

RFP 3606Z1
EXHIBIT A
NEBRASKA PUBLIC TRANSPORTATION TRAVEL SCHEDULING SOFTWARE
SOFTWARE FUNCTIONAL REQUIREMENTS

		Standard Feature in Core Product	Feature Planned for Future Release	Feature Custom Configured	Feature Not Available
Section A - General Requirements					
Item	Functional Requirement				
A.1	Provide for the capacity to schedule passenger trips to existing vehicle and driver resources available for demand response service.				
Vendor Comments					
A.2	Provide for dispatchers' ability to quickly revise driver schedules in response to daily situations.				
Vendor Comments					
A.3	Provide for dispatchers' ability to locate, track, and manage demand response and deviated fixed route vehicles.				
Vendor Comments					
A.4	Provide management ability to monitor, collect, organize, and respond to information generated by system operation such as on-time performance, route adherence, statistical information generated and reported to the Federal Transit Administration (FTA), personnel management, and vehicle management.				
Vendor Comments					
A.5	Provide for the collection of accurate daily random samples of demand response service required for National Transit Database (NTD) reporting.				
Vendor Comments					
A.6	Centralize and automate the collection and management of data and generation of reports.				
Vendor Comments					
A.7	Provide management tools to quickly produce accurate reports and service evaluation tools from information generated by system operation. Report examples include information required for annual NTD reports to the FTA, vehicle and system productivity and performance, personnel management information, maintenance management information, etc.				
Vendor Comments					
A.8	Provide the ability to integrate deviated fixed route and demand response dispatching operations into a single software application.				
Vendor Comments					
A.9	Visually display routes in the mapping system for users to identify origins and destinations, and determine if trips require demand response service.				
Vendor Comments					
Section B - Software Requirements					
Item	Functional Requirement				
B.1	The software provided must be capable of interfacing with an AVL system.				
Vendor Comments					
B.2	The software provided must be capable of interfacing with Mobile Data Terminals (MDTs).				
Vendor Comments					
B.3	Communications between the server and client(s) must be via TCP/IP.				
Vendor Comments					
B.4	The software shall incorporate a fully automated real-time scheduler to consistently produce logical and efficient schedules for customer demand.				
Vendor Comments					
B.5	Scheduling of individual trips to the optimum vehicle shall be in real time (no more than 30 seconds after the data is entered).				
Vendor Comments					
B.6	The software shall provide for computer-assisted scheduling to assist a dispatcher in fine-tuning driver schedules or recommending alternate travel times.				
Vendor Comments					
B.7	The software shall provide efficiencies and accuracy to improve the customer's experience (primarily, reduce phone hold time).				
Vendor Comments					

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B.8	The software shall allow dispatchers to schedule trips, respond to information requests, review individual vehicle manifests and manifest histories, and respond quickly to emergency situations without losing the ability to continue to monitor the vehicle status display and respond as necessary.				
Vendor Comments					
B.9	The software scheduling process shall be user-friendly, requiring minimum keystrokes for the dispatcher to schedule demand trip requests, assign a trip to a vehicle, send a text message to a driver, and receive verification that the trip assignment has been received.				
Vendor Comments					
B.10	Dispatchers shall be able to create custom data views based upon the type of dispatching operations being performed.				
Vendor Comments					
B.11	The software shall easily identify and monitor trips in danger of running late for pick up, and shall have the ability to quickly locate alternate vehicles, make trip assignments, and notify the vehicle operator by text message of the new assignment.				
Vendor Comments					
B.12	Software shall easily identify all will-call trips not assigned to vehicles, track the time the trip was requested for pick up, quickly locate vehicles available to provide the trip within established system policy, make the trip assignment, notify the driver, and provide the customer with confirmation within a maximum of two minutes.				
Vendor Comments					
B.13	The client platform shall be browser-based, or if thin or thick client based upon Windows XP or Windows 7.				
Vendor Comments					
B.14	The system shall allow entry of first name, last name and middle initial. When entering data, the system shall utilize search, pop-ups or other appropriate techniques to detect and alert the user if there may already be a client database entry under this name.				
Vendor Comments					
B.15	The system shall assign a unique client identification number for each entry in the client database.				
