An In-Depth Analysis of Ride-Scheduling Software Programs for Use by Community-Based Organizations Providing Alternate Transportation Services to Seniors

Abbreviated Version

Tara Pidborochynski, MSc
Bonnie Dobbs, PhD

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A Project for the Edmonton Seniors Coordinating Council with Support from Alberta Health

MARD
Medically At-Risk Driver Centre

Department of Family Medicine
Faculty of Medicine and Dentistry
University of Alberta

Phone: 780-492-6273
Fax: 780-492-8191
mard@ualberta.ca
www.mard.ualberta.ca

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Glossary of Abbreviations

ATS	Alternate Transportation for Seniors
AVL	Automated Vehicle Location
CCHS	Canadian Community Health Survey
DRT	Demand Response Transportation
GPS	Global Positioning System
HIA	*Health Information Act*
HIPAA	*Health Insurance Portability and Accountability Act*
IVR	Interactive Voice Response
MDT	Mobile Data Terminal
OECD	Organization for Economic Co-operation and Development
PHAC	Public Health Agency of Canada
PIPA	*Personal Information Protection Act*
SSL	Secure Socket Layer

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Executive Summary

Introduction

Over the next 30 years, the Canadian population will continue to age. This trend will be associated with an increased prevalence of chronic medical conditions given the strong relationship between illness and age (Denton & Spence, 2010; King, Chirina, Shanka, & Broman-Fulks, 2013; Public Health Agency of Canada [PHAC], 2011). It also is anticipated that the pattern of reductions in driver licensing status with age will continue (Turcotte, 2012), as well the low use of public transportation as a means of meeting one's mobility needs (Alsnih & Hensher, 2003). These trends have important implications for modes of alternate transportation for seniors (ATS), defined as modes of transportation that exist outside of public transportation programs. ATS services include both For-Profit and Not-for-Profit (i.e., private vehicles, buses, handivans, minivans) services (Dobbs, Lee, & Song, 2011), and often are tailored specifically to meet the mobility needs of older adults who face challenges in driving personal vehicles or using conventional public transportation services (Freund, 2004; Oxley & Whelan, 2008).

Currently, many ATS service providers are challenged to meet the current and growing demands for their services (Dobbs, Bhardwaj, & Pidborochynski, 2010). Innovative technologies, such as ride-scheduling software programs, are increasingly available to assist ATS providers in the delivery of transportation services. Ride-scheduling software systems can serve as powerful tools in that they enable 1) efficiency in administrative tasks and improvements in service delivery; 2) more efficient routing and/or scheduling of vehicles and drivers leading to improvements in vehicle productivity, on-time performance, which can have beneficial impacts on overall operating costs; 3) enhancements in communication between vehicles/drivers and the scheduling/dispatching centre, the provision of faster data transfer and utilization of real-time data, as well as reductions in paperwork and related administrative tasks; and/or 4) gains in quality of service and passenger satisfaction.

Despite the recorded benefits of ride-scheduling software programs, few community-based ATS service providers are aware and/or have the requisite knowledge of the capabilities of these programs. The overall goal of the project was to identify ride-scheduling service providers available for use by community-based organizations providing transportation services to seniors and to compare and contrast the features and capabilities of service provision across the identified ride-scheduling software programs. Following, the objective was to develop an easy-to-read resource guide of ride-scheduling software programs for use by community-based ATS service providers interested in the use of this technology to enhance their ATS services.

Methods

Existing ride-scheduling software systems were identified by web-based searches and via phone contacts with known ride-scheduling software providers. Ride-scheduling software systems were considered for inclusion in the project if, while being able to accommodate large-scale transportation organizations (i.e., para-transit providers), they also were able to accommodate transportation organizations who utilize volunteer drivers to provide rides to clients. The web-based search identified a total of 20 ride-scheduling software program service providers. All companies identified as potentially appropriate for the project were then contacted by email or telephone. Representatives from each of the ride-scheduling software companies were given a brief overview of the project and were asked if their particular ride-scheduling system was able to accommodate transportation organizations who utilize volunteer drivers. Companies responding affirmatively were then invited to participate in a telephone interview.

Of the 20 identified ride-scheduling software program service providers, 13 met the inclusionary criteria: for 2 of these 13 service providers, contact could not be established (i.e., phone calls and emails were not returned). The remaining 11 service providers participated in the full telephone interview. The overall response rate for the project was 85%. A listing of the ride-scheduling software system service providers that were ineligible for project (e.g., did not meet inclusionary criteria) and the service providers where contact was not made is provided in the Appendix.

The 60 minute telephone interview was based on a structured questionnaire developed for the project by staff at the Medically At-Risk Driver Centre in collaboration with staff from the Edmonton Seniors Coordinating Council. Specifically, the questionnaire focused on capturing information about the different features and capabilities of each individual ride-scheduling software system. The features and capabilities of ride-scheduling software systems that the structured questionnaire captured information on are provided below:

- Company Target Market;
- Company Target Audience;
- Software Specifications;
- Client Profile;
- Driver Profile;
- Booking and Dispatching;
- Notification to the Driver of an Assigned Trip;
- Notification to the Client of an Accepted Trip;
- Planning Route;
- Trip Status;
- Client Payment Invoicing;

- Driver Reimbursement Statements;
- Reporting and Statistics;
- Software Program Implementation, Training, and Support;
- Privacy and Security; and
- Software Costs

Results

Results of the interviews with the 11 ride-scheduling software companies indicated that ride-scheduling software programs are best categorized based upon the *target market* that the software program was *originally* designed for. Specifically, there are ride-scheduling software programs originally designed to accommodate transportation organizations utilizing volunteer drivers, those designed to accommodate transportation organizations with staffed and/or paid drivers (i.e., large-scale para-transit organizations), and software programs originally designed to accommodate transportation organizations with both volunteer and staffed drivers. This categorization is important in that it allows for an *understanding* of how ride-management software technology has now evolved to accommodate small-scale or Not-for-Profit transportation organizations.

An overview of the ride-scheduling software providers, based on Target Market and Target Audience, is provided in Table 1. In terms of Target Market, 3 of the 11 (27%) ride-scheduling software providers indicated that their software was *originally* designed for transportation organizations that utilize volunteer drivers, 5 of the 11 (46%) ride-scheduling software providers indicated that their software was originally designed for transportation organizations that use staffed drivers, with the remaining 3 (27%) ride-scheduling software providers indicating that their software was originally designed for transportation organizations that use both volunteer and staffed drivers. However, as shown in Table 1, for all 11 ride-scheduling programs, the software can be used by Not-for-Profit transportation providers, volunteer driving programs, para-transit providers, and For-Profit transportation providers.

Results from the structured questionnaire across the 13 major categories of 'features and capabilities' are then presented in matrix format for each of the ride-scheduling software programs (see Table 2). This format allows the reader to easily assess the commonalities and differences among the software providers interviewed. Overall, there is little variability among the 11 ride-scheduling software programs providers interviewed on five of the major categories (Software Specifications; Client Profile; Driver Profile; Planning Route; and Trip Status), with different degrees of variability on the remaining eight major categories (Booking and Dispatching; Notification to the Driver of an Assigned Trip; Notification to Client of an Accepted Trip; Client Payment Invoicing; Driver Reimbursement Statements; Reporting and Statistics; Training and Support; and Privacy and Security) of 'features and capabilities'. Of these eight

categories, there are greater differences across the 11 ride-scheduling software programs related to *booking and notification of the trip* (e.g., Booking and Dispatching; Notification to the Driver of an Assigned Trip Notification to Client of an Accepted Trip), with fewer differences across the 11 ride-scheduling software programs related to *administrative aspects of service provision* (e.g., Client Payment Invoicing; Driver Reimbursement Statements; Reporting and Statistics; Training and Support; and Privacy and Security). A more detailed description of each of the 11 ride-scheduling software programs with respect to Target Market and Target Audience, 'features and capabilities', and Software Costs can be found the *Extended Version* of this report.

