable data that will be provided by the Council.

The 4th column of the *Output Specification,* headed “*Bidder’s response,”* is intended to allow bidders to confirm that their proposals meet the Council’s requirements and to refer to where in their bid this is demonstrated.

Defined Terms

*ASC: Adult Social Care.*

*Booking and Information Centre: The single point of contact for all transport services in the Pilot.*

*CCG: National Health Service Clinical Commissioning Group.*

*Flexible minibus service: The bookable passenger transport service that will operate in Cambridgeshire County Council’s Total Transport Pilot.*

*MiS: Management Information System*

*SEN: Special Educational Need(s)*

*Staff: Booking and Information Centre staff and Council staff who will be using the system.*

*The Pilot: Cambridgeshire County Council’s Total Transport Pilot.*

*The Council: Cambridgeshire County Council.*

**Output Specification**

*Section 1: Booking, Database and Scheduling.*

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| Ref | Item and Description | Essential | Desirable | Bidder’s response |
| 1.11.21.31.4 | **Booking, scheduling and route optimisation****Operator data****Passenger data****Journey data****Output** | **Booking*** + 1. The system will allow Booking and Information Centre staff and Council staff to take transport bookings, recording relevant user data including details of particular needs (for example, mobility requirements);
		2. The system will allow staff to make booking for individual travel requests and to load vehicles, schedule and optimise routes.
		3. Where transport is paid for by the Council, the system will enable booking costs to be allocated to the appropriate budget.
		4. Where a fare is due, the system should be capable of recording this and the information should appear on any system generated loading list (this may be paper or electronic, including data that is capable of being transmitted to and read by various “smart” devices), so that the driver / passenger assistant know that are fare is due and what fare to take. The system should also allow for payments to be made in advance to the Booking and Information Centre for these payments to be recorded.

**Data requirements**:* + 1. The system will hold operator, vehicle, driver and passenger assistant data (e.g. licenses and qualifications, D&B checks, contact details, photographs etc.).

The flexible minibus will provide home to school transport for children with Special Educational Needs (SEN) and a booking only service used by **Adult Social Care** (daycentre) passengers and members of the public. Bookings will be made through a **Booking and Information Centre**.* + 1. Passenger data requirements include the ability to record and reference:
* Name;
* Address (with UPRN to allow linking to other Council systems);
* Telephone;
* Email;
* DOB;
* Gender;
* Unique Pupil Reference Number;
* Parent / carer / Next of Kin contact details;
* reference number;
* previous booking requests;
* recurrent booking (including start and end dates);
* medical information;
* mobility information;
* additional information (i.e. extended loading time);

**ASC Data*** + 1. The system will be able to import, record and reference relevant user data (listed above) from Council ASC data systems (currently using *Swift* and *Wisdom,* migrating to *Servelec Corelogic).*

**SEN data*** + 1. The system will be able to import, record and reference relevant pupil data to from the existing *Capita One* system.

1.3.1. The system will be able to record and reference the following journey data:* Booking information (including start and end and school term dates);
* lone traveller;
* PA requirements;
* Recurrent booking;
* entitlement start and end dates;
* Establishment (with effective attendance dates), inc GiS location data and DfE Edubase reference number;
* contract allocation.

1.3.2. The system should enable start and end dates to be recorded for recurrent transport requests and also the days of the week on which these are required.**Output**1.4.1. It is currently envisaged that bookings for the flexible minibus service will be made the day before travel, although we are not ruling out same day booking. Once routes are planned, the system will produce loading lists, routes and schedules that can be shared with operators for the following day’s travel.1.4.2. Where the actual route is not the most cost effective (for example because a vehicle is full), the system will enable this to be recorded, and if anything changes on the preferred route (i.e. a seat becomes available), the system will generate an alert to enable the route to be reviewed and re-routed. | System allows for possible smart ticketing (smart cards will be used for mainstream school transport in the Pilot and the Council may wish to extend the use of smart cards to all users and services in the Pilot).It would be helpful for the scheduling system to link with the County Council system (Cygnum) that is used to schedule re-enablement support for patients following discharge from hospital. |  |