Vendor Comments					
B.16	The system shall allow entry of the Medicaid identification number and the client social security number.				
Vendor Comments					
B.17	The system shall allow entry of the client date of birth. A second field should display an automatically calculated client age, expressed in years, based on the current date and the date of birth				
Vendor Comments					
B.18	The system shall allow entry of client gender, using a list box to enable easy selection.				
Vendor Comments					
B.19	The system shall allow multiple address entries for common client pick-up locations, and shall require at least one pick-up address entry. The system shall require that one address be flagged as the default. The system shall provide a separate field for the client mailing address in case the client uses a non-street mailing address.				
Vendor Comments					
B.20	The system shall identify and automatically geocode the location associated with each entered address. If the automatic geocoding fails, the system shall provide alternative methods of establishing x- and y- map coordinates for the address.				
Vendor Comments					
B.21	The system shall allow entry of a text field for special instructions (for subsequent printing on manifests) to assist in locating the client address.				
Vendor Comments					
B.22	The system shall allow entry of a client contact phone number				
Vendor Comments					

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B.23	The system shall allow entry of a certification date defining when the client is authorized to begin receive service. As some clients have temporary eligibility, the system shall also allow entry of a certification expiration date. Certification and expiration dates must be capable of being specified separately for specific funding sources.				
Vendor Comments					
B.24	The system shall allow entry in a field indicating whether a client uses a mobility aid.				
Vendor Comments					
B.25	The system shall require entry in a field specifying disability status				
Vendor Comments					
B.26	The system shall allow entry of one or more billing codes for each client, indicating a third party to be billed for certain trip types				
Vendor Comments					
B.27	The system shall allow entry of the name, address and phone number of a care-giver or other contact to be used in the event of an emergency.				
Vendor Comments					
B.28	The system shall allow entry of additional comments or information of importance to the client registration record. Information on this field shall appear on any manifest trip entry for that client				
Vendor Comments					
B.29	The system shall permit trip booking while the booking clerk is on the phone with the client. The system shall be capable of booking both subscription (standing-order) and demand response trips in this manner. The system shall be capable of booking same day trips.				
Vendor Comments					
B.30	The system shall permit the booking clerk to retrieve the client record by entering the client ID number, client last name, or telephone number. For client retrieval by last name, a list box shall be used to list all clients with the last name beginning with the characters entered. Once selected, a trip booking data entry screen shall be presented to the booking clerk, pre-populated with all data for that client which remains constant (e.g., ID numbers, mobility limitations).				
Vendor Comments					
B.31	The system shall initially automatically present in the trip booking screen the address configured as the default pick-up address. The system shall allow entry of an alternative pick-up address using keystroke entry or through use of a list box of the alternative pick-up addresses associated with that client.				
Vendor Comments					
B.32	The system shall allow selection of the drop-off address, through a list box, from among several frequently and/or recently used drop-off addresses for that client. The system shall allow entry of an alternative drop-off address using keystroke entry.				
Vendor Comments					
B.33	The trip date shall be entered using a interactive calendar interface. The system shall be capable of accepting trip bookings up to 180 days in advance of the requested trip date for subscription trips and 14 days of the requested trip date for regular trips.				
Vendor Comments					
B.34	Transit agencies must meet statutory requirements for pick-up time negotiation with their ADA-eligible clients, as defined under 49 CFR Part 37.131(b)(2) which limits negotiation to no more than one hour before or after the individual's desired departure time. The system shall require entry of a requested pick-up time and allow entry of a negotiated pick-up time within the limits of this window.				
Vendor Comments					
B.35	The system shall allow the definition of standing order trip bookings, with flexible options to specify recurring travel dates. At minimum, the system shall support selection of a recurring weekly day (e.g., every Tuesday), a recurring monthly day (e.g., every 2 nd Wednesday) or a recurring monthly date (e.g., the 4 th of every month).				
Vendor Comments					

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B.36	The system shall allow the booking clerk to temporarily suspend a particular standing order, with entry of both start and end dates of the suspension time period. These dates shall be entered using a interactive calendar interface.				
Vendor Comments					
B.37	The system shall automatically suspend standing orders on holidays when services are not in operation. The system shall provide a function to allow the booking clerk to enter or adjust such holidays.				