Summary and Conclusions

In summary, there are now a number of ride-scheduling software programs available to assist community-based ATS service providers in the coordination of and efficiency in delivery of ATS service provision. The vast majority of the ride-scheduling software programs are web-based, which allows for easier access to the software, access to the software by multiple users, regular database backups, and storage of data on secure servers. A comparison of software features and capabilities indicated that there was little in the way of differences among the ride-scheduling software programs related to Client and Driver Profiles, and features related to Planning Route and Trip Status. It also is the case, based on interviews with the 11 included service providers, that there are few differences across ride-scheduling software programs in terms of *administrative aspects of service provision* (Client Payment Invoicing; Driver Reimbursement Statements; Reporting and Statistics; Training and Support; and Privacy and Security). In terms of costs, there also were similarities in terms of charges for different aspects of the software (e.g., start-up costs, customization, training, on-going costs, etc.), with those costs available to interested organizations on a one-on-one basis. The greatest differences noted across the 11 ride-scheduling software programs were related to *booking and notification of the trip* (e.g., Booking and Dispatching; Notification to the Driver of an Assigned Trip; Notification to Client of an Accepted Trip). It is important to note however, that the ride-scheduling software programs that are available are easily configurable and customizable. As such, additional fields of interest specific to an organization's needs are likely easily addressed.

Finally, it is important to note that there is not a 'one size fits all' model of ride-scheduling software for community-based ATS service providers. Rather, communities will differ in their ride-scheduling software needs. As such, the matrix (Table 2) provides ATS service providers with a comprehensive overview of the many features and capabilities that are currently available, which in turn allows them to select and further investigate those software providers whose services are best aligned with their needs.

Introduction

The first of the baby boomers started to enter their senior years in 2011. As a result, Canada is experiencing a significant demographic shift with older adults accounting for an increasingly larger proportion of the population, with this trend continuing over the next 30 years. In addition to the greying of the nation, the current health status in today's seniors also is undergoing a shift toward that of increased prevalence of chronic medical conditions (Denton & Spence, 2010; King, Chirina, Shanka, & Broman-Fulks, 2013; Public Health Agency of Canada [PHAC], 2011). These shifts in population demographics and health status will have implications for the development and provision of alternate transportation for seniors (ATS) services and programs. ATS services are modes of transportation that exist outside of public transportation programs and include both For-Profit and Not-for-Profit para-transit (i.e., private vehicles, buses, handivans, minivans) services (Dobbs, Lee, & Song, 2011). These types of transportation services are designed and tailored specifically to meet the mobility needs of older adults who face challenges in driving personal vehicles or using conventional public transportation services (Freund, 2004; Oxley & Whelan, 2008).

Relevant to this report, the majority of older adults rely on the private automobile, either as a driver or a passenger, to meet their mobility needs (Alsnih & Hensher, 2003; Organization for Economic Co-Operation and Development [OECD], 2001; Rosenbloom, 2001, 2004, 2006; Turcotte, 2012). Recent data from the 2009 Canadian Community Health Survey (CCHS) indicate that almost three quarters of all older adults in Canada, over 3.25 million individuals, hold a valid driver's licence (Turcotte, 2012). Results from the survey also indicate that males are more likely than females to be licensed to drive although the gap between the sexes is not as substantial as what was recognized in previous generations of older adults (Coughlin, 2009; Rosenbloom, 2001; Rosenbloom & Herbel, 2009; Turcotte, 2012). Not surprisingly, results from the same survey also show that with advancing age, the percentage of seniors licensed to drive decreases. Based on Canadian data, the percentage of both males and females licensed to drive declines from 85% for those aged 65 to 74 years, to approximately 25% for those 90 years of age and older (see Figure 1).

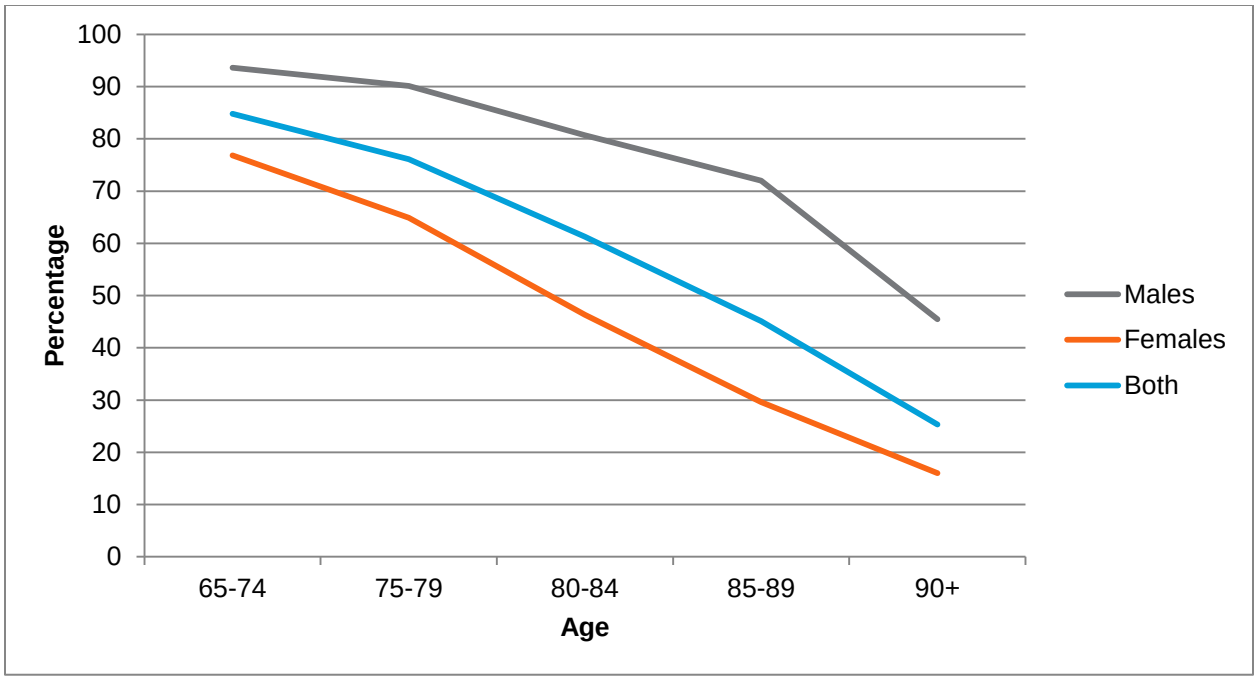

Figure 1. Declining licensure rates by age category and sex, 2009 CCHS data. Adapted from "*Profile of seniors' transportation habits* (Catalogue No. 11-008-X)" by M. Turcotte, 2012, Statistics Canada.