*Section 2: Routing, scheduling and optimisation*

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| Ref | Item and Description | Fundamental | Nice to have | Bidder’s response |
| 2.1 | **Routing and scheduling** | **Routing and scheduling*** + 1. The system shall enable dynamic booking, scheduling and route design.
		2. The scheduling function will allow the calculation of appropriate and cost effective routes.
		3. The scheduling function should support route optimisation for multiple users taking account of:
1. departure and arrival locations and times;
2. Service user needs and eligibility (e.g. mobility, wheel chair access, travel concessions etc.);
3. the type, capacity and availability of vehicles, drivers and passenger assistants;
4. cost;
5. Traffic data: known journey times; congestion and traffic flow patterns and realistic road speeds; and, allowing for random disruption (i.e. stochastic modelling). The system will allow for staff to manually input road speed data (i.e. to allow for traffic disruption).
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| 2.2 | **Route optimisation & Scenario modelling** | **Route optimisation**2.2.1. The system will allow routes to be optimised using a variety of parameters:Distance; time; or cost.2.2.2. The system will allow various “what if?” scenarios to be modelled from the same input data.2.2.3. The system will allow various scenarios to be compared, using different criteria (i.e. cost, journey time and distance.)2.2.4. The system should allow multiple service / route display and optimisation (i.e. if a single change is made, what impact might this have on the whole service?) | Ideally the system will import Department for Transport (DfT) road speed data to support the accurate modelling of routes and speeds. The Council would, however, like to retain a manual override to deal with one-off disruption. |  |
| 2.3 | **Multiple service display** | The system will allow routes for different services (i.e. multiple vehicles / routes) to be viewed at the same time. |  |  |
| 2.4 | **Mapping functions** | Background mapping should be Ordnance Survey; The Council can provide in MapInfo format or web tile server service.* + 1. Should use Ordnance Survey AddressBase Premium data for address lookup (where necessary) and hold UPRN. If required the Council can provide access to OS Places lookup service. Should use Ordnance Survey ITN data for route calculation - if an alternative to this is proposed, the bid should give a full explanation of what, how and why.
		2. In the longer term, we would expect the tool to use “OS MasterMap Highways Network”, which is the planned replacement for ITN.
		3. Provider will need to specify update processes (i.e. how we keep the reference data up to spec) - note that we do have some information (e.g. daycentre locations) mapped already - MapInfo format (alternatives are possible).
		4. Mapping functions should be browser based.
		5. The Council will work with the supplier to explore how the various OS products could be exploited to add functionality, performance and accuracy.
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*Section 3: Contract records*

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| Ref | Item and Description | Fundamental | Like to have | Bidder’s response |
| 3 | **Contract Records** | **Data requirements**The system must be capable of recording the following contract information:3.1. Operator* Company name
* Contact name, address, telephone number(s), email address(es), GIS map location, Vendor Code and additional information.
* Insurance details
* Link to staff working for company
* Incident records
* Number and type of vehicles available
* Vehicle details – number plate, make, model, age etc. (linked to contract management).
* Training log
* Work Type
* Areas of Interest
* Penalty / Default Notice recording
* Link to Tender Information
* Status (Active, Suspended, Removed) with a history of dates and reason.

3.2. Driver/Passenger Assistant* Name, address, DOB, telephone, email address
* Photograph
* DBS checks (full history and dates)
* Insurance details (if applicable)\*
* Incident recording
* Vehicle details if owner driver
* Badge and Type
* Badge Expiry date
* Renewal dates
* Additional qualifications / training (e.g. first aid, passenger lifting etc.)
* Training log
* Link to operator record (with history of changes).