Vendor Comments					
B.38	The system shall monitor the percentage of standing order trips out of all trips, for ADA-eligible clients, to ensure compliance with ADA regulations (40 CFR Part 37.133(b)).				
Vendor Comments					
B.39	The system shall allow the booking clerk to access existing trip bookings to edit the pick-up address, drop-off address, trip date, and/or pick-up time upon client request. The system shall assign a unique identification number to each trip booking record to facilitate trip editing.				
Vendor Comments					
B.40	The system shall alert the booking clerk during a trip booking when the certification expiration date for the funding source will have passed on the trip date. The system shall allow the booking clerk to book the trip nonetheless by overriding this feature. The system shall flag all trip bookings for which this override was applied.				
Vendor Comments					
B.41	The system shall permit cancellation of any trip booking, when consistent with each agency's policies. The system shall retain the trip booking and flag it with the date and time when it was cancelled to facilitate agency's management of its cancellation policies.				
Vendor Comments					
B.42	The system shall alert the booking clerk if the client has previously booked a trip with a trip time period that is in conflict with the selected booking pick-up time. The system shall allow the booking clerk to book the trip nonetheless by overriding this feature. The system shall flag all trip bookings for which this override was applied.				
Vendor Comments					
B.43	During each trip booking, the system shall display, using the GIS software capabilities, the map locations for the pick-up and drop-off locations.				
Vendor Comments					
B.44	The system shall allow entry of a start and end date for the time period when a client's ridership privileges are suspended. If the selected trip date is within this suspended service time period, the system shall alert the booking clerk that the trip booking cannot be completed for this reason. These dates shall be entered using a interactive calendar interface.				
Vendor Comments					
B.45	The system shall allow entry, during the trip booking process, of the names of any Personal Care Attendants or other companions (e.g., children) that will accompany the client on the trip.				
Vendor Comments					
B.46	Once all other trip booking information has been entered, the system shall indicate to the reservation clerk any applicable fare(s) to be paid by the client and any companions.				
Vendor Comments					
B.47	The system shall, at the conclusion of the trip booking process, confirm to the booking clerk that the booking was successfully entered into the system.				
Vendor Comments					
B.48	The system shall be capable of scheduling, in batch mode, all bookings for the next travel day for each agency. Scheduling should be based on the actual street network in the service area, using parameters associated with street network segments as established in the GIS system (e.g., physical barriers, running speed by time of day, and appropriate dwell times for the boarding and alighting of passengers).				
Vendor Comments					

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B.49	The system shall schedule ADA complementary paratransit trips, which require higher service standards, at the same time as other paratransit trips. Proposers shall describe how the system processes trip priorities during scheduling.				
Vendor Comments					
B.50	The system shall allow subscription run templates to be developed, based on standing orders. The system shall optimize the templates for least distance and/or travel time, based on the street network segment parameters stored in the system.				
Vendor Comments					
B.51	The system shall produce a daily manifest for each run, indicating pull-in and pull-out times, the projected arrival time of the vehicle at each pick-up and drop-off location, and listing the trip events in chronological order.				
Vendor Comments					
B.52	Once generated, the system shall be able to display all manifests for a given day for each agency. The system shall provide tools to allow manual adjustments to the run manifests, including manually moving trips between manifests.				
Vendor Comments					
B.53	The system shall have internal validation checks to ensure that manifests do not violate work and labor rules (e.g., driver work hours and breaks) for each agency. The system shall also perform validation checks to ensure that policies limiting travel times for individual passengers are not violated.				
Vendor Comments					
B.54	Each agency's system shall schedule each run based on an assigned vehicle, recognizing the accessibility needs of the scheduled clients and vehicle capacity constraints.				
Vendor Comments					
B.55	The system shall allow trips to be added to an existing run on the same day as the run. The system shall identify a range of alternatives for assigning the trip to existing runs for that day so as to best satisfy the requirements of the reservation while minimizing any impact on existing reservations. The system shall present these alternatives in rank order with a numerical "score" to indicate the degree of difference between choices presented to the reservation clerk.				
Vendor Comments					
B.56	The system shall reschedule all runs after scheduling or canceling a trip from a run on the same day, to ensure that manifests continue to meet all requirements.				