Research also suggests that, on average, men are expected to exceed their driving life expectancy by six years, with women outliving their driving careers by 10 years (Foley, Heimovitz, Guralnik, & Brock, 2002). The difference between the sexes is accounted for by the greater life expectancy of women (Burkhardt, McGavock, Nelson, & Mitchell, 2002; Federal Interagency Forum on Aging-Related Statistics, 2012). Importantly, it often is assumed that conventional public transit services can adequately meet the mobility needs of older adults. However, the same medical conditions that negatively impact driving performance and safety also impede upon an individual's ability to use conventional public transportation (Dickerson et al., 2007; Harris & Tapsas, 2006; Kostyniuk & Shope, 2003; Oxley & Whelan, 2008; Rosenbloom, 2003; Suen & Sen, 2004). Research also indicates that use of public transportation by individuals 65 years of age and older is low, with only 6% of this segment of the population using public transportation and often it is considered to be "the mode of last resort" (Alsnih & Hensher, 2003, p. 910). Given the aging of the population and the associated reductions in licensing rates with age (due to voluntary and involuntary driving cessation), and low rates of public transportation usage with advancing age, it is anticipated that an increasingly larger proportion of seniors will depend on alternate modes of transportation over the next three decades.

This changing demographic landscape will influence and have a significant impact on the development of ATS services that aim to keep older adults mobile long into their senior years.

Specifically, it is anticipated that there will be increased need and demand for responsive ATS services. Given the saliency of mobility to independence, well-being, and quality of life (Carp, 1988), the role that ATS services play in the lives of seniors will continue to gain in importance. It also is anticipated that there will be increased pressure for improvements in efficiency in ATS service provision by this new 'wave' of older baby boomers. Currently, many ATS service providers are challenged in meeting the current and growing demands for their services, given their limited resources (Dobbs, Bhardwaj, & Pidborochynski, 2010). Innovative technologies, such as ride-scheduling software programs, are increasingly available to assist ATS service providers in the delivery of transportation services.

Project Purpose and Identification of Ride-Scheduling Software Programs

Ride-scheduling software systems can serve as powerful tools to enable efficiency in administrative tasks and improve service delivery for a wide variety of ATS service providers. These computer software programs often can enable more efficient routing and/or scheduling of vehicles and drivers; lead to improvements in vehicle productivity as well as on-time performance; and can have beneficial impacts on overall operating costs (Alfa, 1986; Barnes, 2003; Bennett, 1994; Chira-Chavala, Gosling, & Venter, 1997; Metaxatos & Pagano, 2004, 2005; Pagano et al., 2003; Palmer, Dessouky, & Zhou, 2006; Stone, Gilbert, & Nalevanko, 1992; Stone, Nalevanko, & Gilbert, 1994). Advanced communication features such as mobile data terminals (MDT), smart phone device capabilities, and automatic vehicle locator (AVL) technology, automate processes and enhance communication between vehicles/drivers and the scheduling/dispatching centre, enable fast data transfer and utilization of real-time data, and reduce paperwork and related administrative tasks (Metaxatos & Pagano, 2005). Furthermore, research has indicated that the implementation of ride-scheduling software programs within a transportation organization can facilitate measurable gains in quality of service and passenger satisfaction (Metaxatos & Pagano, 2004; Pagano, Metaxatos, & King, 2002). However, few community-based ATS service providers are aware and/or have the requisite knowledge of the capabilities of ride-scheduling software programs. An easy-to-read resource guide outlining the features and capabilities of different ride-scheduling software systems can prove useful for interested transportation organizations or community groups wanting to utilize these types of technology to enhance their transportation services to seniors.

Previously, in 2011, the Medically At-Risk Driver Centre conducted a survey of ride-scheduling software programs in Canada and the United States of America. The findings from that survey were used by the Edmonton Seniors Coordinating Council to develop a brief summary report on ride-scheduling software programs available for use by community-based organizations (Gelderman & Hallett, 2013). The goal of the current project is to build on this previous

knowledge and to identify ride-scheduling software systems that are available for use by community-based organizations providing transportation services to seniors and to provide an overview of their features and capabilities.

Methods

Existing ride-scheduling software programs were identified by web-based searches and via phone contacts with known ride-scheduling software providers. Web-based searches were done using the Google search engine and Boolean searching with established search terms (trip scheduling software; ride-scheduling software; demand-response transportation scheduling software; non-emergency medical transportation ride-scheduling software; volunteer drivers; transportation scheduling software; seniors' transportation; para-transit ride-management programs; para-transit software systems; ride share software programs). The search was not constrained to any specific geographical locale. Rather, a comprehensive search of Canadian-based and American-based companies was undertaken.

Project Sample

Ride-scheduling software systems were considered for inclusion in the project if, while being able to accommodate large-scale transportation organizations (i.e., para-transit providers), they also were able to accommodate transportation organizations who utilize volunteer drivers to provide rides to clients. The web-based search identified a total of 20 potentially appropriate ride-scheduling software program service providers. All program service providers identified as potentially appropriate ride-scheduling software systems for the project were then contacted by email or telephone. Representatives from each of the ride-scheduling software companies were given a brief overview of the project and were asked if their particular ride-scheduling system was able to accommodate transportation organizations who utilize volunteer drivers. Companies responding affirmatively were then invited to participate in a telephone interview.

Of the 20 identified ride-scheduling software program service providers, 7 did not meet the inclusionary criteria and subsequently were excluded from the project and from participating in the telephone interview. Of these 7 excluded ride-scheduling software programs, 4 were designed for use by fixed-route or public transportation organizations with transit vehicles operating along a regular or designated route. Two of the ineligible ride-scheduling software companies identified indicated that although their scheduling software programs were designed to accommodate the needs of demand response transportation (DRT) organizations, they were not designed to accommodate the needs of transportation organizations who utilize volunteer drivers to provide rides to clients. Lastly, 1 ride-scheduling software company indicated that their program was designed to meet the needs of taxi or limousine transportation organizations.

Of the 13 service providers meeting the inclusionary criteria, we were unable to establish contact (e.g., phone calls and emails were not returned) with 2 of these service providers, resulting in a sample size of 11 service providers. Figure 2 below displays a flow chart of the potentially appropriate, ineligible, and eligible service providers and those that completed the interviews. A listing of those ride-scheduling software system service providers that were ineligible for the project and those service providers where contact was not made is provided in the Appendix.

