USING BUSINESS WEB INTELLIGENCE TO ENHANCE COORDINATION

INTRODUCTION

Accurate and effective reporting is, historically, among the most challenging activities for transit agencies. While system ease-of-use has improved among paratransit scheduling and dispatch applications, data reporting continues to be a skill for those who understand how to work with complex tools. As an example, developing trip reports for multiple funding sources with the goal of aiding coordination should be a task that most transit managers can manage. Complicated reporting tools, however, can threaten a manager's ability to complete that task and subsequently, improve their operations. What's the answer to this problem? Among a variety of proposed industry solutions, Ecolane believes the best one is using a web-based option.

Use of the Web as a Reporting Platform

The web clearly offers many great advantages for reporting to enhance coordination. They include, among others:

- The web is a ubiquitous platform with easy access by most all governmental or quasigovernmental agencies.

- The web allows all users to see the exact same information. Viewing reports seems like a straight forward issue but some organizations rely on a client server environment to report data and there are inherent challenges with that approach. As an example, data can sometimes be pointed to an incorrect location on a local machine or certain parameters in a windows application can vary from user to user.

- Web-based reporting can sometimes be free. There are many no cost web-based applications available today that specialize in reporting. These companies build revenue by expecting that their non-paying customers will need to purchase additional services to create the reports. For some organizations with personnel already in possession of these skill sets, free web-based options are a great opportunity.

- Web based tools have the ability to replace complex report writing tools. Using Crystal Reports as an example, the software requires license fees to operate so ten agencies coordinating transit in a multi-county region require licenses for each agency. If access to a PC-based system is being provided through Citrix, costs can be even higher.

in a multi-county region then Crystal reports would require a license for each of these agencies. If access to a PC based system is being provided through Citrix it can be even more expensive per year

- Updates to software only have to occur to the web. Reports are web-based and therefore there is no need to update individual user PCs to update data files.

- Users can log onto the web from any computer, anywhere, with web access. Proprietary software might result in users having to share computer time to access a limited number of copies of the software, depending upon what has been purchased . This is not practical for multiple agencies (many times in multiple physical locations) trying to access data.

- Internet access allows issues with multiple firewalls to be overcome. Each agency has a firewall and sending data through a PC network will mean creating access through each of these firewalls.

- Web based reports are generated more quickly than PC based reporting systems.

Output from Business Web Intelligence

This paper has established that there are other free applications available to create web based reports. How do we read them once the reports have been executed? There are various formats that business web intelligence offers. For example, Ecolane DRT offers the following formats for users to select:.

Exhibit 1. Output of Business Web Intelligence Icons below from left to right:
Parameters, Report Selection, PDF, Excel, Word, CSV

PDF – A great format for creating documents that are going to be distributed to board members or members of the media. PDF documents are read only (i.e. the data cannot be viewed or manipulated from the source)

Exhibit 2. Pdf Example of
On-Time Performance Report

Period	Total	No info	Noshows	Trips with PU info	On-Time	Late	% on time
06/29/2015	828	0	48	780	657	123	84 %
06/30/2015	810	0	50	760	682	78	90 %
07/01/2015	1452	0	50	1402	1179	223	84 %
07/02/2015	1316	0	61	1255	1080	175	86 %
07/03/2015	413	0	44	369	326	43	88 %
Summary:	4819	0	253	4566	3924	642	86 %

Microsoft Word – Word is one of the most widely used formats for sharing data in the world. Exporting data into a word document could be useful when creating a monthly or annual report.

Excel – Excel is a robust tool that allows data to be exported in a format that most managers are able to use. Excel is used for many financial measurements and as a result most are familiar with the use and functions of Excel commands. Data exported to Excel can be combined with other reports. For example, an NTD report may be in an Excel format and some of the data reported to NDT (number of total vehicles available for service) may be entered manually to the NTD report. The NTD report from Business Web Intelligence can be run and then exported to Excel to combine with other non-automated data to create the NTD submission.

CSV – CSV or Comma Separated Value is an export format designed to export raw data. If data is exported to a CSV format it can then be placed into other reporting formats, such as Microsoft Access or even Excel.