Vendor Comments					
B.57	Each agency's system shall receive incoming messages from mobile data terminals (MDTs) where the driver has logged on to a paratransit run. The incoming message types are logon, pull-out, pull-in, location reports, trip event reports, covert alarm messages and text messages.				
Vendor Comments					
B.58	The system shall log all outgoing and received data in a historical database, including date/time, vehicle ID, run ID, driver ID, dispatcher ID, location, odometer, message type, and message content. The historical database shall be read-only. Historical data shall be available in a format that is directly accessible by or importable into common database management and analysis tools.				
Vendor Comments					
B.59	The system shall receive location reports from the MDTs and display the last reported location on the map display. The display shall provide an indication when the last reported location is older than the reporting interval.				
Vendor Comments					
B.60	The dispatcher shall be able to review the chronological sequence of reported locations for a specified vehicle over a specified time period on the map display, including controls to view the entire sequence from the beginning of the time period or step through the sequence incrementally forwards or backwards.				
Vendor Comments					

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B.61	Each agency's system shall allow dispatchers to access run manifests using the run number, vehicle number, client number, or client name. The system shall display the run number, the list of passengers, the scheduled arrival time and funding source for each trip, the estimated arrival time for each pick-up and drop-off, and any special circumstances. The run manifest display should list trip events in chronological order, beginning with the next upcoming trip event.				
Vendor Comments					
B.62	The system shall send manifest trip pickup and drop-off data to the MDT in the vehicle assigned to that manifest. The dispatcher shall be able to configure what portion of the upcoming manifest entries shall be sent to the MDT (e.g., the next X trips, all trips in the next Y minutes).				
Vendor Comments					
B.63	This pickup and drop-off data shall include fields for name, address, scheduled time, fare to be collected, whether there is a companion, and a note.				
Vendor Comments					
B.64	The system shall automatically display any same day manifest changes, such as trip additions or cancellations, to the dispatcher and transmit these manifest changes to the MDT in the vehicle assigned to that manifest.				
Vendor Comments					
B.65	The system shall receive trip pickup and drop-off event reports from MDTs, use this data to update the manifests with the time and reported location for each pickup and drop-off.				
Vendor Comments					
B.66	The system shall receive no-show requests from MDTs, allow dispatchers to decide whether to authorize the no-show, record the time when the no-show was authorized, remove the pickup and drop-off from the manifest, and transmit these manifest changes to the MDT in the vehicle assigned to that manifest.				
Vendor Comments					
B.67	If a vehicle must be removed from service, the system shall allow the dispatcher to associate a newly assigned vehicle with the run. If no alternative vehicle is available and the run must be cancelled, the system shall attempt to dynamically reschedule all the affected trips onto existing runs, with priority to any trips that were already underway on the affected vehicle.				
Vendor Comments					
B.68	The system shall allow easy dispatcher entry of trip event completion times (e.g., as written on the manifest by the driver or reported via radio).				
Vendor Comments					
B.69	The system shall allow the dispatcher to view received text messages in a tabular display that also indicates the vehicle ID and the time of the message.				
Vendor Comments					
B.70	The system shall allow the dispatcher to initiate a new incident report. The new incident report form shall appear in a separate window, including an automatically generated date /time, a list box to select an incident type and a box to enter free text information.				
Vendor Comments					
B.71	The system shall allow the user to append to an existing open incident report. The dispatcher shall be able to select from a list of currently open incident reports that can be sorted by date/time, incident type or initiating dispatcher. The selected incident report will appear in a separate window, and will be available for editing.				
Vendor Comments					
B.72	The system shall allow the user to close an existing open incident report. The dispatcher shall be able to select from a list of currently open incident reports that can be sorted by date/time, incident type or initiating dispatcher. The dispatcher shall be asked to confirm the selected incident report before the incident is closed.				
Vendor Comments					

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B.73	The incident report database shall indicate for each incident report the date/time of opening the report, the incident type, the initial incident text, the initiating dispatcher, the date/time of each subsequent modification, each modified version of the text, the modifying dispatcher, the date/time the incident was closed and the closing dispatcher.				
