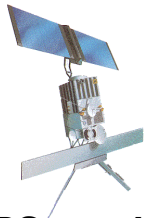


Real Time Information Project Background

- Contract for design, supply, installation and maintenance (5 years, extendable) awarded Sept 2009 to ACIS (now Vix) with local partners Kordia[®] and subcontractors
- To cover Metlink bus and rail networks (450 buses, 98 trains), 250 display signs
- Integration with Metlink website, mobile web, SCATS traffic light priority
- Real Time Information was implemented on bus services in the region 2010-2012

RTI Media

- Street and station display signs with audio
 - Total of 250 display signs for installation across the region
 - 60 on railway station platforms (excl Wellington Station, Kenepuru, Matarawa, Maymorn and Otaki)
- Indoor display screens
- Metlink website, mobile website
- Integration with Metlink journey planner, Google Transit and third party apps to come



GPS satellite

Trains with 'KMC' equipment



Mobile phone network

TranzMetro
Service linking
Operator Interface (messaging etc)

KiwiRail Networks (KUPE)

Operational Mgt System (OMS)




Webservice; (i) train position (ii) linked service

Vix interface

GWRC

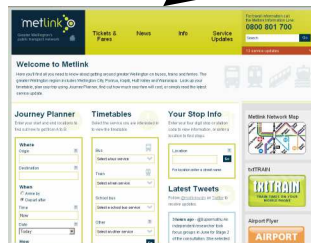
Vix RTI central system



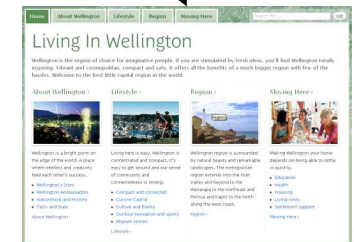

Destination	Service	Time
WELL	All stops	Due
WAIK	Ltd Stops	5 min

Bus replacements on Sunday

Station display signs



Metlink website
Mobile website
Journey Planner
Google maps

greater WELLINGTON
REGIONAL COUNCIL
Te Pane Matua Taiao

Third parties

Vix Horizon web interface

Management by KiwiRail of daily activity

The screenshot displays the Vix Horizon web interface for Tranz Metro management. The browser address bar shows the URL: <http://wellington.acishorizon.com/Content.aspx?tab=4>. The user is logged in as `gwrc.user4` with options for [My Account](#), [Logout](#), [Theme](#), and [Help](#).

The main navigation menu includes: [TranzMetro](#), [Mana](#), [Go Wellington](#), [Vehicle Viewer](#), [Journey Cancellation](#), [Valley Flyer](#), [Messaging](#), and [Compliance Graph](#).

Public Service Overview - Tranz Metro

Service	No. Vehicles	Target No.	Variance	Max Early	Max Late	Min Gap	Max Gap
HVL	3	3	0%	00:12	03:38	27:47	29:20
JVL	3	4	25%	-	36:39	01:02:58	01:02:58
KPL	5	5	0%	-	06:16	25:30	35:42
MEL	1	1	0%	-	-	-	-
WRL	1	1	0%	-	06:09	03:42:49	03:42:49
Total	13	14	93%				

Vehicle Lateness - Tranz Metro

Fleet No	Service	RB	Stop	Driver No	Lateness	
<input type="checkbox"/>	FP4437	JVL	9999	Ngaio Stn 1	-	36:39
<input type="checkbox"/>	FP4230	KPL	9999	Kenepuru Stn	-	06:16
<input type="checkbox"/>	DC4012	WRL	-	Featherston Stn	-	06:09
<input type="checkbox"/>	FP4299	KPL	9999	Mana Stn 2	-	05:11
<input type="checkbox"/>	FP4345	HVL	9999	Heretaunga Stn	-	03:38
<input type="checkbox"/>	FP4282	KPL	9999	Paraparaumu Stn 2	-	03:20
<input type="checkbox"/>	FP4466	KPL	9999	Paekakariki Stn 1	-	02:38
<input checked="" type="checkbox"/>	FP4368	HVL	9999	Pomare Stn	-	01:09
<input type="checkbox"/>	FP4190	MEL	-	Wellington Stn	-	00:00
<input type="checkbox"/>	FP4201	HVL	9999	Upper Hutt Stn	-	00:00
<input type="checkbox"/>	FP4351	KPL	9999	Wellington Stn	-	00:00
<input type="checkbox"/>	FP4380	JVL	9999	Wellington Stn	-	00:00
<input type="checkbox"/>	FP4512	JVL	9999	Wellington Stn	-	00:00