Scheduling Regular Report Runs

One great feature of the web is the ability to create a report and have it run at a regular interval. For example, a coordination report that lists each funding entity can be scheduled to run on the 5th of each month. The e-mail addresses of each manager who receives the report can be entered in and the manager will then receive the report on the 5th of each month without ever having to log-into the reporting system. The report will come directly via e-mail with the correct format attached to the e-mail.

Exhibit 3. Scheduling Regular Report Runs

Task Parameters

Task Title	Daily OTP Report
Start Date	28 Aug 2015
End Date	30 Sep 2015
Days of Week On which days of week report should be run	☑ Sunday ☑ Monday ☑ Tuesday ☑ Wednesday ☑ Thursday ☑ Friday ☑ Saturday
Execution Time HH:mm	01 : 15

Output Parameters

Format	.pdf ▾
Rewrite Files	☑

E-mail Notification

Address to Notify If many, use comma as separator	sales@ecolane.com
Subject of Letter	Daily OTP
Attach Report File	☑
Include Link to Report File	☐

Next >>

Reports Generated by Business Web Intelligence to Enhance Coordination

There are many reports that can be generated using Business Web Intelligence. Agencies sometimes struggle with the data to gather and the reports that should be generated from that data. A good rule of thumb is to work closely with your software vendor to develop these reports. Any implementation should have a process where the vendor reviews the current reports that are being used by your agency. The number of reports that are used to help manage paratransit is always much higher than people realize. Staff members use an array of reports and when all of them are added up the aggregate number can be quite high. This is why a review of all areas is important to help understand the data to be reviewed. This becomes even more important when agencies coordinate their operations. Each agency should be consulted to fully understand their reporting needs.

DEFINING REPORTS

Reports designed to enhance coordination must take into account all of the needs of the reporting agencies.

To that end the design and discussion of reports should take on something similar to labor negotiations. The software company and agencies using the software should send clearly defined proposals back and forth outlining the structure and output of the reports. This creates an environment of trust based on clearly defined reporting requirements. This environment is enhanced by the ability to use the web to display the information so each party can run the reports and not just view the hard copy of the reports. As each version of the report is generated, users of the reports can see how the report is developed. The report proposal should indicate the data fields being mined for information.
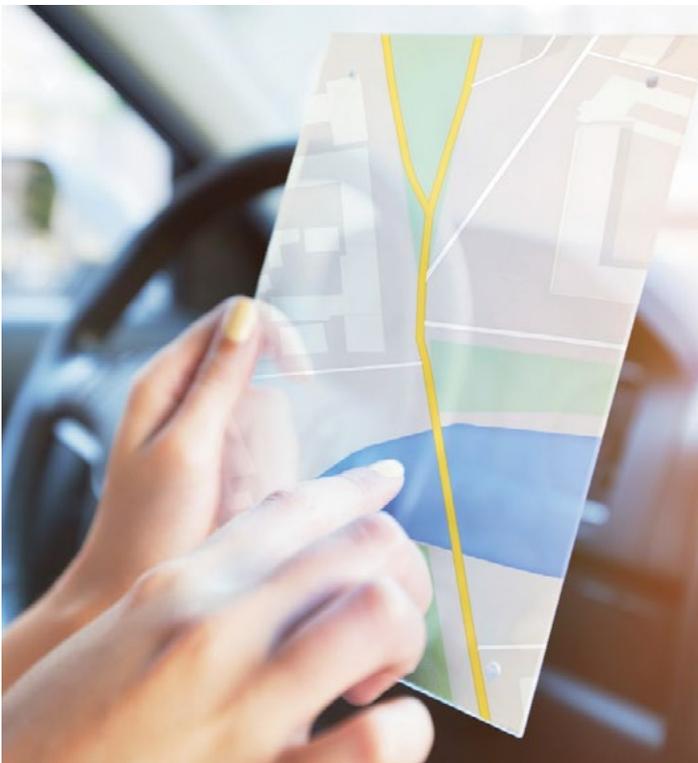
Exhibit 4. Reports Listing Example from the Web

