

Security Incident Summary

October, 2006

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Security Incident Summary

October, 2006

Overview

For this summary the records were queried to distinguish between ***crime related incidents*** and ***security related incidents*** as shown in the table below. The analysis focuses mainly on crime related incidents from which most graphs and tabulations were constructed. A separate section at the end of the summary specifically addresses fare evasion statistics for October as tabulated in the fare evasion database and the Intelligence Led LRT Fare Evasion Enforcement initiative.

Incident Primary Types	
Crime Related	Security Related
Assault	Assist City Authorities
Break & Enter	Assist Patron
Disturbance	Conduct of Transit Passenger
Drugs	Deaths (non-criminal)
Fraud	Fare Evasion
Liquor	Parking Violation
Mischief	Smoking Violation
Robbery	
Sexual Assault	
Sexual Offences	
Theft	
Weapon	
Suspicious Person	
Have Stolen Goods	
Intimidation	
Trespass	
Utter Threats	

For the purpose of clarifying the terminology employed in the incident type coding, incidents coded as Disturbance refer to the following subtypes.

Disturbance includes:

- 1) Family Disputes;
- 2) Juvenile trouble;
- 3) Trouble with Persons
- 4) Disturb the Peace; and
- 5) Unwanted Persons.

Findings

The analysis of crime related data for the October Summary led to the following findings and interpretations:

- 1) The monthly incidents counts for 2006 increased during the month of October unlike previous years where the counts decreased. The increase in incident counts can be partly attributed to the implementation of a “reporting” Key Performance Indicator within the Security Unit in late September.
- 2) The types of crimes which took place within the ETS system during the month of October were predominately Liquor, Disturbance and Mischief incidents.
- 3) Crimes showed a peak in the number of incidents at 2100 hours.
- 4) In October Security Incidents were generally more prevalent on Thursdays and Fridays.
- 5) The daily incident counts peaked on October 18th with the overall crime rate showing no consistent trend throughout the month.
- 6) Churchill, Coliseum and Central LRT Stations were the most active LRT Stations during the month of October.
- 7) WEM, Kingsway, Mill Woods and Northgate Transit Centers were the most active Transit Centres during the month of October.
- 8) Crimes occurring at BusLinks showed a high number of incidents (50) but in a manner that no single BusLink location had more than 2 incidents (BusLinks 1346, 1247, 1868 and 1707).
- 9) Statistics from the October timeframe show that incidents on bus routes are higher than the previous year. Bus Routes 8 and 70 showed a moderate number with 5 and 4 incidents respectively. The top four bus routes (2.6% of all bus routes) accounted for 25% of all incidents on bus routes this month.
- 10) The average fare evasion rate on the LRT system during October was 6.42%.

Recommendations

Based on this summary the writer recommends that the following be implemented in order to fully benefit from the intelligence-led security model:

- 1) The default deployment of security personnel should be at the Churchill LRT Station and WEM Transit Center.
- 2) Officer presence should be increase at bus shelter locations in the area of 102A Avenue between 96 Street and 97 Street.
- 3) Uniformed officers should focus their deployments on Bus Routes 8 and 70 to provide patrons on these high incident routes a sense that security is being heightened.
- 4) Fare Evasion enforcement should specifically target:

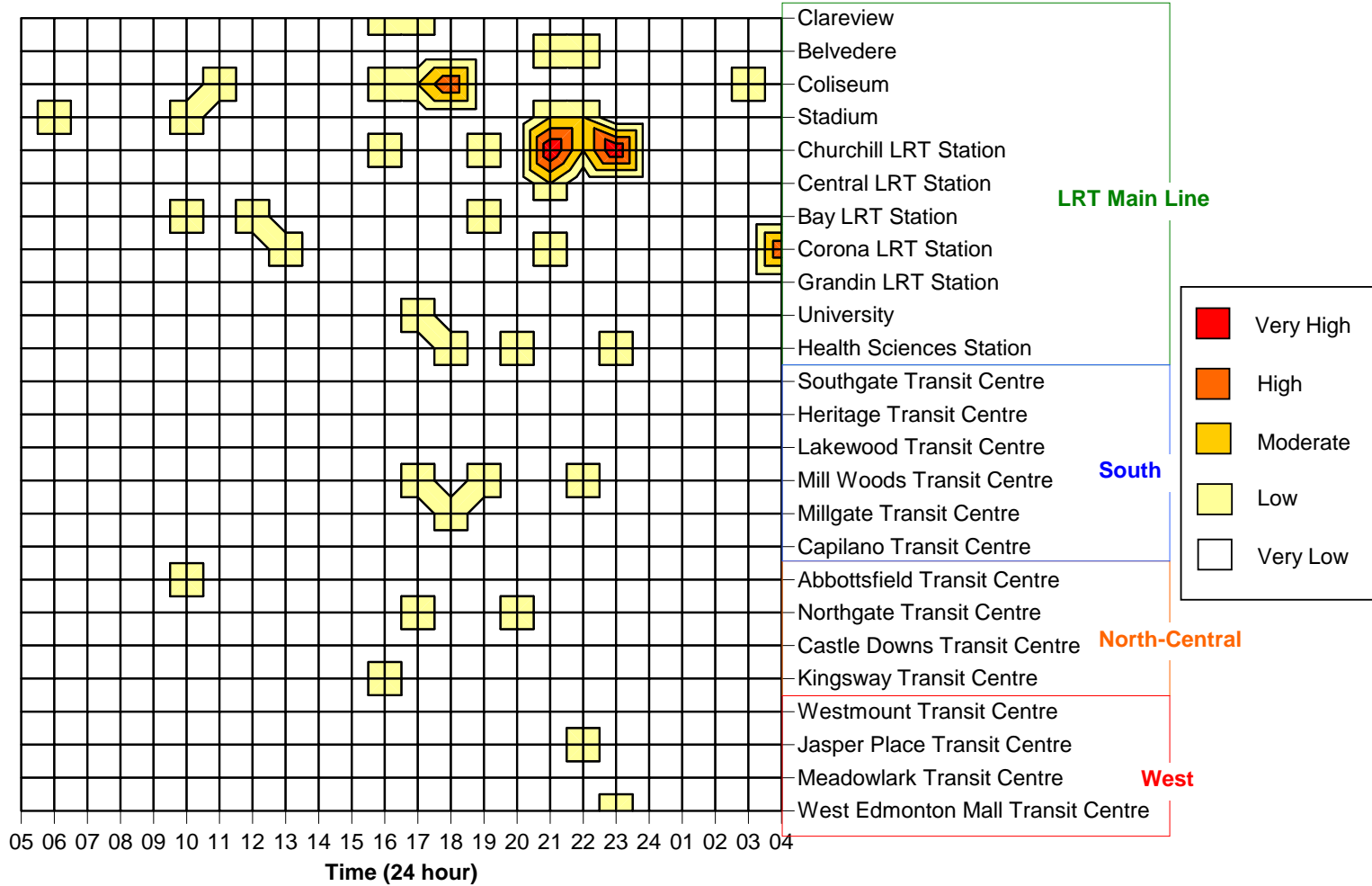
Fare Evasion Target 1: Bay LRT Station during evening hours (1800-2400)