Journeys Not Being Monitored - Tranz Metro

Service	RB	Journey	Start Time	End Time	Origin	Destination
JVL	9999	9236	11:02	11:23	Wellington Stn	Johnsonville Stn

Vehicle Earliness - Tranz Metro

Fleet No	Service	RB	Stop	Driver No	Earliness	
<input type="checkbox"/>	FP4155	HVL	9999	Ngauranga Stn	-	00:12

Journey Cancellation - Tranz Metro

Journeys: Service: Day: Running Board: Time:

Service	Journey	RB	Start Time	End Time	Origin	Destination
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Compliance Graph - Tranz Metro

All Services

Compliance = 73% at 11:17
Traffic Commissioner's window: 1m00s Early to 4m59s Late

Interval	Count	Percentage
>10m00s Early	0/15	0%
10m00s Early - 1m00s Early	0/15	0%
1m00s Early - 0m01s Early	1/15	7%
0m01s Early - 5m00s Late	10/15	66%
5m00s Late - 15m00s Late	3/15	20%
15m00s Late - 4m59s Late	1/15	7%

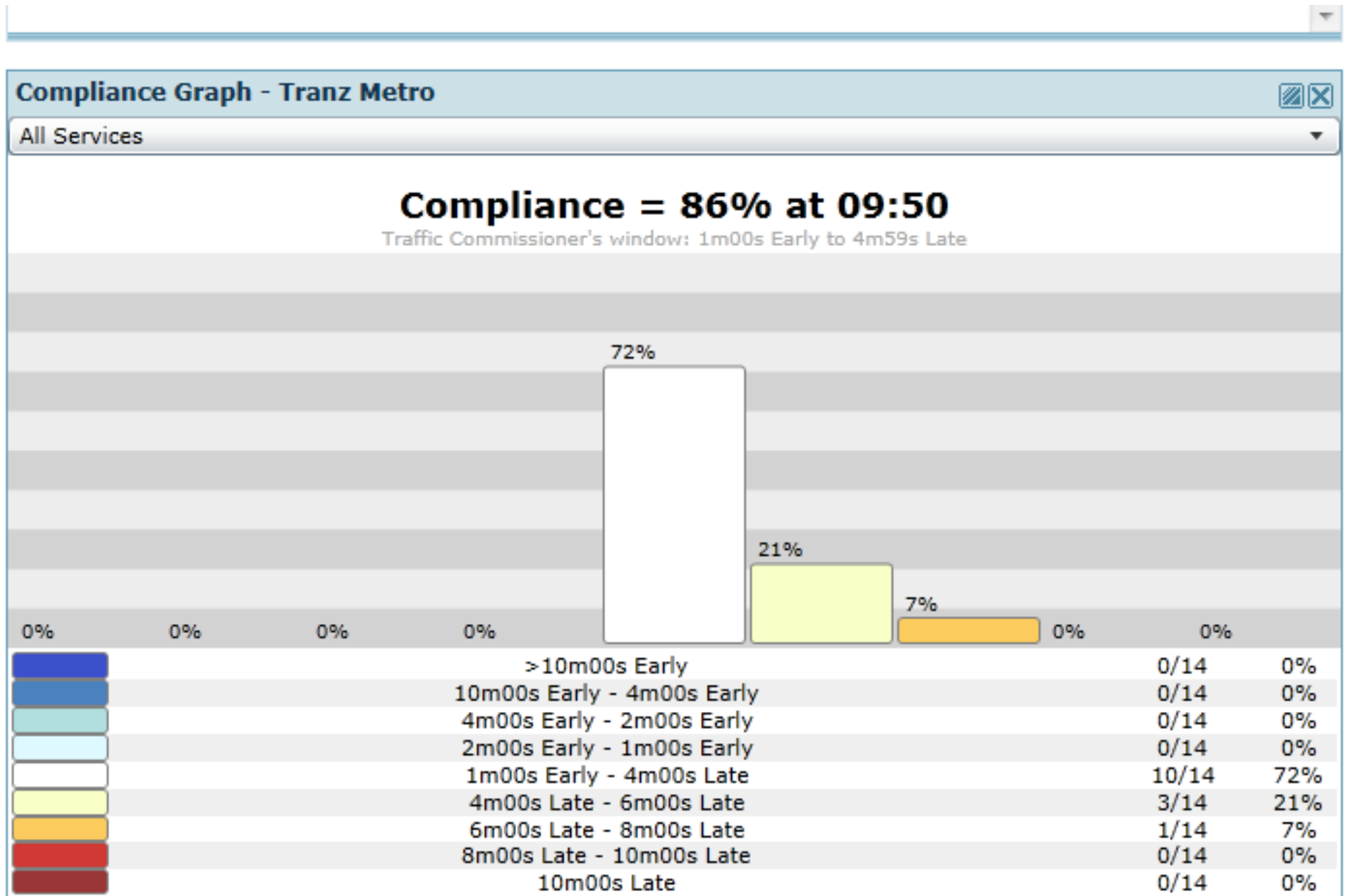
Diagrammatic Map shows by line the position on each line of each train compared to schedule as a diagram