Vendor Comments					
Section C- Reporting Requirements					
Item		Functional Requirement			
C.1	The system shall streamline billing and reporting for FTA, contracted agencies, and customer agencies.				
Vendor Comments					
C.2	The system shall support each of the reporting requirements of FTA for the annual National Transit Database (NTD) report.				
Vendor Comments					
C.3	All database tables shall be exportable in a commonly used format, such as .CSV.				
Vendor Comments					
C.4	The system shall use GIS distance calculations to determine the cost of each trip. This distance calculation must be measured using GIS-based shortest path calculations using the street centerline dataset.				
Vendor Comments					
C.5	The system shall have the ability to create custom reports from the database.				
	The system shall produce, at minimum, daily, weekly, and monthly reports for the following:				
C.6	Trips provided				
Vendor Comments					
C.7	Ridership				
Vendor Comments					
C.8	Passenger travel time, by run or user group				
Vendor Comments					
C.9	Service turn-downs				
Vendor Comments					
C.10	Percent of ADA trips that are standing orders				
Vendor Comments					
C.11	Number of cancellations				
Vendor Comments					
C.12	Number of no-shows				
Vendor Comments					
C.13	Number of vehicle hours/miles				
Vendor Comments					
C.14	Number of billable hours/miles				
Vendor Comments					
C.15	Fares received				
Vendor Comments					
C.16	Active fleet (weekday and weekend)				
Vendor Comments					
C.17	Actual versus negotiated pick-up and drop-off times				
Vendor Comments					
C.18	Late/failed pick-ups and drop-offs				
Vendor Comments					
C.19	Productivity				
Vendor Comments					
C.20	Number of incidents/accidents				
Vendor Comments					
C.21	National Transit Database (NTD) annual reports in accordance with federal transit administration rules.				
Vendor Comments					

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Section D - Database Requirements					
Item	Functional Requirement				
D.1	The system shall be based upon a Microsoft SQL Server or Oracle database.				
Vendor Comments					
D.2	Operations and performance data shall be stored in a historical database that will provide rapid access for common and recurring operational reports.				
Vendor Comments					
D.3	The software shall provide a database reporting tool for developing ad-hoc reports.				
Vendor Comments					
D.4	Data shall be stored without time limit.				
Vendor Comments					
D.5	The system shall store, at a minimum: routes, schedules, operational performance for each vehicle, call requests, text messages, system logins, vehicle logins, and all logout information.				
Vendor Comments					
Section E - Mapping Requirements					
Item	Functional Requirement				
E.1	The geographic map display shall utilize the GIS base map with overlays showing route shapes, landmarks, boundaries, paratransit origins and destinations, and vehicle scheduling and routing information.				
Vendor Comments					
E.2	The display shall show the location, status, and movement of all vehicles on the map.				
Vendor Comments					
E.3	The display shall allow the user to navigate the map via point-and-click commands to zoom, pan, and locate individual vehicles or vehicles operating in a specific area.				
Vendor Comments					
E.4	The software shall incorporate GIS capabilities that allow pan and zoom viewing for maps of the service areas, with multiple zoom levels. Information shall be added or deleted to maintain clarity as the user moves between zoom levels.				
Vendor Comments					
E.5	Access to maps shall not require exiting from the application software.				
Vendor Comments					
E.6	GIS functionality shall provide for one or more layers for political/census boundaries (e.g., municipal, township, census tracts, census block groups, zip code boundaries).				
Vendor Comments					
E.7	GIS functionality shall include the ability to define service-based zones (e.g., Americans with Disabilities Act (ADA) complementary paratransit service area, fare zones).				
Vendor Comments					
E.9	The system shall be capable of defining and displaying point-based map layers, indicating system time points, bus stops, major intersections, major transfer points, and major origins and destinations of travel, or other points of interest (e.g., tourist attractions).				
Vendor Comments					
E.10	Each service area map shall include current data for all street segments, ensuring that every segment is appropriately connected in the network and has a defined street name and address range.				
Vendor Comments					
E.11	The system shall have full geocoding capability, allowing the system to locate the address on the map if an address is entered.				
Vendor Comments					
E.12	The street segments database shall be sufficiently complete to assure a geocoding success rate of 90 percent or better based on a sample of addresses developed by each transit agency.				