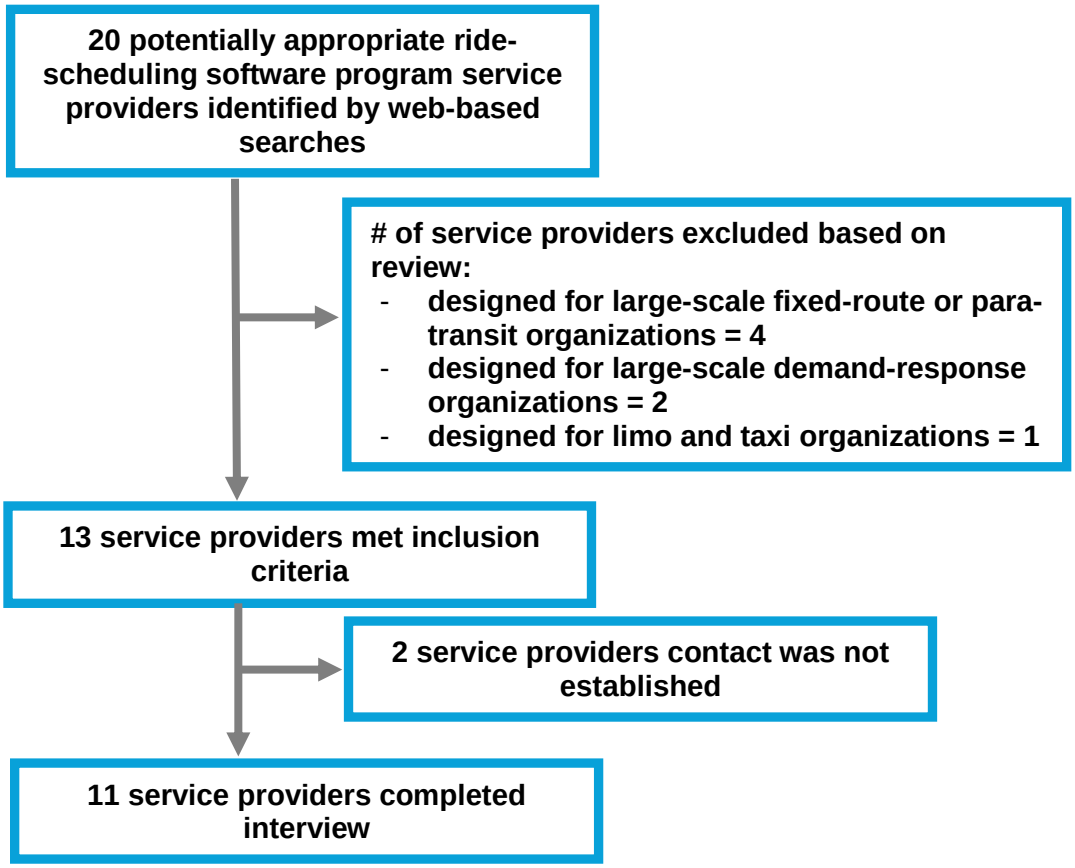

Figure 2. Schematic flow chart of identified, excluded, and included ride-scheduling software service providers and completed interviews.

Data Collection

Information was collected using a structured questionnaire developed for the project by staff at the Medically At-Risk Driver Centre in collaboration with the Edmonton Seniors Coordinating Council. Specifically, the questionnaire focused on capturing information about the different features and capabilities of each individual ride-scheduling software system. The features and capabilities that the structured questionnaire captured information on are listed below:

- Company Target Market;
- Company Target Audience;
- Software Specifications;
- Client Profile;
- Driver Profile;
- Booking and Dispatching;
- Notification to the Driver of an Assigned Trip;
- Notification to the Client of an Accepted Trip;
- Planning Route;
- Trip Status;
- Client Payment Invoicing;
- Driver Reimbursement Statements;
- Reporting and Statistics;
- Software Program Implementation, Training, and Support;
- Privacy and Security; and
- Software Costs

On average, the structured questionnaire via telephone interview took approximately one hour to complete. Telephone interviews were completed with 9 of the service providers meeting the inclusionary criteria, with the remaining 2 ride-scheduling software companies completing the survey electronically and submitting their responses via email. Any responses that required clarification for these 2 service providers was done through telephone calls. The overall response rate for the project was 85% (e.g., 11 of the 13 service providers meeting the eligibility criteria completed interviews). Information gathered from the structured questionnaire was entered into data matrices (see Tables 1–3).

Overview and Summary of Software Features and Capabilities of Ride-Scheduling Software Programs

Ride-management software programs have been designed for many different types of transportation systems including medical transportation, non-emergency medical transport, para-transit, demand-response, public fixed-route, ride share and car share transportation organizations, and volunteer driver transportation services.

Based on interviews with the 11 ride-scheduling software companies whose software programs met study inclusion criteria, it was apparent that ride-scheduling software programs can be categorized based upon the *target market* that the software program was *originally* designed for. That is, a distinction can be made between those ride-scheduling software programs originally designed to accommodate transportation organizations utilizing volunteer drivers, those designed to accommodate transportation organizations with staffed and/or paid drivers (i.e., large-scale para-transit organizations), and software programs originally designed to accommodate transportation organizations with both volunteer and staffed drivers (Figure 3). This categorization of ride-scheduling software programs is important in that it allows for an *understanding* of how ride-management software technology has now evolved to accommodate small-scale and Not-for-Profit transportation organizations.

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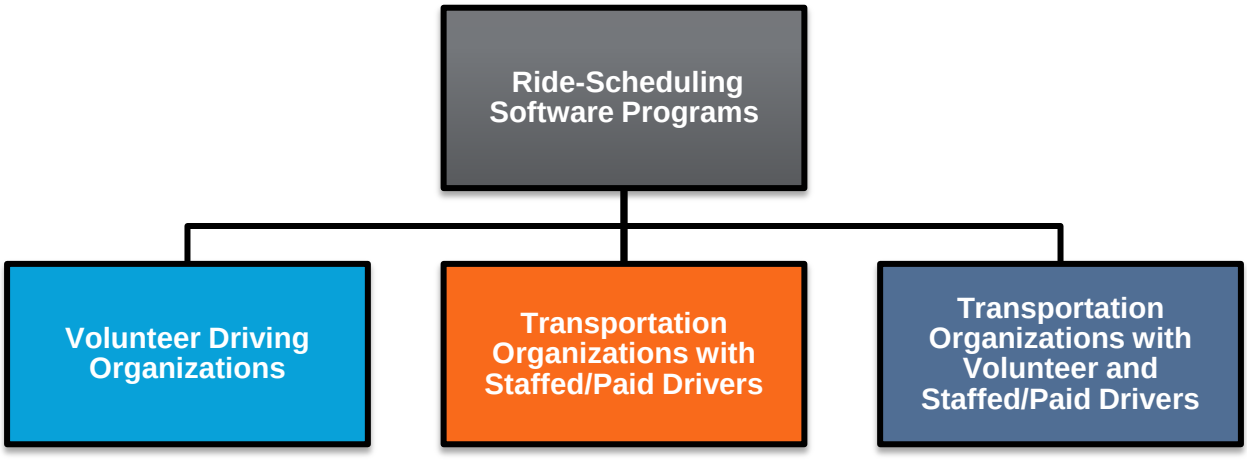

Figure 3. Categorization of transportation services providers that ride-scheduling software programs have been designed to accommodate.

Results from the structured questionnaire for each of the interviewed ride-scheduling software programs are presented in matrix format (Tables 1–3). This format allows the reader to easily assess the commonalities and differences between the software providers interviewed. In Table 1, the results for Company Target Audience and Market are presented. In Table 2, the matrix

format displays the results with respect to ‘features and capabilities’ of ride-scheduling software programs. Finally, in Table 3, the results related to Software Costs are presented. It is important to note that there is not a ‘one size fits all’ model of ride-scheduling software for community-based ATS service providers. Rather, communities will differ in their scheduling software needs. As such, the matrices provide ATS service providers with a comprehensive overview of the many features and capabilities that are currently available, which in turn allows them to select and further investigate those software providers whose services are best aligned with their needs.

An overview and summary of the data matrices are provided at the end of Table 3. A more detailed description of the ‘features and capabilities’ of *each* of the ride-scheduling software programs included in the project are presented in the *Extended Version* of this report.

Matrices of Ride-Scheduling Software Programs by Software Features and Specific Capabilities

Table 1.

Ride-Scheduling Software Programs – Target Audience and Market

	STAR Rides	ParaPlan	RideScheduler	Ecolane DRT	RouteMatch	Simpli Transport	Trip Master	ADEPT	Easy Rides	Pantonium	Ride Express
Company Target Market											
Was software designed for organizations that use volunteer drivers?	√	√	√	x	x	x	x	x	x	x	x
Was software designed for organizations that use staffed drivers?	x	x	x	√	√	√	√	√	x	x	x
Was software designed for organizations that use both volunteer and staffed drivers?	x	x	x	x	x	x	x	x	√	√	√
Company Target Audience											
Software can be used by Not-for-Profit transportation providers?	√	√	√	√	√	√	√	√	√	√	√
Software can be used by volunteer driving programs?	√	√	√	√	√	√	√	√	√	√	√
Software can be used by para-transit transportation providers?	√	√	√	√	√	√	√	√	√	√	√
Software can be used by For-Profit transportation providers?	√	√	√	√	√	√	√	√	√	√	√

Note.