3.4. Contract* Contract number
* contract start and end dates
* operational team responsible (i.e. who in the Council is responsible for managing the contract)
* short journey description
* establishment served
* vehicle type
* contract capacity
* vehicle capacity
* contract type
* customer
* days of travel
* daily rate
* mileage / hourly rates
* Invoicing
* Booking v. invoice reconciliation (i.e. system should be able to carry out invoice validation check)
* History of contract price changes.
* Link to Operator Record / Vehicle List / Staff List.

3.5 Passenger recordsThe system shall record *passenger data* as listed in section 1 of this specification (see above).The system will allow for:* passenger records to be amended and updated;
* identify / alert duplicate and conflicting records.

3.6 Additional functions* Ability to apply indexation increase to contract prices;
* Incident Log;
* Ability to print and edit details.
* Ability to restrict user access to sensitive information (i.e. we do not expect Booking and Information Centre staff to be able to access all of the information that Council staff will need to see);
* Invoicing data will be presented in such a way that costs can be apportioned to the appropriate Council cost centre and / or invoices can be issued to service users (note: some ASC passengers will have transport included in their *care plan* and paid for by the Council, others will be responsible for paying their own transport costs).
 | Link to standard contract documentation / templates for award, price changes, penalties, default and termination.Personal Budget field for eligible ASC passengers – to be used for booking and invoicing.Ability to provision passenger *smart cards*, if these are introduced in future. |  |

*Section 4: Reporting*

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| Ref | Item and Description | Fundamental | Like to have | Bidder’s response |
| 4 | **Reports**Provide reports on the operation of Transport Services. | 4.1.1The system will be capable of generating management information reports that include data on:* 1. journeys;
	2. trips;
	3. vehicle loading
	4. costs
		1. per journey
		2. per mile
		3. per passenger.
		4. Per passenger type
		5. Per establishment
		6. Predicted costs.

4.1.2. The system shall be capable of producing a defined range of ad-hoc / customised reports on request.4.1.3. The system will enable trend analysis on length and number of journeys, number of passengers etc.**Contract management and reporting**4.1.4. Reporting functions should allow analysis for the lifetime of the transport request, and for financial / calendar week/month/year.4.1.5. The system will allow reporting on incidentsFor example:Punctuality;Vehicle / staff meet acceptable standards of cleanliness / presentation. |  |  |
| 4.2 | The content and frequency of reports shall be defined by the Council. | 4.2.1. The system will be capable of producing management information reports at least monthly.4.2.2. The system will be capable of producing a defined range of ad-hoc and customised reports on request. |  |  |

*Section 5: Financial Management.*

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| Ref | Item and Description | Fundamental | Nice to have | Bidder’s response |
| 5. | **Financial Management** | 5.1. The system will provide:* Invoice validation (calculated from trip / journey data held within the system).
* Notification of anomalies / validation errors for investigation.
* Financial reporting including projected and actual spends by various criteria (budget or contract code, vehicle type, passenger group etc.).
* Access to financial information to be managed by system access rights (linked to Council Active Directory)
 | Link to standard templates for invoice queries etc.Invoice payment (export data to Council finance system – see section 6 *Interoperability and Integration with Council Systems* below) |  |

*Section 6: Tendering*

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| Ref | Item and Description | Fundamental | Nice to have | Bidder’s response |
| 6 | **Tendering** |  | The system will enable:* The automatic creation of tender specifications using standard templates & data fields with additional space for more information;
* Audit trail of specification created, amended and dates tendered;
* Proof reading document check;
* Assignment of specifications to a Tender Batch;
* Email of Notice, Tender Batch and Acceptance of Bids to operators;
* Recording of submitted tender bids;
* Evaluation & award of tender bids (linked to contract management data);
* System Access Rights to ensure separation of duties / responsibilities
* Link to standard templates for invoice queries etc.
* Link to Due North – the Council’s contract portal.
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*Section 7: Interoperability and integration with council systems / 3rd party systems (e.g. scheduling system that will be used by the Council for Home to School Transport) / software standards.*