Day View shows by line the position on each line of each train compared to schedule as a table

Day View - Tranz Metro (KPL)																							
Day: Today																							
Outbound					Wellington Stn		Kaiwharawhara Stn 2		Takapu Road Stn 2		Redwood Stn 2		Tawa Stn 2		Linden Stn		Keneperu Stn		Porirua Stn 2		Paremata Stn		
Fleet No	Journey	RB	Driver No	Start Time	Schedule	Deviation	Schedule	Deviation	Schedule	Deviation	Schedule	Deviation	Schedule	Deviation	Schedule	Deviation	Schedule	Deviation	Schedule	Deviation	Schedule	Deviation	
FP4466	8222	-	-	08:02	08:02	02:57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FP4282	6218	-	-	08:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FP4132	8220	-	-	07:41	07:41	02:13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
EM1027	8218	-	-	07:20	07:20	03:32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FP4345	7218	-	-	07:11	07:11	02:34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FP4466	8216	-	-	07:00	07:00	03:14	07:03	01:49	07:12	00:11	07:14	00:12	07:15	00:30	07:17	00:10	07:19	00:11	-	-	-	-	
FP4374	6212	-	-	06:51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FP4351	6216	-	-	06:50	06:50	04:49	06:53	03:50	-	-	07:04	02:52	07:05	03:10	07:07	03:31	07:09	03:32	07:11	04:10	07:15	04:50	
FP4443	7216	-	-	06:48	06:48	03:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FP4161	7214	-	-	06:38	06:38	06:24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
EM1315	6214	-	-	06:20	06:20	03:13	06:23	02:15	-	-	06:34	01:14	06:35	01:36	06:37	01:12	06:39	01:12	06:41	02:12	06:45	02:37	
FP4224	7210	-	-	06:12	06:12	03:11	06:15	02:11	06:24	00:44	06:26	00:50	06:27	01:11	06:29	00:36	06:31	-00:06	06:33	00:14	06:37	00:54	
FP4132	6208	-	-	06:06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
EM1367	6210	-	-	05:52	05:52	03:46	05:55	03:11	06:04	02:14	06:06	01:45	06:07	02:34	06:09	01:50	06:11	00:50	06:13	01:11	06:17	03:15	
FP4466	7206	-	-	05:47	05:47	02:56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FP4184	6204	-	-	05:06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FP4564	6202	-	-	04:36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Inbound					Waikanae Stn		Paraparaumu Stn 1		Paekakariki Stn 1		Pukerua Bay Stn		Plimmerton Stn 1		Mana Stn 1		Paremata Stn		Porirua Stn 1		Keneperu Stn		Li