√ Indicates an affirmative answer by the ride-scheduling software representative on the question.

x Indicates a negative answer by the ride-scheduling software representative on the question.

Table 2.

Ride-Scheduling Software Programs and their Features and Capabilities

	STAR Rides	ParaPlan	RideScheduler	Ecolane DRT	RouteMatch	Simpli Transport	Trip Master	ADEPT	Easy Rides	Pantonium	Ride Express
Software Specifications											
Is the software program web-based?	√	√	√	√	√	√	√	x	√	√	x
Is the software program multi-user?	√	√	√	√	√	√	√	√	√	√	√
If 'yes', can software be accessed by more than one organization?	√	√	√	√	√	√	√	√	√	√	√
If 'yes', can software be accessed from more than one location?	√	√	√	√	√	√	√	√	√	√	√
If 'yes', does multi-user count as one user for payment purposes?	√	√	√	√	x	x	x	√	x	√	x
If 'yes', can rides be shared by partner organizations?	√	√	√	√	√	√	√	√	√	√	√
Can software be programmed so certain information is only available to specific users?	√	√	√	√	√	√	√	√	√	√	√
Client Profile											
Software program displays:											
Client's name?	√	√	√	√	√	√	√	√	√	√	√
Client's contact Information?	√	√	√	√	√	√	√	√	√	√	√
Displays client's phone number?	√	√	√	√	√	√	√	√	√	√	√
Displays client's email address?	√	√	√	√	√	√	√	√	√	√	√
Client's emergency contact information?	√	√	√	√	√	√	√	√	√	√	√
Client's address?	√	√	√	√	√	√	√	√	√	√	√
Client's income level?	√	√	√	√	√	√	√	√	√	√	√
If 'to-door' service required?	√	√	√	√	√	√	√	√	√	√	√
Whether client uses a mobility aid?	√	√	√	√	√	√	√	√	√	√	√
Wheelchair?	√	√	√	√	√	√	√	√	√	√	√
Walker?	√	√	√	√	√	√	√	√	√	√	√
Cane?	√	√	√	√	√	√	√	√	√	√	√
Other?	√	√	√	√	√	√	√	√	√	√	√
Whether the client needs help transferring?	√	√	√	√	√	√	√	√	√	√	√
The type of vehicle required by the client?	√	√	√	√	√	√	√	√	√	√	√

	STAR Rides	ParaPlan	RideScheduler	Ecolane DRT	RouteMatch	Simpli Transport	Trip Master	ADEPT	Easy Rides	Pantonium	Ride Express
Client Profile (Cont'd)											
Software program displays:											
Whether an escort/companion is assisting the client?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Whether the client has mental health issues (i.e., depression, anxiety, etc.)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Whether the client has cognitive issues (i.e., dementia, Alzheimer's disease, etc.)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Can the software be programmed to make drivers aware of client's issues (i.e., mental, cognitive, mobility-related)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Can the software be programmed to make drivers aware of issues that may impact the level of services required?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Aware of mobility issues?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Aware of mental health issues?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Aware of cognitive issues?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Displays a comment field for the driver?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Can existing client data be imported into the system?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Is the software customizable?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Driver Profile											
Software program displays:											
Type of vehicle used by driver?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Expiry date of driver's license?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Class of driver's license?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Driver's insurance information?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Driving record of driver (i.e., driving abstract)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Whether driver has had a driving evaluation?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Whether driver has had criminal background check?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Drug test information?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Relevant training of driver?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Whether driver has had specialized training?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
The driver's availability?	✓	✓	✓	✓	✓	✓	✓	x	✓	✓	✓
Driver's area preferences?	✓	x	✓	✓	✓	✓	✓	x	✓	✓	✓

	STAR Rides	ParaPlan	RideScheduler	Ecolane DRT	RouteMatch	Simpli Transport	Trip Master	ADEPT	Easy Rides	Pantonium	Ride Express
Booking and Dispatching											
Can the client book a ride online?	x	x	√	√	√	x	x	√	√	√	x
Software displays list of currently available drivers?	√	√	√	√	√	√	√	x	√	√	√
Can the software system automatically assign rides?	x	√	x	√	√	x	√	√	√	√	x
Is the organization able to assign rides?	√	√	√	√	√	√	√	√	√	√	√
Is the driver able to select rides?	√	√	√	x	√	x	√	x	x	√	x
If 'yes', can the software provide automatic notification of this to the organization?	√	x	√	N/A	√	N/A	x	N/A	N/A	x	N/A
Software displays a list of unassigned trips?	√	√	√	√	√	√	√	√	√	√	√
Notification to Driver of an Assigned Trip											
Does software send out an email to the driver?	√	x	√	x	x	x	x	x	x	x	x
If 'yes', is a receipt sent to the organization notifying them that the email was opened?	x	N/A	√	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Does software call the driver?	x	x	√	x	x	x	x	x	x	√	x
If 'yes', is there a timeline for this notification to occur?	N/A	N/A	√	N/A	N/A	N/A	N/A	N/A	N/A	√	N/A
If 'yes', does the software display confirmation that the call was made to the driver?	N/A	N/A	√	N/A	N/A	N/A	N/A	N/A	N/A	√	N/A
Are date and time attached to this confirmation?	N/A	N/A	√	N/A	N/A	N/A	N/A	N/A	N/A	√	N/A
Does the system text/send information to the driver's phone?	√	√	√	√	√	√	√	x	√	√	x
If 'yes', is there a timeline for this notification to occur?	√	√	√	√	√	√	√	N/A	√	√	N/A
If 'yes', does the software display confirmation that the text/message to the phone was sent to the driver?	√	√	√	√	√	x	x	N/A	√	√	N/A
Are date and time attached to this confirmation?	√	√	√	√	√	N/A	N/A	N/A	√	√	N/A
If the organization notifies the driver of a trip, does the software display confirmation that the organization informed the driver of the trip?	√	√	√	√	√	√	x	√	√	x	x
If 'yes', are date and time attached to this notification?	√	√	x	√	√	x	N/A	√	√	N/A	N/A

	STAR Rides	ParaPlan	RideScheduler	Ecolane DRT	RouteMatch	Simpli Transport	Trip Master	ADEPT	Easy Rides	Pantonium	Ride Express
Notification to Client of an Accepted Trip											
Can the software system notify the client to confirm the trip?	✓	x	✓	✓	✓	x	✓	✓	✓	✓	x
If 'yes', is there a timeline for this notification to occur?	✓	N/A	✓	✓	✓	N/A	✓	✓	✓	✓	N/A
If 'yes', does the software display confirmation that the notification to the client was made?	✓	N/A	✓	✓	✓	N/A	✓	✓	✓	✓	N/A
Are date and time attached to this confirmation?	x	N/A	✓	✓	✓	N/A	✓	✓	✓	✓	N/A
If the organization notifies the client to confirm the trip, does the software display confirmation that the organization informed the client?	✓	✓	✓	✓	✓	✓	x	✓	✓	x	x
If 'yes', are date and time attached to this notification?	✓	✓	✓	✓	✓	x	N/A	✓	✓	N/A	N/A
Planning Route											
Software integrates with Google maps or any map system for optimal route finding?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Software calculates and displays optimal route?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Software displays route shown on a map?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Trip Status											
Is the driver able to update their status in system?	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	x
Have picked up client from original location?	✓	✓	N/A	✓	✓	✓	✓	✓	✓	✓	N/A
Have dropped client off at desired destination?	✓	✓	N/A	✓	✓	✓	✓	✓	✓	✓	N/A
Have picked up client from desired destination?	✓	✓	N/A	✓	✓	✓	✓	✓	✓	✓	N/A
Have dropped client off at home?	✓	✓	N/A	✓	✓	✓	✓	✓	✓	✓	N/A
System shows driver location at all times (e.g., GPS)?	x	✓	x	✓	✓	x	✓	✓	✓	✓	x
System can display a list of trips in progress and busy drivers?	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	x
System displays list of overall completed trips?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x
If 'yes', list is shown on a daily basis?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N/A
If yes', list is shown based on driver?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N/A
System displays list of trips waiting to be assigned to drivers?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