Alerts Resolution
Average Trip Distance
Average Trip Duration
Billing Summary Report
By Driver Run Manifest
Capacity Demand
Client Letters
Daily Run Productivity
Data Exception Report
Driver Hour Report
Driver Performance
Fare Summary Report
Fleet Utilization
Funding Source Fare Summary
Funding Source Trips
List of Riders
Lists of Distinct Clients
Miles/Hours By Funding Source
NTD Key Performance Indicators
NTD S-10
NTD Summary Report
OTP
OTP By Driver
OTP By Hours
OTP by Location
OTP Late Trips
Problem Trips
Quarterly Operating Data Report

FUNDING REPORT TO ENHANCE COORDINATION

Every transit agency requires funding to be accurately tracked. One barrier to coordination is the inability of agencies to track the flow of dollars as trips are provided. For example, two trips provided by a shared vehicle could have separate funding sources paying for each trip. The software application must be able to separate each trip out and to track the appropriate funding and then report the data in an accurate manner. Funding can be tracked by trip, by hour or mile. When this information is reported via the web, each agency can determine the amount that their funding source will generate. In this manner each funding source is able to better control and understand the costs of providing their service in real time.

Exhibit 5. Funding / Billing

Report Example

Agency Billing Summary Report

Ecolane

Date range: 08/01/2015 - 08/03/2015. Trips selected: normal. Counted passenger types: clients, assistants, children, family members, companions, other passengers.
Cancel Types: All cancels.

Funding Source: ACOFA

Totals

Client Trips Completed	Riders	Cancels	Noshows	Passenger Miles		Passenger Hours	
				Estimated	Actual	Estimated	Actual
9	9	0	0	146.34	146.00	5.81	6.28

Subscriptions and Their Share of All

Client Trips Completed	Riders	Cancels	Noshows	Passenger Miles		Passenger Hours	
				Estimated	Actual	Estimated	Actual
8 89 %	8 89 %	0 0 %	0 0 %	143 98 %	142 97 %	6 96 %	6 96 %

$ Amount Based On

Cash	Cash Reduced	CHECK	FREE	Monthly pass	Reduced Pass	Ticket	Transfers	Volunteer pass	Total	Total Cash
9	0	0	0	0	0	0	0	0	9	0.00

Agency Trips And Clients Count

Only completed trips are counted.

	Agency Clients Count					Agency Trips Count					Additional Riders	
	-14 yrs	14-65 yrs	65+ yrs	Unknown	Totals	-14 yrs	14-65 yrs	65+ yrs	Unknown	Totals		
AM	0	4	0	0	4	0	7	0	0	7	Assistants	0
ST	0	0	0	0	0	0	0	0	0	0	Children	0
WC	0	1	0	0	1	0	2	0	0	2	Family Members	0
Total	0	5	0	0	5	0	9	0	0	9	Companions	0
Disabled	0	1	0	0	1	0	2	0	0	2	Others	0
Non disabled	0	4	0	0	4	0	7	0	0	7		
											Total	0

ADDITIONAL REPORT EXAMPLES

Most agencies want to see examples of NTD reports, productivity and driver performance reports. Web based reporting allows for the easy creating and sharing of these reports. Examples of the different types of report output appear below

Exhibit 6. NTD Key Performance

Indicator Report

NTD Key Performance Indicators

Ecolane

This report counts only completed trips for completed routes.

Fiscal year starts on 01.01. Break time - 60 min. Counted passenger types: clients, assistants, children, family members, companions, other passengers.