Vendor Comments					

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E.13	The system shall be capable of handling various abbreviations of names (e.g. St. for Street) in the geocoding process.				
Vendor Comments					
E.14	The system shall allow the user to calculate the distance between points or along a specified portion of the street network in each system.				
Vendor Comments					
E.15	The street network definition shall include characteristics needed to allow the computation of navigable routes, including speed limits, one-way restrictions and turn prohibitions.				
Vendor Comments					
E.16	The system shall be capable of printing maps to peripheral devices (e.g., printers, plotters) directly attached to the workstation or available over a Local Area Network (LAN) or Virtual Private Network (VPN). The print quality of the maps should be sufficient for use in a printed schedule intended for the public.				
Vendor Comments					
Section F - Mobile Data Terminal Requirements					
Item	Functional Requirement				
F.1	The Contractor shall provide in-vehicle MDTs for all fixed route and paratransit vehicles in each procuring agency.				
Vendor Comments					
F.2	The MDT shall be integrated with the GPS receiver and mobile data communications radio modem.				
Vendor Comments					
F.3	The MDT shall turn on automatically when the vehicle ignition is turned on, and shall shut down a programmable time after the vehicle ignition is turned off.				
Vendor Comments					
F.4	The display shall be large enough to allow the paratransit application software to simultaneously display the name and address information for at least four pickups and/or drop-offs.				
Vendor Comments					
F.5	The MDT application software shall be operated using either programmable function keys or touch screen programmable buttons.				
Vendor Comments					
F.6	GPS receivers shall report latitude, longitude, speed, time, direction of travel and whether the GPS position is classified as "good" given the current Horizontal Dilution of Precision (HDOP).				
Vendor Comments					
F.7	The GPS receivers shall be parallel tracking receivers, capable of simultaneously tracking at least four GPS satellites in the best available geometry, while also serially tracking the four next best satellites and upcoming (rising) satellites.				
Vendor Comments					
F.8	Onboard GPS receivers must be Wide Area Augmentation System (WAAS)-capable, providing position accuracy within three meters 95 percent of the time.				
Vendor Comments					
F.9	The GPS receiver shall have a cold start solution time of two minutes or less and a re-acquisition time of 15 seconds or less.				
Vendor Comments					
F.10	Velocity measurements provided by the GPS equipment shall be accurate to within 0.1 meters per second.				
Vendor Comments					
F.11	When a driver is logged in to a run, the MDT shall display manifest data for the next several upcoming pickup and drop-offs, received via the mobile data communications system from the paratransit scheduling and dispatch software.				
Vendor Comments					
F.12	The MDT shall allow the driver to indicate when the vehicle is about to pull-out to begin the run or has just pulled in to complete the run				
Vendor Comments					

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F.13	The MDT shall allow the driver to select a single pickup or drop-off, to view all additional manifest details, and to return from these details to the view of multiple upcoming pickups and drop-offs.				
Vendor Comments					
F.14	The MDT shall allow the driver to indicate when the vehicle has arrived onsite or is departing, for pickups or drop-offs.				
Vendor Comments					
F.15	When the driver selects to complete a pickup event, the driver shall be able to update the MDT manifest data to reflect (1) the actual fare collected and (2) whether there was a companion.				
Vendor Comments					
F.16	When the driver selects a pull-out, pull-in, pickup or drop-off trip event, the MDT shall send the name, address, time, GPS location and odometer reading to the paratransit scheduling and dispatch software.				
Vendor Comments					
F.17	If the MDT does not receive an acknowledgement for pull-out, pull-in, pickup or drop-off trip event data sent to dispatch, the MDT shall store this data for later bulk data transfer to the paratransit scheduling and dispatch software.				
Vendor Comments					
F.18	The MDT shall send a location report, indicating its current GPS location, once a programmable number of minutes have passed since the previous location or trip event report.				
Vendor Comments					
F.19	The MDT shall allow the driver to send a text message to dispatch by selecting from a set of pre-defined messages.				
Vendor Comments					
F.20	The MDT shall store up to ten text messages received from dispatch, indicate to drivers when there are unread text messages, and allow stored text messages to be viewed or deleted.				