Fare Evasion Target 2: Central LRT Station during evening hour (1800-2400)

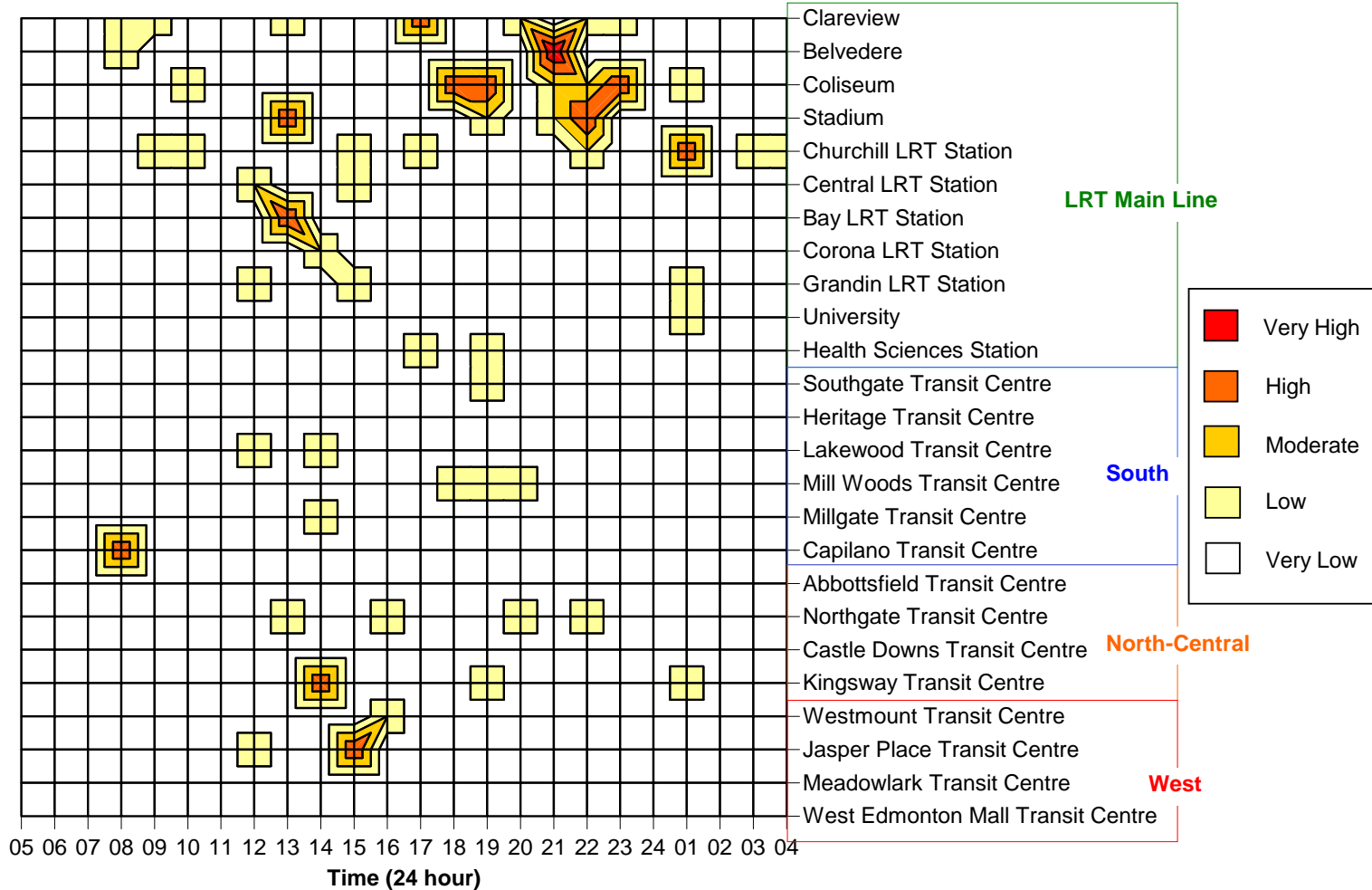
Fare Evasion Target 3: Grandin LRT Station during evening hour (1800-2400)

- 5) In order to maximize the deterrent effects of Transit Security Officer deployments on crime within the transit system the writer recommends that, when possible, PSOs concentrate their enforcement efforts at the times and places indicated in yellow and red in the **Daily Crime Forecast**. The Daily Crime Forecast is located on the E-Train (Edmonton Transit Real-Time Analysis and Intelligence Network) internal website at <http://kqbhy8y/public/TSCIP/index.php> and is updated once daily with the latest incidents from the POSSE incident database. The website is currently only available to ETS Security and Surface Inspector Staff.
- 6) The following threat maps show the latest crime “hot spots” within the transit system and can be used by outside agencies that do not have access to the Daily Crime Forecast. Outside agencies can consult these maps and target their enforcement efforts in those areas and times showing a high probability of criminal activity occurring.