Fleet No	Journey	RB	Driver No	Start Time	Schedule	Deviation	Schedule	Deviation	Schedule	Deviation	Schedule	Deviation	Schedule	Deviation	Schedule	Deviation	Schedule	Deviation	Schedule	Deviation	Schedule	Deviation	Schedi
EM1488	8219	-	-	07:43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	07:43	01:51	07:45	02:15	07:47
FP4299	7219	-	-	07:41	-	-	-	-	-	-	-	-	07:41	01:13	07:43	02:13	07:45	02:35	07:49	02:35	07:51	02:54	07:53
FP4495	8217	-	-	07:29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	07:29	01:12	07:31	01:32	07:33
FP4506	6213	-	-	07:17	07:17	00:49	07:22	03:15	07:30	03:12	07:40	04:33	07:48	02:33	07:50	02:48	07:52	02:17	07:56	03:14	-	-	-
FP4178	7217	-	-	07:14	-	-	-	-	-	-	-	-	07:14	00:53	07:16	01:10	07:18	00:37	07:22	01:12	07:24	00:56	07:26
FP4610	7215	-	-	07:03	-	-	-	-	-	-	-	-	07:03	01:51	07:05	02:29	07:07	02:13	07:11	03:13	07:13	03:32	07:15
EM1471	6211	-	-	07:00	-	-	07:05	03:54	07:13	04:14	07:23	04:31	07:31	01:55	07:33	02:15	07:35	02:36	07:39	03:55	-	-	-
FP4472	7211	-	-	06:46	-	-	-	-	-	-	-	-	06:46	02:16	06:48	02:45	06:50	03:14	06:54	03:28	06:56	03:44	06:58
FP4230	6209	-	-	06:28	06:28	01:35	06:33	04:36	06:41	04:15	06:51	03:46	06:59	02:29	07:01	03:31	07:03	03:51	07:07	04:30	-	-	-
FP4495	7207	-	-	06:14	-	-	-	-	-	-	-	-	06:14	02:34	06:16	02:34	06:18	02:35	06:22	02:36	06:24	02:52	06:26
FP4570	6207	-	-	06:00	06:00	01:33	06:05	03:42	06:13	03:34	06:23	02:42	06:31	01:15	06:33	01:15	06:35	01:12	06:39	02:12	-	-	-
FP4184	6205	-	-	05:30	05:30	01:10	05:35	03:46	05:43	03:53	05:53	04:11	06:01	03:11	06:03	03:33	06:05	03:34	06:09	04:34	06:11	04:47	06:13
FP4564	6203	-	-	05:00	05:00	01:44	05:05	05:08	05:13	06:31	05:23	05:10	05:31	03:44	05:33	03:41	05:35	03:32	05:39	03:33	05:41	03:51	05:43

On-time Performance at a glance with customisable time bands



▼ alerts ▼

Management of service tracking and performance

Journeys Not Being Monitored - Tranz Metro

Service	RB	Journey	Start Time	End Time	Origin	Destination
WRL	-	1607	10:25	11:59	Masterton Stn	Wellington Stn