Vendor Comments					
F.21	The MDT shall allow the driver to view received text messages that are longer than can fit on one line of the display				
Vendor Comments					
F.22	The MDT shall store the most recent location received from the GPS receiver, so that if the GPS receiver ever is not able to report the location the "last known good" location will remain available				
Vendor Comments					
F.23	The GPS location indicated in a report sent by an MDT to dispatch shall indicate whether the location is the current location from the GPS receiver or the last known good GPS location.				
Vendor Comments					
F.24	Electrical power for MDTs and all other on-board components shall be drawn from vehicle unconditioned nominal 12V DC power supply.				
Vendor Comments					
F.25	MDTs and all other on-board components shall meet the requirements of this specification under all conditions encountered in transit vehicle operations.				
Vendor Comments					
F.26	MDTs and all other on-board components shall be designed to operate in accordance with these specifications for ambient temperatures from -30°C to +60°C				
Vendor Comments					
F.27	MDTs and all other on-board components shall be designed to operate in accordance with these specifications for ambient humidity from 5% to 80%, non-condensing.				
Vendor Comments					
F.28	MDTs and all other on-board components shall be designed to withstand the vibration and shock forces associated with transit vehicles.				
Vendor Comments					
F.29	MDTs shall be securely mounted in the interior of the vehicle, so as to avoid blocking driver sightlines to front and side windows. The location of and mounting method for the MDT units shall be determined in collaboration with each agency's staff.				
Vendor Comments					

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Section G - CAD/AVL Requirements					
Item	Functional Requirement				
G.1	The system shall log all outgoing and received data in a historical database, including date/time, vehicle ID, trip ID, driver ID, dispatcher ID, location, odometer, schedule adherence, message type, and message content. The historical database shall be read-only. Historical data shall be available in a format that is directly accessible by or importable into common database management and analysis tools.				
Vendor Comments					
G.2	The system shall show on the map display the last reported location for all vehicles that have an MDT logged in to a paratransit run, using a vehicle icon indicating route direction and labeled with the vehicle ID, trip ID or driver ID as selected by the user. The display shall provide an indication when the last reported location is older than the reporting interval.				
Vendor Comments					
G.3	Based on configurable thresholds, the system shall use the reported schedule adherence data to designate when vehicle are "early" or "late", and list these exception vehicle IDs in a tabular display with their current schedule adherence. These tabular display entries and the map display symbols for these vehicles shall use distinct and configurable color codes for early and late status.				
Vendor Comments					
G.4	If a vehicle must be removed from service, the system shall allow the dispatcher to associate a newly assigned vehicle with the run.				
Vendor Comments					
G.5	The dispatcher shall be able to review the chronological sequence of reported locations for a specified vehicle over a specified time period on the map display, including controls to view the entire sequence from the beginning of the time period or step through the sequence incrementally forwards or backwards.				
Vendor Comments					
G.6	The system shall allow the dispatcher to send a text message to a single MDT, a predefined group of MDTs or all MDTs within an area selected on the AVL map display. The system shall allow the dispatcher to select one of a set of predefined text messages or enter a free text message. The system shall allow for any message sent by dispatch to be flagged as requiring driver acknowledgement.				
Vendor Comments					
G.7	Each agency system shall allow the dispatcher to initiate a new incident report. The new incident report form shall appear in a separate window, including an automatically generated date /time, a list box to select an incident type and a box to enter free text information.				
Vendor Comments					
G.8	The system shall allow the user to append to an existing open incident report. The dispatcher shall be able to select from a list of currently open incident reports that can be sorted by date/time, incident type or initiating dispatcher. The selected incident report will appear in a separate window, and will be available for editing.				
Vendor Comments					
G.9	The system shall allow the user to close an existing open incident report. The dispatcher shall be able to select from a list of currently open incident reports that can be sorted by date/time, incident type or initiating dispatcher. The dispatcher shall be asked to confirm the selected incident report before the incident is closed.				
Vendor Comments					
G.10	The incident report database shall indicate for each incident report the date/time of opening the report, the incident type, the initial incident text, the initiating dispatcher, the date/time of each subsequent modification, each modified version of the text, the modifying dispatcher, the date/time the incident was closed and the closing dispatcher.				
Vendor Comments					