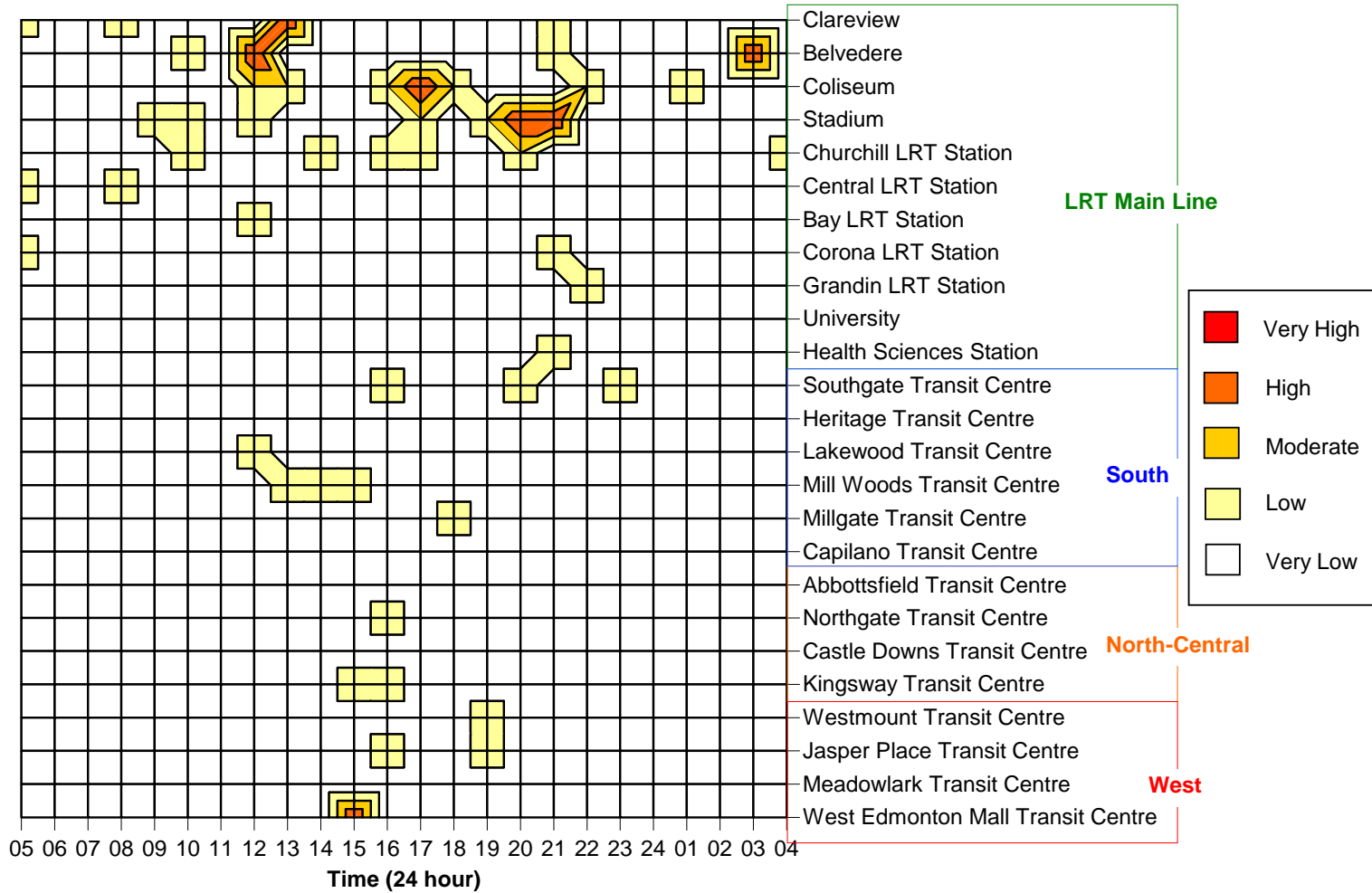
ETS Threat Map: Monday



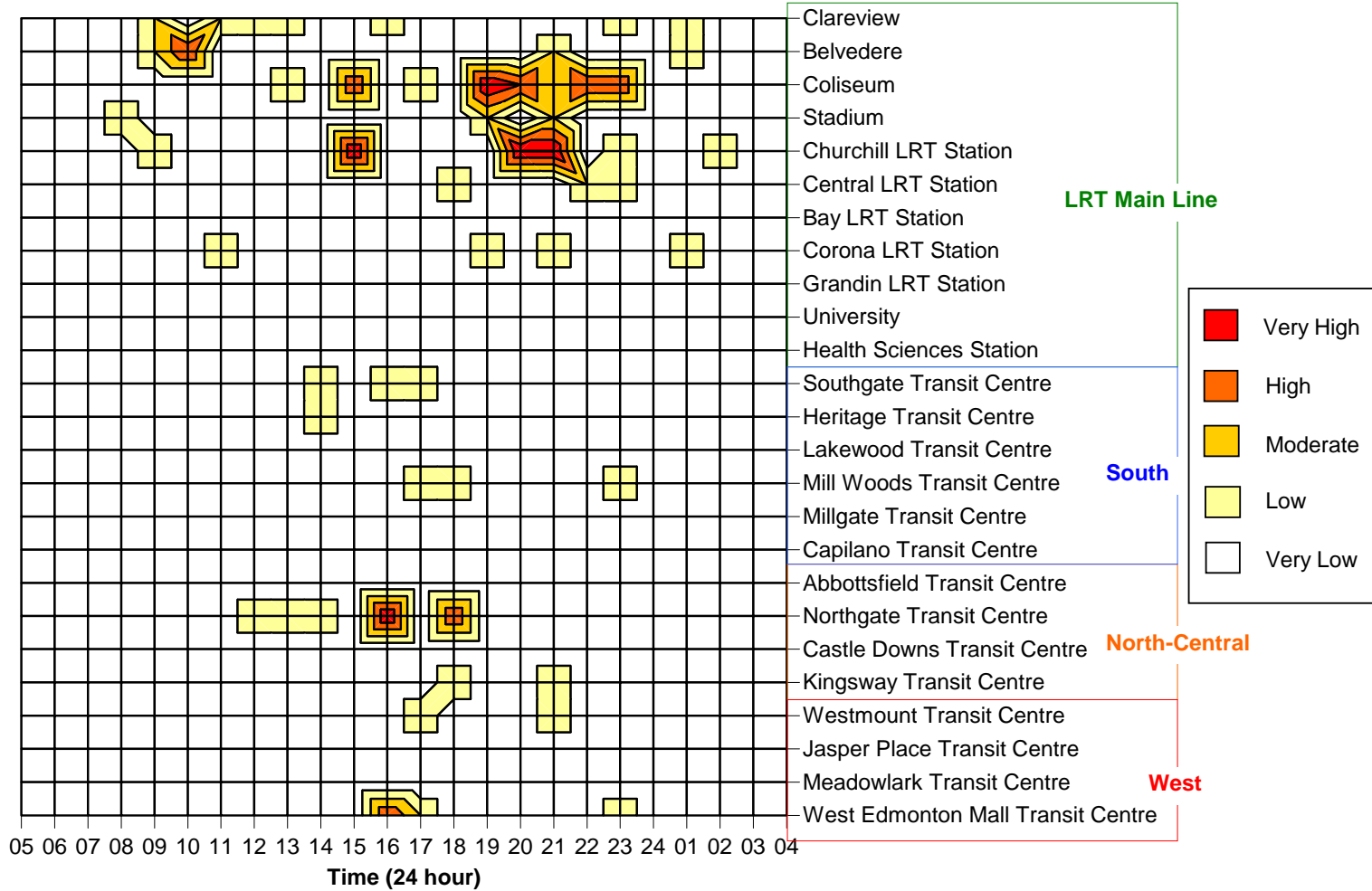
ETS Threat Map: Tuesday



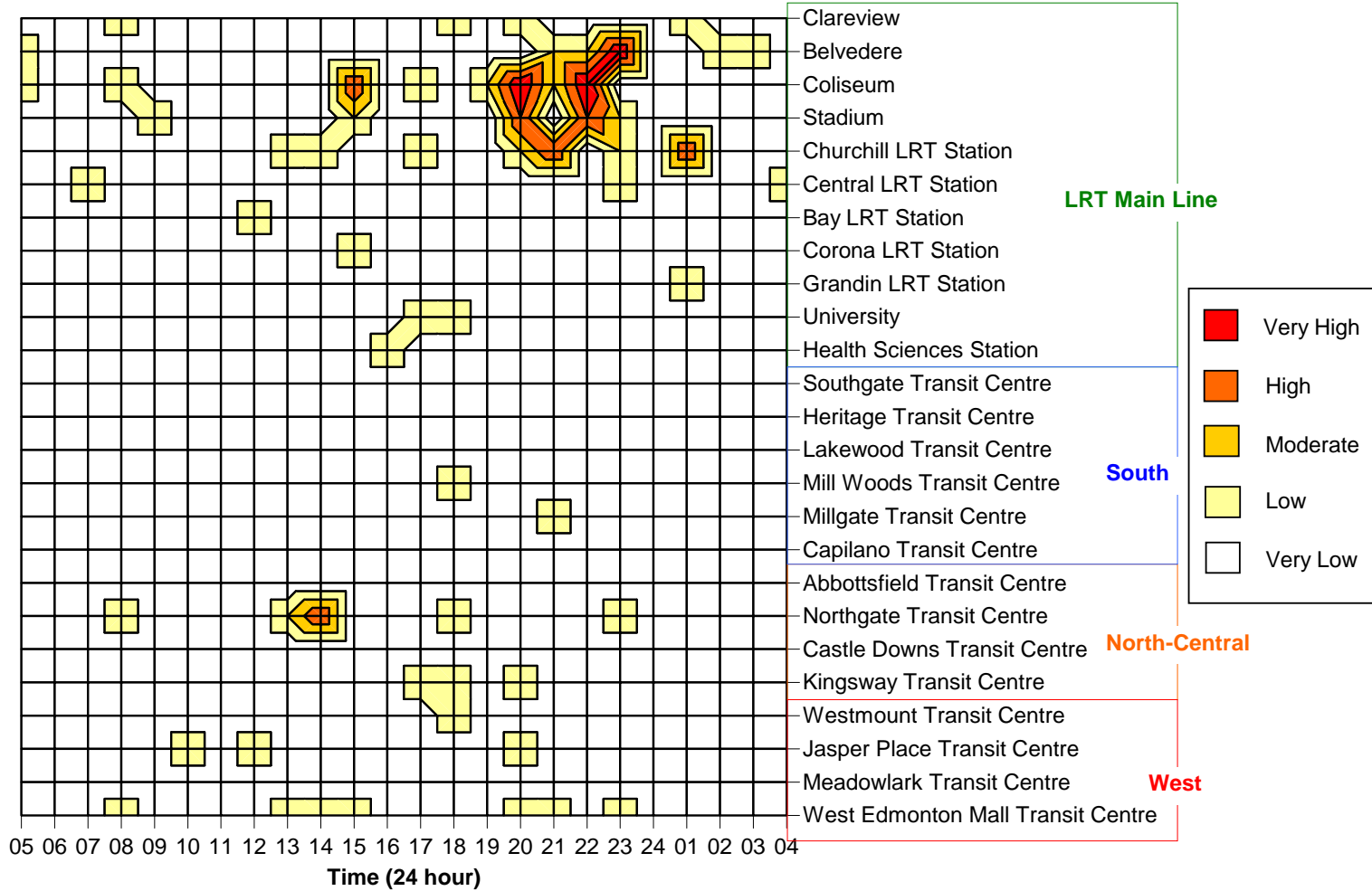
ETS Threat Map: Wednesday



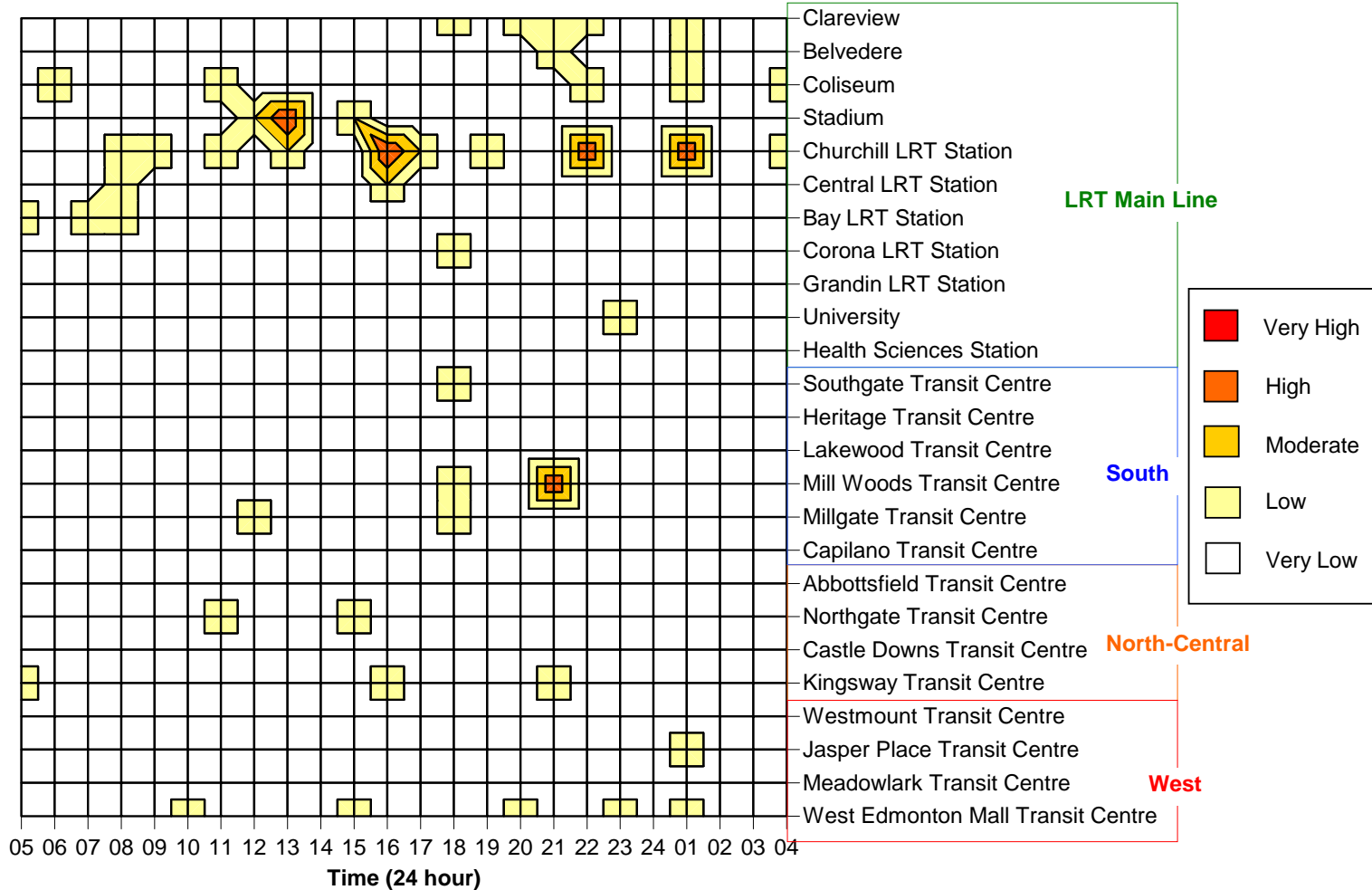
ETS Threat Map: Thursday



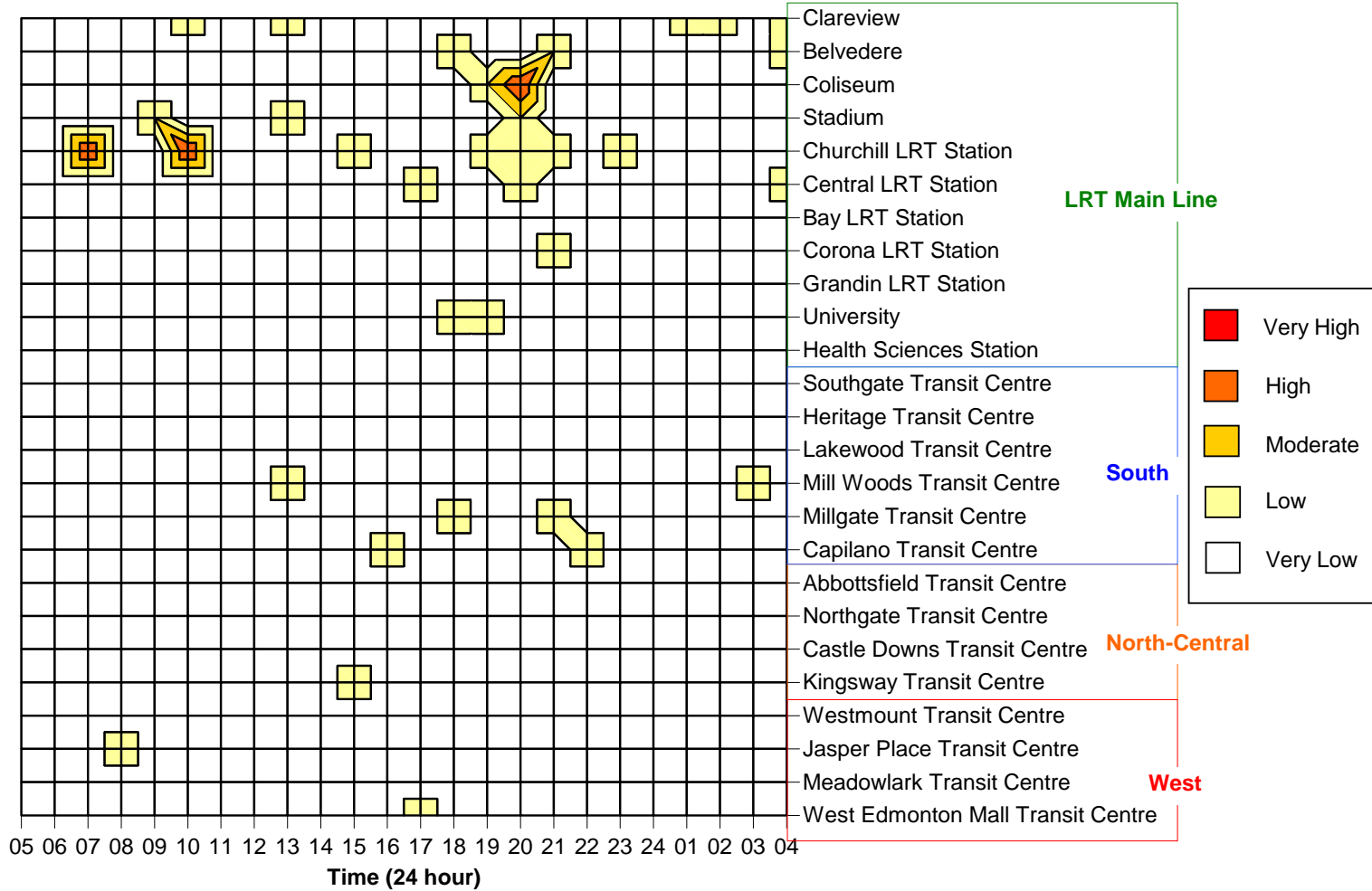