	STAR Rides	ParaPlan	RideScheduler	Ecolane DRT	RouteMatch	Simpli Transport	Trip Master	ADEPT	Easy Rides	Pantonium	Ride Express
Client Payment Invoicing											
Keeps record/logs of client invoice data?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Can invoice data be exported into other programs?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Can software automatically provide a payment invoice to client?	x	x	x	x	x	x	x	x	x	x	x
System generates payment invoices for client:											
Based on per trip?	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓
Based on mileage travelled?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Based on timeframe used?	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓
Can software accept payment from client?	x	x	x	x	x	x	x	✓	x	x	x
Keeps track of client payment information?	✓	✓	✓	✓	✓	✓	x	✓	✓	x	x
Driver Reimbursement Statements											
Can software automatically provide a statement of reimbursement to the driver?	x	x	x	x	x	x	x	x	x	x	x
System generates reimbursement statement for the driver:											
Based on mileage travelled?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Based on hourly wages?	✓	x	x	✓	✓	✓	✓	✓	✓	✓	✓
Based on per trip conducted?	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓
Based on fuel use?	x	x	x	✓	✓	✓	✓	x	✓	x	x
Based on costs paid toward driver's insurance?	x	x	x	✓	✓	✓	✓	x	✓	x	x
Software allows the driver to log their hours?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
In the software program, is the driver's mileage logged automatically?	✓	✓	✓	✓	✓	x	✓	✓	✓	✓	x
Software allows the driver to over-ride their logged mileage?	✓	✓	✓	✓	x	x	✓	x	x	x	x

	STAR Rides	ParaPlan	RideScheduler	Ecolane DRT	RouteMatch	Simpli Transport	Trip Master	ADEPT	Easy Rides	Pantonium	Ride Express
Reporting and Statistics											
Are reports created to the User's specifications?	x	✓	✓	✓	✓	✓	✓	✓	✓	x	✓
Reports of 'rides per driver' available?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Reports of 'rides per certain timeframe' available?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Reports of 'rides taken per client' available?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Reports of trips to specific destinations available?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Reports by type of ride (e.g., essential, medical, social, religious) available?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Are customizable reports by user available?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Additional costs for non-standard reports?	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	✓
Training											
Are training videos provided?	✓	x	✓	✓	✓	✓	✓	x	✓	✓	x
Are webinars provided?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Are print manuals provided?	✓	✓	✓	✓	✓	x	✓	✓	✓	✓	x
If 'yes', are these materials also available online?	✓	✓	✓	✓	✓	N/A	✓	✓	✓	✓	N/A
Is in-person training available?	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓
Are 'other' forms of training provided?[1]	x	x	x	x	✓	x	x	✓	✓	x	x
Are training materials updated regularly?	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	✓
Support											
Is phone support provided?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Is email support provided?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Are there limits to the support provided?	x	x	x	x	x	x	x	x	x	x	x
Does the software have a 'help' function available?	✓	✓	✓	x	✓	x	✓	✓	✓	x	✓
Privacy and Security											
Is the structure of the database managed by the software company?	✓	✓	✓	✓	✓	✓	✓	x	✓	✓	x
Are the data owned by the organization?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
With the software, is the database backed up daily?	✓	✓	✓	✓	✓	✓	✓	✓	N/A	✓	N/A

[1] Other forms of training include training in the form of field events, educational sessions, telephone training, and screening training.

	STAR Rides	ParaPlan	RideScheduler	Ecolane DRT	RouteMatch	Simpli Transport	Trip Master	ADEPT	Easy Rides	Pantonium	Ride Express
Privacy and Security (Cont'd)											
Is the server on Canadian soil?	✓	x	x	x	x	x	x	N/A	x	✓	N/A
Does the software company notify their client of the need to inform customers about the *USA Patriot Act*[2] and the potential for the USA government to access customer's personal information?	N/A	x	✓	✓	x	✓	x	N/A	x	N/A	N/A
Is clients' health concerns/health information being presented in the database?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
If 'yes', if the software program HIPAA compliant?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Is the collection of personal information (*PIPA*; *HIPAA*) addressed in the contract?	✓	✓	✓	✓	x	✓	✓	N/A	✓	✓	N/A

Note. It is recognized that Acts that address the collection of personal information and health information are named differently across jurisdictions. We have used *HIPAA* as an example of the Act that relates to the collection of health information in this report in that it is the Act that the service providers interviewed would be most familiar with given that the majority were US based companies. The Acts that pertain to the collection of personal information and health information in Alberta are the *Protection of Personal Information Act* (*PIPA*) and the *Health Information Act* (*HIA*), respectively.

✓ Indicates an affirmative answer by the ride-scheduling software representative on the question.

x Indicates a negative answer by the ride-scheduling software representative on the question.

N/A Indicates that the question was not applicable and as such, was not answered by the ride-scheduling software representative.

[2] The *USA Patriot Act* allow United States authorities, from any United States linked company operating in Canada, to access personal records of any person for the purpose of anti-terrorism investigation, without that person's knowledge.

Table 3.

Ride-Scheduling Software Programs – Associated Costs

	STAR Rides	ParaPlan	RideScheduler	Ecolane DRT	RouteMatch	Simpli Transport	Trip Master	ADEPT	Easy Rides	Pantonium	Ride Express
Software Costs											
Are there start-up costs?	x	x	x	√	√	x	√	√	x	√	√
Are there one-time costs?	x	√*	x	√	x	x	√	√	√	√*	√
Does the organization pay up-front for service?	x	√*	x	x	x	x	√	√	√	√*	√
If 'no', does the organization pay monthly?	x	√*	√	N/A	N/A	√	N/A	N/A	N/A	√*	N/A
If 'no', does the organization pay yearly?	√	x	√	N/A	N/A	x	N/A	N/A	N/A	x	N/A
If no', does the organization pay per ride?	x	x	x	N/A	N/A	x	N/A	N/A	N/A	x	N/A
If 'no', does the organization pay by 'Other' method?+	x	x	√	√	√	x	N/A	N/A	N/A	x	N/A
Can the organization pay in advance for service?	√	√	√	√	√	√	√	√	√	√	√
Are discounts available?	√	√	√	√	√	√	√	x	√	√	√
Costs associated with customization?	x	x	√	√	x	√	√	√	x	√	√
Other' costs associated with the software?	x	√	x	√	√	x	√	√	√	x	√
Maintenance costs associated with the software?	N/A	√	N/A	√	√	N/A	√	√	√	N/A	x
Support costs associated with the software?	N/A	x	N/A	√	√	N/A	√	√	√	N/A	√
Training costs associated with the software?	N/A	√	N/A	√	√	N/A	√	√	√	N/A	√
Are these paid for monthly?	N/A	x	N/A	x	√	N/A	√	√	x	N/A	x
Are these paid for yearly?	N/A	√	N/A	√	x	N/A	x	√	√	N/A	√
Overall breakdown of costs provided to the organization?	x	√	√	√	√	√	√	√	√	√	√

Note.