Fiscal Year	Source	Trip Length		Load Factor		Revenue Speed		Deadhead Speed		Actual Speed		Average Commuting Time (min)		Vehicle Revenue Hours		Vehicle Revenue Miles		Unlinked Passenger Trips		Passenger Miles	
			%		%		%		%		%		%		%		%		%		%
null																					
2013	Est	0.8		0.0		-4,739		0.0		-4,739		-0.0		-1		3,554		40		33	
	Act	0.8						0.0						0		0		40		32	
2014	Est	4.5	440.9	0.0	-85.2			-		0.0		0.0	-100.	0	-100.	9,721	173.5	3	-92.5	13	-59.4
	Act	4.4	437.9					0.0				-		0		0		3	-92.5	13	-59.7
2015	Est	12.5	180.2	0.0	2063.			0.0				0.0		0		2,098	-78.4	5	66.7	62	366.9
	Act	12.6	188.1					0.0						0		0		5	66.7	63	380.2
2012	Est	0.0		-0.0		-1,940		45.2		0.0				0		-65		0		0	
	Act	0.0				-0.0		0.0		0.0				-1		0		0		0	
2013	Est	0.0		null		117.5	-106.	27.1	-39.9	113.4		null		3	8160.	323	-600.	null		null	
	Act	0.0		null				0.0				null		0	-100.	0		null		null	
CCCOA																					
2011	Est	0.0		null				0.0				null		0		0		null		null	
	Act	0.0		null				0.0				null		0		0		null		null	
2012	Est	11.8		2.7		14.7		35.0		16.8		48.0		6,388		94,202		21,850		257,723	
	Act	11.4		0.2		209.1		30.2		188.6		3.3		5,788		1,210,07		21,850		249,141	
2013	Est	12.7	7.9	1.7	-36.4	17.2	16.5	34.6	-1.2	19.0	12.9	44.5	-7.3	13,44	110.5	230,965	145.2	31,566	44.5	401,865	55.9
	Act	12.0	5.0	0.1	-46.8	268.2	28.3	19.1	-36.6	231.5	22.7	2.7	-18.1	12,87	122.4	3,452,41	185.3	31,566	44.5	377,966	51.7

Exhibit 7. System Productivity Report

System Productivity

This report counts completed clusters only. The total number of trips excludes canceled trips and trips without a run. Estimated times and distances are based on scheduled values, actuals are based on drivers reports. The count of total trips includes no-shows, but rides per hour excludes no-

Date range: 07/26/2015 - 08/01/2015. Counted passenger types: clients, assistants, children, family members, companions, other passengers. Information is grouped by week.
Week starts on Sunday.

Period		VOMS	Distinct Runs	Trips		Source	Deadhead		Service		Revenue		Rides per hour
				Total	Nosho		time, h	distance,	time, h	distance,	time, h	distance,	
2015.30 (07/26 - 08/01)		11	27	1289	9	Est	51.00	1259.69	587.37	6806.47	536.37	5546.78	2.39
						Act	89.78	930.47	606.96	6749.95	517.18	5819.48	2.47
		6											
2015.31 (08/02 - 08/01)			2			Est	0.76	24.43	5.52	99.97	4.76	75.53	
						Act	1.46	22.20	6.45	105.70	4.99	83.50	
Summary		6		1289	9	Est	51.76	1284.12	592.89	6906.43	541.13	5622.31	2.37
						Act	91.24	952.67	613.41	6855.65	522.17	5902.98	2.45
Average	All days	10	22										
	Mon-Fri	11	24										
	Sat	6	10										
	Sun	null	null										

Exhibit 8. Driver Daily Vehicle Report

Daily Run Productivity

This report counts completed clusters only. Total number of trips excludes canceled trips and trips without run. Estimated times and distances are based on scheduled values, actuals are based on drivers reports. Rides per hour excludes no-shows.

Date range: 08/01/2015 - 08/08/2015 Counted passenger types: clients, assistants, children, family members, companions, other passengers.