ETS Threat Map: Friday



ETS Threat Map: Saturday



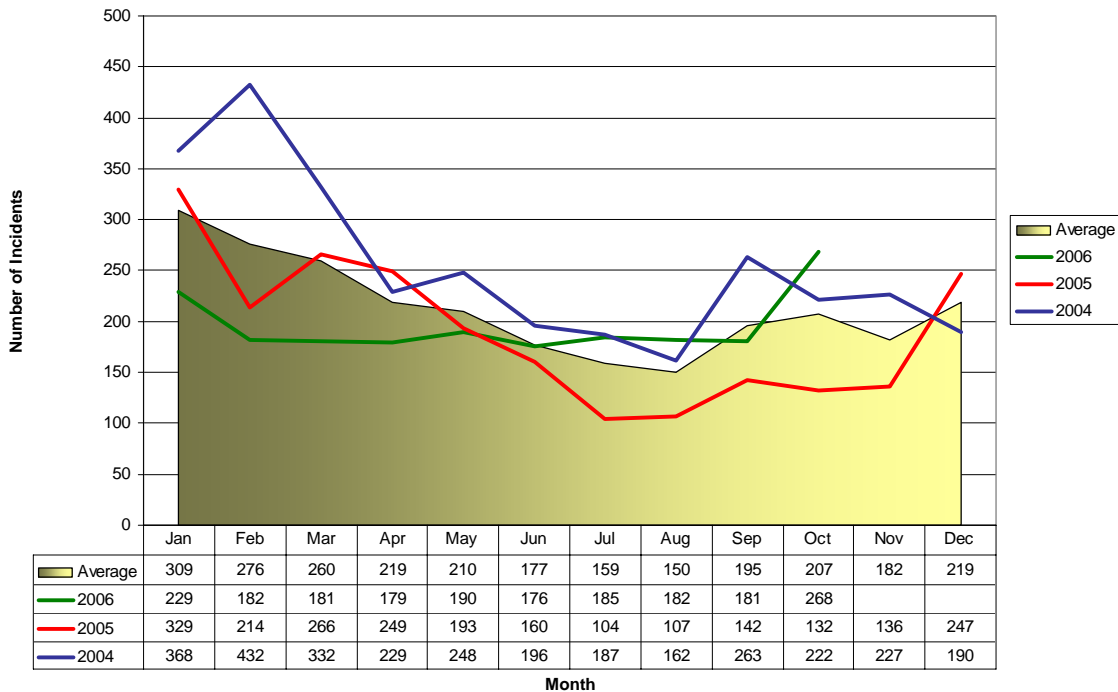
ETS Threat Map: Sunday



October 2006 Summary of Crime Related Incidents in ETS

The following graph shows the general yearly trends from 2004-2006. It can be seen that the monthly incident counts for 2006 increased during the month of October unlike previous years where the counts decreased. The increase in the number of incidents reported in October of 2006 can partly be attributed to the noticeable increase in report generation by Transit Officers since the implementation of a "Reporting Key Performance Indicator (KPI)" in late September. The KPI looks at the number of Officer generated incident reports over the course of a full 12 week shift rotation.

2004-2006 Yearly Trends



A Year to Date comparison with breakdown by offence type shows a 3 percent overall increase in reported crime related incidents from 2005 to 2006.