√ Indicates an affirmative answer by the ride-scheduling software representative with respect to that particular question.

x Indicates a negative answer by the ride-scheduling software representative with respect to that particular question.

N/A Indicates that the question was not applicable and as such, was not answered by the ride-scheduling software representative.

***** In these instances, clients have two different payment options: 1) a one-time cost in which they pay up-front for the service and features of the software system, or 2) paying monthly for use of the ride-scheduling software program.

+ When not paying up-front for the service, 'Other' methods of payment include being billed quarterly or being billed at different stages of implementation of the software program within the transportation organization.

Summary of Ride-Scheduling Software Data Matrices

An overview of the ride-scheduling software providers, based on Target Market and Target Audience is provided in Table 1. In terms of Target Market, 3 of the 11 (27%) ride-scheduling software providers indicated that their software program was *originally* designed for transportation organizations that use volunteer drivers, 5 of the 11 (45%) ride-scheduling software providers indicated that their software program was *originally* designed for organizations that use staffed drivers, with the remaining 3 (27%) ride-scheduling software providers indicating that their software program was *originally* designed for transportation organizations that use both volunteer and staffed drivers. However, as shown, for all 11 ride-scheduling software providers, the program can be used by Not-for-Profit transportation providers, volunteer driving programs, para-transit providers, and For-Profit transportation providers.

A review of the matrix provided in Table 2 indicates that across the 13 major categories of 'features and capabilities', there is little variability among the 11 ride-scheduling software companies interviewed on five of the major categories (Software Specifications; Client Profile; Driver Profile; Planning Route; Trip Status), with different degrees of variability on the remaining eight major categories (Booking and Dispatching; Notification to the Driver of an Assigned Trip; Notification to Client of an Accepted Trip; Client Payment Invoicing; Driver Reimbursement Statements; Reporting and Statistics; Training and Support; and Privacy and Security).

Similarities

Nine of the 11 ride-scheduling software companies interviewed indicated that their software program was web-based. However, all 11 of the interviewed ride-scheduling software companies indicated that their program was 'multi-user' and could be accessed by more than one organization and accessed from more than one location (Software Specifications). These features make ride-scheduling software attractive to organizations that have more than one office in their service area and to different organizations in a defined service area that wish to collaborate and use the scheduling software under one umbrella organization. It also is the case that software features and capabilities related to Client Profile (e.g., contact information, client needs) and Driver Profile (e.g., type of vehicle used by driver, driver record, insurance, availability, etc.) are nearly identical across all the ride-scheduling software providers interviewed. Given that all of the software companies interviewed indicated that their ride-scheduling software programs were configurable and customizable, this is not surprising. As well, features of the scheduling software related to Planning Route (e.g. integrates with online map systems such as Google Maps; software calculates and displays optimal route; displays route shown on a map) are features that are available in all of the 11 ride-scheduling software companies interviewed. Finally, with respect to Trip Status, 9 of the 11 interviewed ride-scheduling software companies indicated that the driver was able to update their status (e.g.,

picked up client from original location; dropped client off at desired location; picked up client from desired location; dropped client off at home) within the software system. Seven of the ride-scheduling software programs were able to display the driver's location at all times via global positioning system (GPS) technology. Nine of the 11 interviewed ride-scheduling companies indicated that they were able to display a list of trips in progress and able to display which drivers were 'busy' (e.g., unavailable for rides for a specified time period), 10 of the interviewed companies noted that their software program was able to display a list of overall completed trips, and all of the 11 interviewed companies indicated that their software was able to display a list of trips still waiting to be assigned to drivers.

Differences

As noted above, there are differences in 'features and capabilities' of the software across the 11 included ride-scheduling programs for eight of the 13 major categories, with differing degrees of variability across these eight categories (Booking and Dispatching; Notification to the Driver of an Assigned Trip; Notification to Client of an Accepted Trip; Client Payment Invoicing; Driver Reimbursement Statements; Reporting and Statistics; Training and Support; and Privacy and Security). Of these eight categories, there are greater differences across the 11 ride-scheduling software programs related to *booking and notification of the trip* (e.g., Booking and Dispatching; Notification to the Driver of an Assigned Trip; and Notification to Client of an Accepted Trip), with fewer differences across the 11 ride-scheduling software programs related to *administrative aspects of service provision* (e.g., Client Payment Invoicing; Driver Reimbursement Statements; Reporting and Statistics; Training and Support; and Privacy and Security).

For Booking and Dispatching, 6 of the 11 ride-scheduling software programs 'allow' clients to book a ride online. All of the 11 ride-scheduling software companies interviewed indicated the transportation organization is able to assign rides within the program, with 7 of the 9 ride-scheduling software programs having the capability of automatically assigning rides to drivers. Six of the 11 ride-scheduling software programs 'allow' the driver to select rides. Ten of the ride-scheduling software programs will display a list of currently available drivers, with all of the 11 ride-scheduling software programs being able to display a list of unassigned trips. In terms of Notification to the Driver of an Assigned Trip, 2 ride-scheduling software programs have the capability of sending an email to the driver (e.g., notifying the driver of a trip, providing an update on trip, etc.) and only 2 ride-scheduling software companies indicated that their program has the capability of having the software call the driver. Nine of the 11 ride-scheduling software programs, however, have the capability of sending a text or communication to the driver's phone. Eight of the 11 ride-scheduling software programs also have the capability of displaying confirmation that the driver was informed of the trip by the organization. In terms of Notification to Client of an Accepted Trip, 8 of the 11 ride-scheduling software programs have the capability of having the software system notify the client regarding trip confirmation. Additionally, 8 of the

11 interviewed ride-scheduling software companies indicated that their will display confirmation that the organization informed the client of a trip.

In terms of *administrative aspects of service provision* (e.g., Client Payment Invoicing; Driver Reimbursement Statements; Reporting and Statistics; Training and Support; and Privacy and Security), all of the 11 ride-scheduling software programs have the capability of keeping records/logs of client invoice data, the invoice data can be exported into other programs, with the system being able to generate payment invoices based on per trip and mileage travelled. However, none of the ride-scheduling software programs have the capability of having the software provide a payment invoice to the client directly from the program and only 1 of the ride-scheduling software programs can accept payment from the client (e.g., accept payments online; automatically debits accounts; debits smart cards; etc.). Eight of the 11 ride-scheduling software programs have the capability of 'keeping track' of client payment information. With respect to Driver Reimbursement Statements, all of the ride-scheduling software programs have the capability of generating a statement of reimbursement to the driver based on mileage travelled, 9 of the 11 ride-scheduling software programs will generate a statement of reimbursement based on hourly wages, and 10 of the 11 ride-scheduling software programs also have the capability of generating a statement of reimbursement based on 'per trip conducted'. However, only 5 of the 11 ride-scheduling software programs have the capability of generating a statement of reimbursement to the driver for the reimbursement of fuel. Five of the 9 ride-scheduling software programs have the capability of generating a statement of reimbursement to the driver for costs paid toward the driver's personal insurance. All the ride-scheduling software programs allow the driver to directly log their hours and 9 of the 11 ride-scheduling software programs automatically log the driver's mileage travelled. However, only 5 of the 11 ride-scheduling software programs allow the driver to override their logged mileage (e.g., mileage was automatically logged based on a pre-calculated route and route was changed due to construction, etc.).