Vehicle Lateness - Tranz Metro

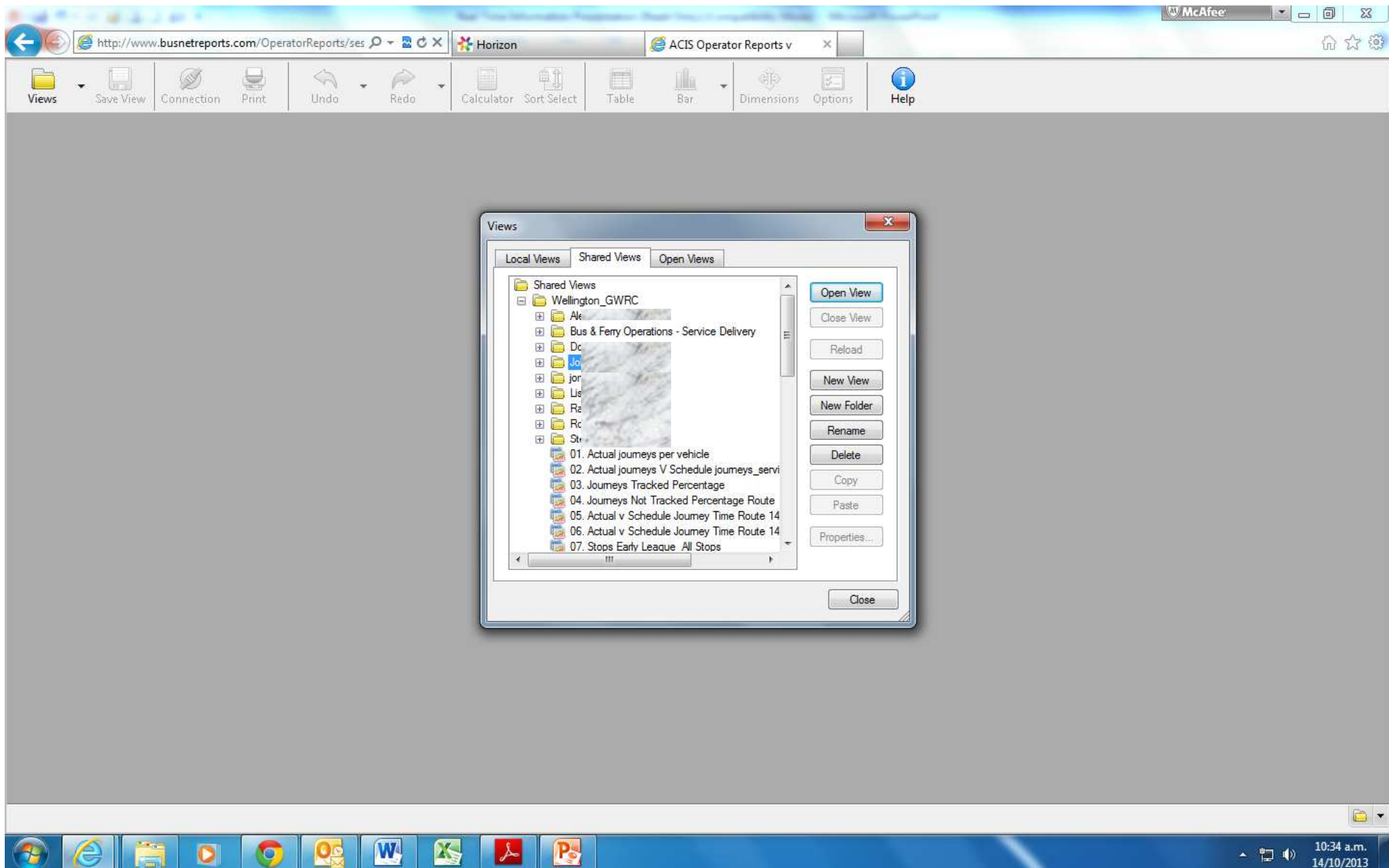
	Fleet No	Service	RB	Stop	Driver No	Lateness
<input type="checkbox"/>	FP4282	KPL	9999	Wellington Stn	-	04:45
<input type="checkbox"/>	EM1298	KPL	9999	Takapu Road Stn 1	-	04:44
<input type="checkbox"/>	FP4512	HVL	9999	Wallaceville Stn	-	04:44
<input type="checkbox"/>	FP4437	JVL	9999	Khandallah Stn 2	-	04:42
<input type="checkbox"/>	DC4012	WRL	-	Renall Street Stn	-	04:06
<input type="checkbox"/>	FP4380	KPL	9999	Paekakariki Stn 1	-	02:42
<input type="checkbox"/>	FP4472	HVL	9999	Wingate Stn	-	02:26
<input type="checkbox"/>	FP4201	HVL	9999	Woburn Stn 2	-	02:25
<input type="checkbox"/>	FP4558	KPL	9999	Pukerua Bay Stn	-	02:06
<input type="checkbox"/>	FP4190	MEL	-	Ngauranga Stn	-	00:06
<input type="checkbox"/>	FP4161	KPL	9999	Wellington Stn	-	00:00
<input type="checkbox"/>	FP4489	MEL	-	Wellington Stn	-	00:00