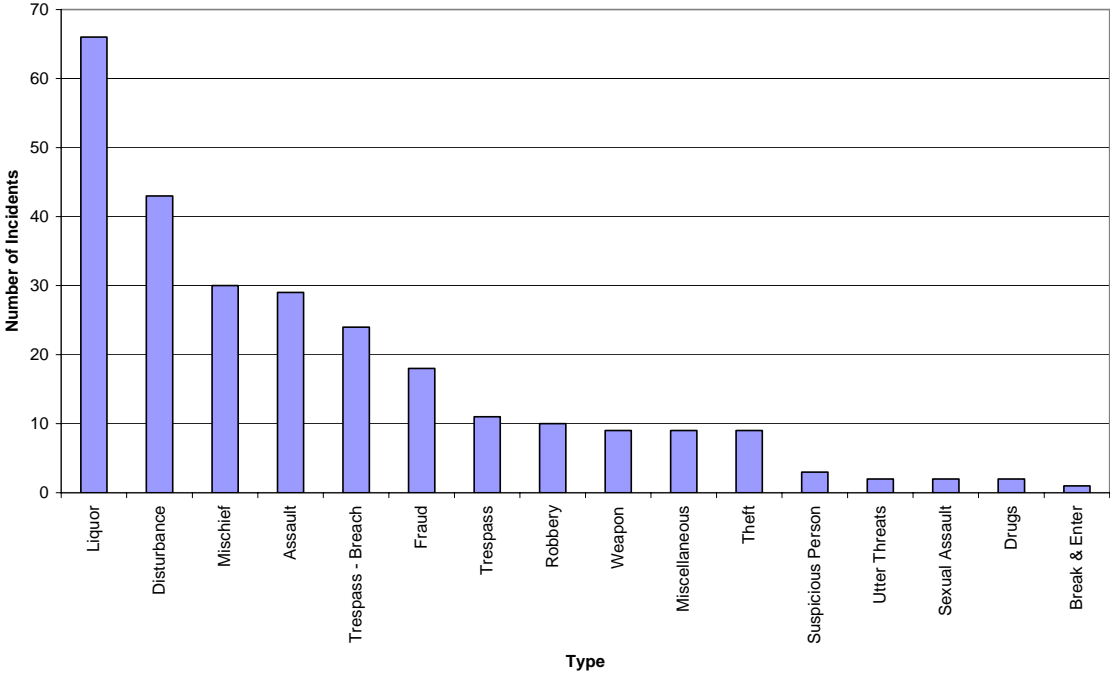
Year to Date Comparison of Crime Related Incident Statistics

Offence Type	YTD 2004 Total	YTD 2005 Total	2004-2005 % Change	YTD 2006 Total	2005-2006 % Change
Assault	145	149	3%	170	14%
Break & Enter	11	11	0%	6	-45%
Disturbance	1184	586	-51%	316	-46%
Drugs	4	23	475%	23	0%
Fraud	42	28	-33%	54	93%
Liquor	586	362	-38%	520	44%
Miscellaneous	377	374	-1%	367	-2%
Mischief	155	197	27%	292	48%
Robbery	31	46	48%	37	-20%
Sexual Assault	0	1	100%	9	800%
Sexual Offences	7	11	57%	11	0%
Theft	51	60	18%	89	48%
Weapon	46	48	4%	59	23%
Grand Total	2639	1896	-28%	1953	3%

Types of Crimes Perpetrated

The types of crimes which took place within the ETS system during the month of October were predominately Liquor, Disturbance and Mischief incidents.