As can be seen in Table 2, there were few differences among the 11 ride-scheduling software programs in terms of Reporting and Statistics. Nine of the 11 software providers will create reports to User specifications. All of the ride-scheduling software programs have the capabilities to generate reports of 'rides per driver'; 'riders in a given timeframe'; 'rides taken per client'; reports on 'trips to specific destinations'; and on specific types of rides (e.g., medical, social, etc.). All interviewed ride-scheduling software programs have the capability of generating customizable reports, with only 1 of the service providers indicating that they did not charge additional fees for non-standard reports.

For Training and Support, few differences exist among the 11 ride-scheduling software programs. Specifically, 10 of the software companies provide in-person training on the use and capabilities of their software and all of the software providers offer training via webinars with their clients. For 8 of the 11 ride-scheduling software programs, training videos are available

and 9 of the 11 have print manuals available, with these manuals also available online. Furthermore, 10 of the 11 software companies update their training materials on a regular basis. Three software companies also provide additional forms of training such as training via field events, educational sessions, telephone training, 'train the trainer' sessions, and also via screen training. In terms of Support, all of the software companies interviewed provide support to their clients via phone or email, on an ongoing basis, with none of the software companies indicating that there was a limit on the support available. In addition, 8 of the 11 ride-scheduling software programs have a 'Help' function built into their software program.

There also were few differences in features across the 11 ride-scheduling software programs related to Privacy and Security. Nine of the 11 software companies 'manage' the structure of the database (e.g., make software changes to fields, etc.), with 2 software companies allowing for modifications of categories by the client transportation organization. Without exception, data residing in the software program are 'owned' by the transportation organization that utilizes the software program. Nine of the 11 software companies provide daily backup of the database (recall that for 2 software companies, the database is not web-based but rather, is installed on the organization's computer). For only 2 of the 9 ride-scheduling software programs with web-based servers, the server resides on Canadian soil. For the remaining service providers, the servers are on United States or European soil. In terms of the *USA Patriot Act*[3], 3 of the 7 applicable software companies notify organizations about the need to inform its customers about the *USA Patriot Act* and the potential for the USA government to access personal information. All 11 of the ride-scheduling software programs display clients' health information in the database and for all of the ride-scheduling software solutions, the software companies indicated that they are '*Health Insurance Portability and Accountability Act (HIPAA)'* [4] compliant. Eight of the nine web-based software companies address privacy and the protection of clients' personal information in their contract with the transportation organization. Of note, for community-based transportation organizations with paid drivers, the collection of client personal information and privacy concerns fall under the *Personal Information Protection Act* (*PIPA*). Although not governed by the regulations set forth under *PIPA*, it is recommended that Not-for-Profit organizations collecting personal information from clients ensure that they are compliant with the regulations outlined in *PIPA*[5]. With respect to the collection of personal information,

[3] As previously noted, The *USA Patriot Act* allows United States authorities from any United States linked company operating in Canada, to access personal records of any person, for the purpose of anti-terrorism investigation, without that person's knowledge.

[4] Note – it is recognized that Acts that address the collection of personal information and health information are named differently across jurisdictions. We have used *HIPAA* as an example of an Act on privacy and security standards of collected individually identifiable health information in this report in that it is the Act that the service providers interviewed would be most familiar with given that the majority were US based companies. The Acts that pertain to the collection of personal information and health information in Alberta are the *Protection of Personal Information Act* (*PIPA*) and the *Health Information Act* (*HIA*), respectively.

[5] For more detailed information about *PIPA* and the regulations outlined under the Act, please visit www.oipc.ab.ca

data transfer, and data storage, all of the nine web-based companies interviewed indicated that they utilize password protected user accessibility and log-ins, data encryption, and the use of secure servers to enhance the security of personal information collected (data not shown in Table 2).

An overview of the costs associated with procuring the ride-scheduling software programs is provided in Table 3. Six of the 11 service providers have start-up costs, with 5 of the 11 having 'one-time' costs (i.e., cost for software licenses). Four of the 11 service providers require the organization to pay up-front for on-going service costs and 2 service providers give clients this option in terms of payment. All service providers allow organizations to pay in advance for service, and 10 of the ride-scheduling software service providers have discounts available to their clients. However, all 10 of the ride-scheduling software companies interviewed who offer discounts to their clients indicated that discounts were assessed on a case-by-case basis. Seven of the 11 service providers that allow for customization of their ride-scheduling software programs also have indicated that there is an associated cost for that customization. Seven of the service providers also have 'other' costs associated with their software (e.g., on-going maintenance, support, and training costs).

A more detailed description of each of the 11 ride-scheduling software programs with respect to Target Market and Target Audience, 'features and capabilities', and Software Costs is provided in the *Extended Version* of this report.

Summary and Conclusions

In summary, there are now a number of ride-scheduling software programs available to assist community-based ATS service providers in the coordination of and efficiency in delivery of ATS service provision. The vast majority of the ride-scheduling software programs are web-based, which allows for easier access to the software, access to the software by multiple users, regular database backups, and storage of data on secure servers. There also was little in the way of differences in terms of software features and capabilities related to the Client and Driver Profile, and features and capabilities related to Planning Route and Trip Status. It also is the case, based on interviews with the 11 service providers, that there are few differences across service providers of ride-scheduling software programs in terms of *administrative aspects of service provision* (Client Payment Invoicing; Driver Reimbursement Statements; Reporting and Statistics; Training and Support; and Privacy and Security). In terms of costs, there also were differences in terms of charges for different aspects of the software (e.g., start-up costs, customization, training, on-going costs, etc.), with those costs available to interested organizations on a one-on-one basis. The greatest differences noted across the 11 interviewed

ride-scheduling software programs were related to *booking and notification of the trip* (e.g., Booking and Dispatching; Notification to the Driver of an Assigned Trip; and Notification to Client of an Accepted Trip). It is important to note however, that the ride-scheduling software programs that are available are easily configurable and customizable. As such, additional fields of interest specific to an organization's needs are likely easily addressed.

Finally, it is important to note that there is not a 'one size fits all' model of ride-scheduling software for community-based ATS service providers. Rather, communities will differ in their ride-scheduling software needs. As such, the matrix (see Table 2) provides ATS service providers with a comprehensive overview of the many features and capabilities that are currently available, which in turn allows them to select and further investigate those software providers whose services are best aligned with their needs.

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Appendix – Listing of Identified Ride-Scheduling Software Programs not included in the Project and Reason for Non-Inclusion

MultiRide (Fraser Valley Software) – eligible but unable to establish contact.

Route Coordinator (Transit Computing) – eligible but unable to establish contact.

Dashride (Dashride Dispatching Solutions) – ineligible as designed to accommodate the needs of limo and taxi transportation organizations.

Giro/Acces (Giro Inc.) – ineligible as designed to accommodate the needs of large-scale demand-response transportation organizations.

ParaTrans Router (Paradox Software Consulting) – ineligible as designed to accommodate the needs of large scale para-transit transportation organizations.

Paratransit Suite (IE Logistics) – ineligible as designed to accommodate the needs of large-scale para-transit transportation organizations.

RouteLogic (Route Logic) – ineligible as designed to accommodate the needs of large-scale fixed-route and para-transit transportation organizations.

TransView (Enghouse Transportation) – ineligible as designed to accommodate the needs of large-scale fixed-route and demand-response transportation organizations.

Trapeze (Trapeze Group) – ineligible as designed to accommodate the needs of large-scale fixed-route and para-transit transportation organizations.