Vehicle Earliness - Tranz Metro

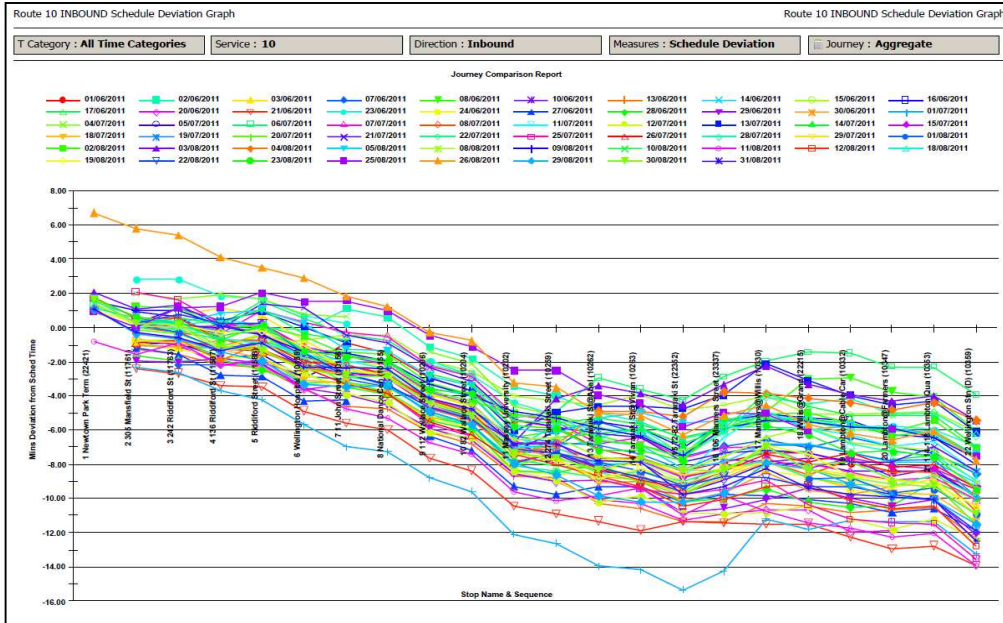
	Fleet No	Service	RB	Stop	Driver No	Earliness
<input type="checkbox"/>	FP4380	KPL	9999	Plimmerton Stn 1	-	00:20