| Run	Trips				Source	Deadhead		Service		Revenue		Rides per hour
	Compl	Noshow	Others	Total		time, h	distance, mile	time, h	distance, mile	time, h	distance, mile	
08/01/2015												
1050,	16	2	0	18	Est	0.36	9.83	8.12	82.13	7.76	72.30	2.06
					Act	0.74	9.61	8.12	83.41	7.39	73.80	2.17
1051,	22	1	0	23	Est	0.12	3.07	7.46	62.58	7.34	59.51	3.00
					Act	0.23	14.70	7.55	61.50	7.33	46.80	3.00
1052,	9	1	0	10	Est	0.39	12.53	4.42	51.94	4.04	39.41	2.23
					Act	0.55	12.18	4.62	58.48	4.07	46.30	2.21
1053,	12	0	0	12	Est	0.30	6.27	5.91	63.13	5.61	56.86	2.14
					Act	0.52	6.40	6.13	62.40	5.61	56.00	2.14
1070,	8	0	0	8	Est	0.23	5.14	2.39	13.17	2.16	8.03	3.70
					Act	0.47	5.60	2.43	20.80	1.97	15.20	4.06
1101,	6	0	0	6	Est	0.25	6.46	8.35	33.78	8.10	27.32	0.74
					Act	0.47	7.10	7.80	41.40	7.33	34.30	0.82
5088,	5	2	0	7	Est	0.44	14.70	8.14	86.64	7.71	71.94	0.65
					Act	0.64	16.20	8.18	122.40	7.54	106.20	0.66
5090,	0	0	0	0	Est	0.00	0.00	0.00	0.00	0.00	0.00	?
					Act	0.00	0.00	0.00	0.00	0.00	0.00	?
Summary	78	6	0	84	Est	2.09	58.00	44.80	393.36	42.71	335.36	1.83
					Act	3.61	71.79	44.83	450.39	41.22	378.60	1.89

SUMMARY

Reporting for multiple agencies is never easy. Web based reporting creates an environment that is more flexible, more efficient and allows for more extensive sharing of data over a single platform while simultaneously reducing costs.

> **One barrier to coordination is the inability of agencies to track the flow of dollars as trips are provided. Web intelligence is the key to solving this dilemma!**
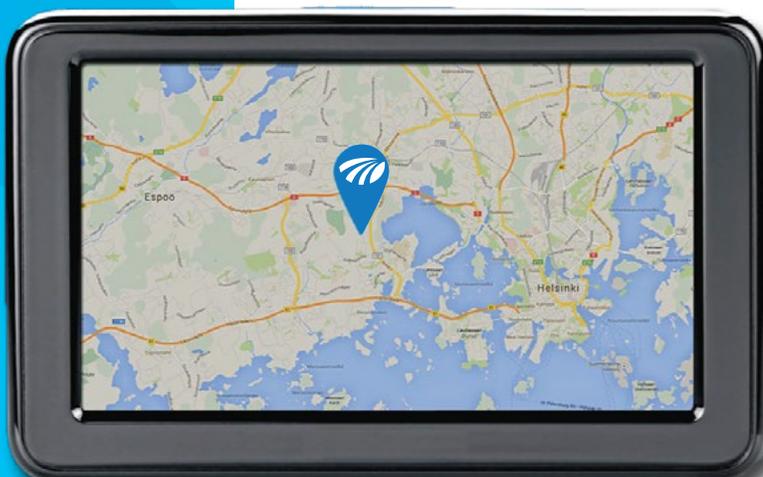
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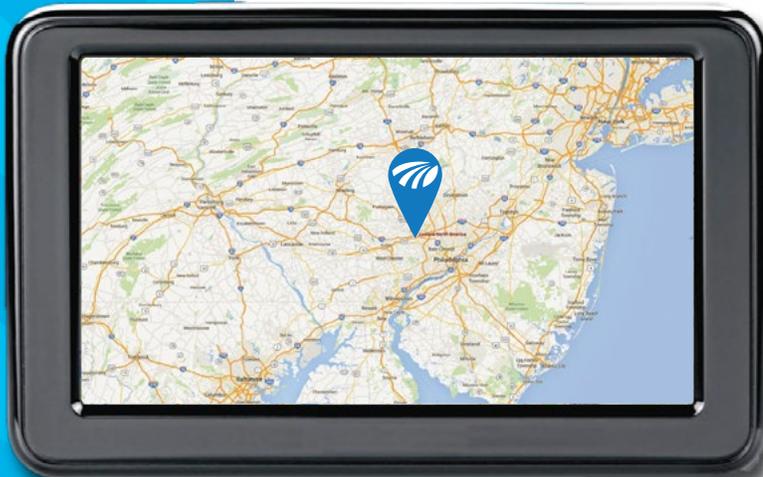
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