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| Ref | Item and Description | Fundamental | Nice to have | Bidder’s response |
| 7 | **Legacy software integration** | The system must integrate with all relevant legacy software operated by or licensed to the County Council, ensuring effective interoperability between the scheduling system and these legacy systems.7.1. Relevant legacy software, for the purposes of this specification shall include, but is not limited to:finance systems (currently Oracle EBusiness and Collaborative Planning, changing to Agresso in 2017).booking systems – for home to school transport the County Council uses *Capita One*; for adult social care and health transport the Council uses *Swift* and *Wisdom.* The Council will be migrating to the latest version of *Capita One* for its Education MiS and *Servelogic Corelogic* for its Social Care MiS. | It would be helpful for the scheduling system to link with the County Council system (Cygnum) that is used to schedule re-enablement support for patients following discharge from hospital. |  |
|  | **Third-party software integration** | 7.2. As described in the introduction to this output specification, the Council is working with the Cambridgeshire and Peterborough Clinical Commissioning Group to integrate NHS non-emergency patient transport in the Pilot. Our current thinking is that bookings will be handled through a single point of contract, a central **Booking and Information Service** for the Pilot. We are investigating how this will interact with the NHS / CCG and it may be necessary for the system that we purchase to be interoperable with systems used by the CCG. | If possible it would be useful for the system to integrate with NHS systems for Non-emergency passenger transport. |  |

*Section 8: User experience – look and feel.*

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| Ref | Item and Description | Fundamental | Nice to have | Bidder’s response |
| 8.1 | **The system should be accessible, easy to use and navigate** | 8.1.1. Accessibility:The system must meet recognised Web Content Accessibility Guidelines.7.1.2. The system must comply with AAA accessibility standards.7.1.3. The system should be intuitive, easy to learn and use.7.1.4. The system should be easy and efficient to navigate and use. This should be demonstrated by reference to a recognised usability standard or scale. |  |  |

*Section 9: Project Management, Design and Installation and Operational Requirements, maintenance, support and documentation.*

***All operational services must meet ITIL/ISO/IEC20000 standards as a minimum requirement.***

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| Ref | Item and Description | Fundamental | Nice to have | Bidder’s response |
| 9.1 | **Connectivity**This specification assumes broadband connectivity at and between all relevant Council office locations. | The system will be securely accessible from all locations defined by the Council (i.e. Council Offices and the externally hosted Booking and Information Centre). | Secure mobile connectivity using a variety of access devices. |  |
| 9.2 | **Project Planning and Implementation**  | The provider shall develop an implementation and training plan (see section 10 *Training* below), this shall follow recognised methodology, with clearly defined milestones and the resources required clearly identified and allocated in order to deliver the operational system / service in time and on budget. |  |  |
| 9.3 | **Implementation** | The provider shall identify clearly defined installation, testing and acceptance milestones. |  |  |
| 9.4 | **Documentation** | The provider shall provide all necessary service documentation, e.g. implementation plans, service guides etc. |  |  |
| 9.5. | **Availability** | The scheduling system / service shall be available during booking service opening hours i.e.7am to 7pm, Monday to Friday. The system must be available at the end of the working day (i.e. 5 p.m.) to allow loading/scheduling/route data for the following day’s bookings to be transmitted to operators. |  |  |
| 9.6 | **Helpdesk** | * + 1. A helpdesk shall be available during core service operation hours (i.e. 7am to 7pm, Monday to Friday and a voicemail/email service shall be available at all other times for the Council and Booking Service *users* to report incidents.
		2. SLAs will be agreed for resolution of calls and for updating on call status (bidders are invited to suggest appropriate SLAs / resolution times). Key areas must be supported on a quick turnaround where it impacts on the delivery of transport services.
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| 9.7 | **Backup** | The provider will provide a daily data backup facility. |  |  |
| 9.8 | **Disaster Recovery & Business Continuity** | Provide a Disaster Recovery facility so that the Service can be fully restored within the timeframe specified by the Council |  |  |
| 9.9 | **Virus Protection and data security** | 9.9.1. The provider will provide protection against viruses and other offensive mechanisms, which, at least, meets current security definitions.The scheduling system will be dealing with sensitive and service delivery critical client data, including address and journey data.9.9.2. Data in “the cloud” must be held on servers based in the EU. (Given the recent EU ruling on “safe harbour” US (and other) cloud based storage *may* not be suitable for sensitive data).Virus Protection and system security shall at minimum:1. Protect against virus, worm and Trojan infestation, and protect against other forms of security breaches.
2. Exhibit zero tolerance for a known virus and operate an agreed procedure for responding to an unknown virus.
3. Be no more than 12 hours behind the latest security definitions.
4. Be responsible for the application of updates and patches to operating systems and software as required.