Operator Reports web interface

Database provides access to all RTI data

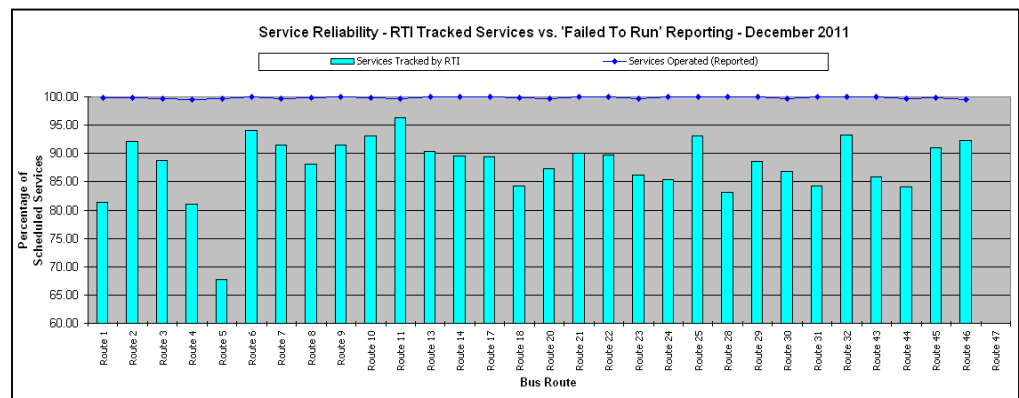
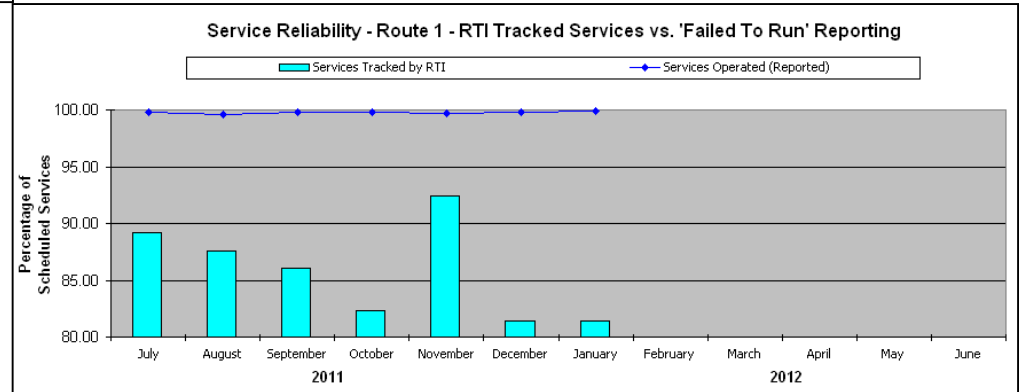


Service Quality Monitoring and Improvement



- Enables early identification of Network Performance issues
- Easily identifies trends and areas to focus attention on
- Assists in investigations of complaints

- Provides accountability for reporting by Operators;
- Enables accurate reporting on Operator Performance
- Identifies timetable issues vs. performance issues

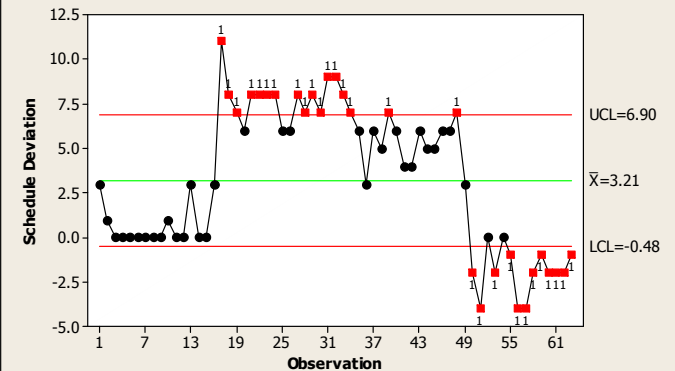


Schedule Optimisation

		Current Timetable Time	Proposed Timetable Time	3/11/2011		4/11/2011		7/11/2011		8/11/2011		9/11/2011		10/11/2011		17/11/2011	
				Schedule Deviation from Current Timetable Rounded	Schedule Deviation from New Timetable	Schedule Deviation from Current Timetable Rounded	Schedule Deviation from New Timetable	Schedule Deviation from Current Timetable Rounded	Schedule Deviation from New Timetable	Schedule Deviation from Current Timetable Rounded	Schedule Deviation from New Timetable	Schedule Deviation from Current Timetable Rounded	Schedule Deviation from New Timetable	Schedule Deviation from Current Timetable Rounded	Schedule Deviation from New Timetable	Schedule Deviation from Current Timetable Rounded	Schedule Deviation from New Timetable
Newtown	08:10	8:10 a.m.	08:10 a.m.	-6	-6	0	0	1	1	1	1	1	1	1	1	0	0
305	08:10	8:12 a.m.	08:11 a.m.	-1	0	-1	0	-1	0	0	1	0	1	0	1	-1	0
242	08:10	8:14 a.m.	08:12 a.m.	-2	0	-2	0	-2	0	-1	1	-1	1	-1	1	-2	0
136	08:10	8:16 a.m.	08:14 a.m.	-2	0	-3	-1	-1	1	-2	0	-1	1	-1	1	-2	0
Riddiford	08:10	8:17 a.m.	08:15 a.m.	-1	1	-3	-1	0	2	-2	0	-1	1	-1	1	-1	1
Wellington	08:10	8:19 a.m.	08:16 a.m.	-2	1	-3	0	-1	2	-3	0	-2	1	-1	2	-1	2
11 John	08:10	8:20 a.m.	08:18 a.m.	-1	1	-2	0	0	2	0	2	-1	1	1	3	-2	0
National	08:10	8:21 a.m.	08:19 a.m.			-2	0	0	2	0	2	-1	1	1	3	-2	0
112 Wallace	08:10	8:23 a.m.	08:20 a.m.	-3	0	-4	-1	-1	2	-1	2	-3	0	-1	2	-3	0
82 Wallace	08:10	8:24 a.m.	08:20 a.m.	-3	1	-4	0	-2	2	-2	2	-3	1	-1	3	-4	0
Massey	08:10	8:26 a.m.	08:22 a.m.	-3	1	-4	0	-1	3	-2	2	-3	1	-2	2	-4	0
274	08:10	8:27 a.m.	08:23 a.m.	-3	1	-4	0	-2	2	-3	1	-4	0	-2	2	-5	-1
Taranaki	08:10	8:28 a.m.	08:25 a.m.	-1	2	-3	0	-1	2	-3	0	-2	1	-1	2	-2	1
Taranaki	08:10	8:30 a.m.	08:26 a.m.	-2	2	-4	0	-2	2	-3	1	-4	0	-2	2	-3	1
72-82	08:10	8:31 a.m.	08:27 a.m.	-2	2	-4	0	-2	2	-2	2	-3	1	-2	2	-3	1
106	08:10	8:32 a.m.	08:30 a.m.	-2	0	-4	-2	0	2	-2	0	-2	0	-2	0	-2	0
Manners@	08:10	8:34 a.m.	08:32 a.m.	0	2	-3	-1	0	2	0	2	-1	1	-1	1	-3	-1
Willis@Gran	08:10	8:36 a.m.	08:33 a.m.	-1	2	-3	0	0	3	-1	2	-2	1	-2	1	-3	0
Lambton@C	08:10	8:38 a.m.	08:35 a.m.	-1	2	-3	0	0	3	-1	2	-2	1	-1	2	-3	0
Lambton@F	08:10	8:38 a.m.	08:36 a.m.	-1	1	-2	0	1	3	0	2	-1	1	-1	1	-2	0
114-118	08:10	8:40 a.m.	08:37 a.m.			-2	1	0	3	0	3	-1	2	-1	2	-2	1
Wellington	08:10	8:42 a.m.	08:41 a.m.	-1	0	-3	-2	0	1	0	1	-2	-1	-2	-1	-3	-2

- Easily identifies timetable issues and operating trends within individual routes
- Provides accurate daily data on individual journey running times to inform new timetables
- Enables pre-validation of proposed new timetables
- Final process still being developed

OUTBOUND - Route 10 - 18:15 - Control Chart
Schedule Deviation against Current Timetable



OUTBOUND - Route 10 - 18:15 - Control Chart
Schedule Deviation against New Timetable