Virus protection systems shall also include:1. An agreed procedure for informing users.
2. Periodic confirmation that the

system is free from viruses.9.9.3.a) Appropriate procedures shall be in place to maintain the security and privacy of data stored on the system.b) The system will adhere to current data protection legislation. |  |  |
| 9.10 | **User Account Management**  | 9.10.1. The scheduling system will provide user account management facilities to manage access and permissions.Appropriate procedures shall be provided to safeguard the integrity of the service.1. User rights / permissions to reflect their need / rights to access sensitive information (this will need to be configurable by a nominated “super user” in the Council. It is envisaged that non-Council staff i.e. staff working for the *Booking and Information Service* will have restricted data access rights).
2. Council staff login to be linked to the Council’s active directory.
3. User rights can be able to be modified within one hour.
4. User I.D.s shall be removed in accordance with documented procedures.
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| 9.11  | **Continuous Improvement** | 9.11.1. The provider will support the development of the Scheduling System / service by proposing improvements and acting on suggestions for improvement from the Council. Ongoing monitoring of service delivery shall be undertaken by the provider and the Council to ensure that it contributes as specified to the achievement of the Council’s business plan, by enabling the delivery of a cost effective transport service in the Total Transport Pilot area.9.11.2. The continuous improvement strategy will include but not be limited to:1. reviewing and monitoring the effectiveness of the service.
2. proposals for modifying existing

service.1. proposals for new / additional services.
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| 9.12 | **Change Control** | Manageable and efficient Change Control procedures shall be proposed, developed and operated to support changes to the software / service. |  |  |

*Section 10: Training / change management*

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| Ref | Item and Description | Fundamental | Nice to have | Bidder’s response |
| 10 | **Operational Training** | Training shall be provided to all staff who will use the system to ensure that:1. the system is used effectively to plan and route and book transport resources in the most cost effective way possible;
2. the system is used effectively to aid administration, record-keeping, reporting and transfer of information and other relevant Management Information tasks.
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*Section 11: Scalability and future development*

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| Ref | Item and Description | Fundamental | Nice to have | Bidder’s response |
| 11 | **Scalability** | The system should be scalable to cover additional services not included in this output specification (i.e. if required, Home to School transport), the whole of Cambridgeshire beyond the Pilot area and there should be options to extend the duration of the service after the end of the original contract term.Bidders are asked to bid for: a one year Pilot service; a three year service for the Pilot area; a three year plus one year service for the Pilot area. |  |  |

*Section 11: End of contract including data / I.P.*

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| Ref | Item and Description | Fundamental | Nice to have | Bidder’s response |
| 11 | **End of contract proposals** including data transfer and IPR. | 11.1.1. At the end of the contract, the Council shall retain ownership of all system data.11.1.2. IPR. At the end of the contract the Council shall retain IPR for any system design / enhancements that were developed with the Council.  |  |  |