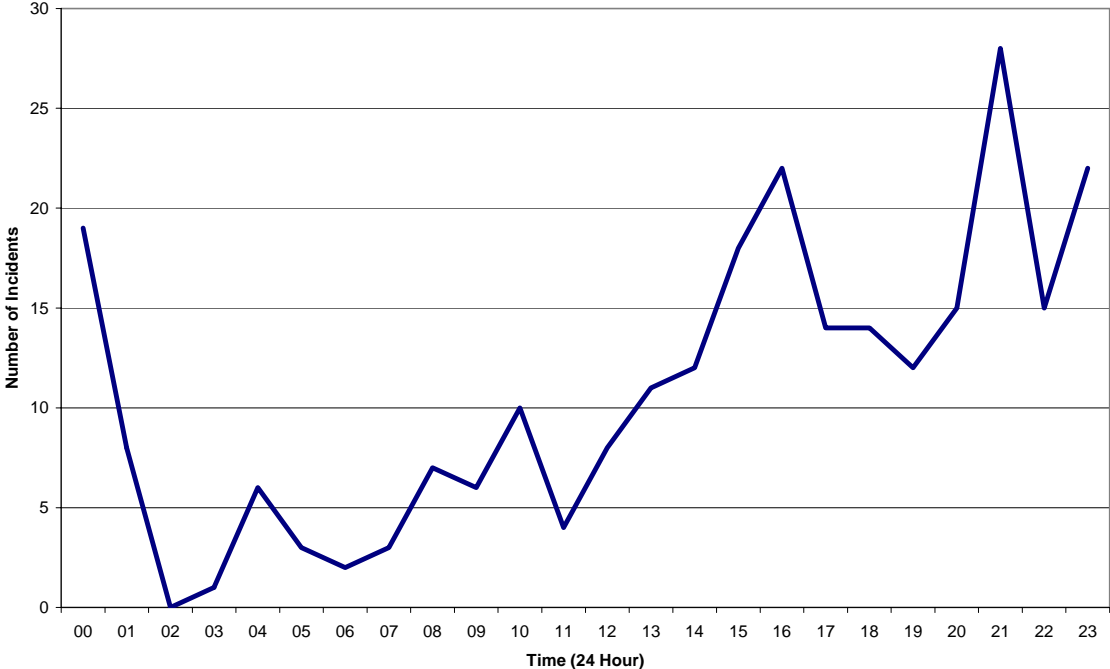
Types of Crimes Occurring: October 2006



Times Crimes Are Perpetrated

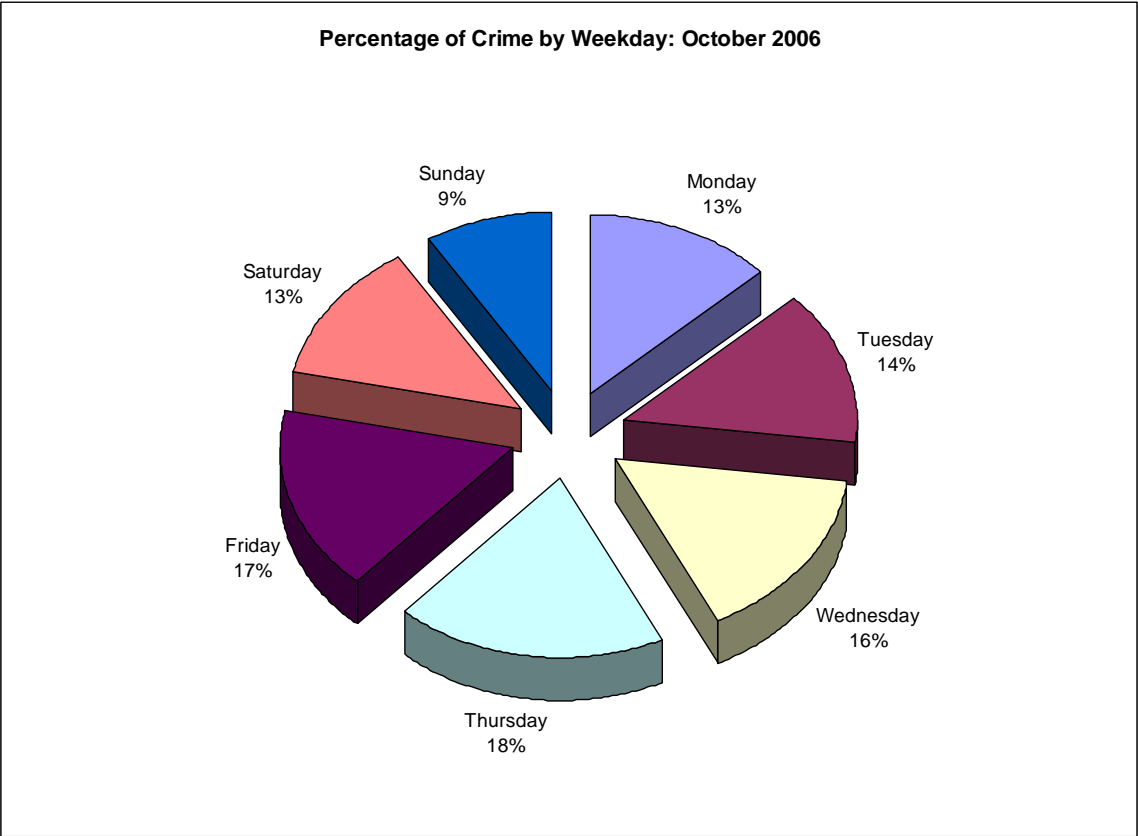
Crimes showed a peak in the number of incidents at 2100 hours.

Times Crimes Are Occurring: October 2006



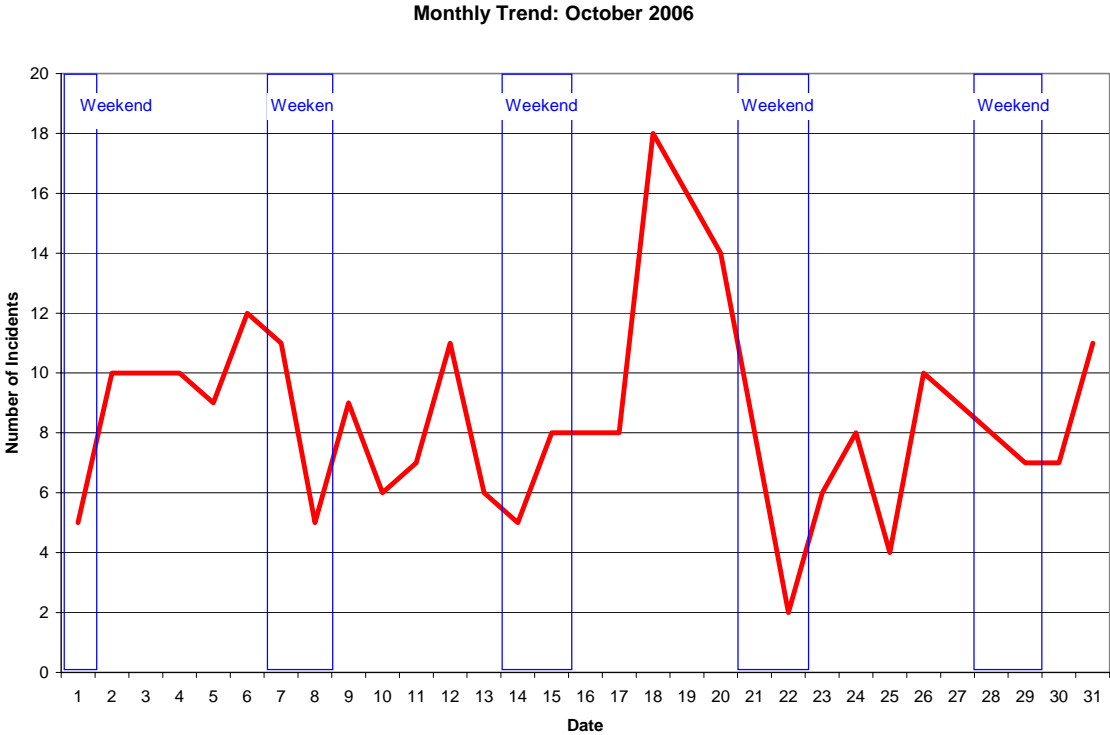
Weekly Distribution of Crime

For the month of October Security Incidents were generally more prevalent on Thursdays and Fridays.



Monthly Crime Trend for October

The daily incident counts peaked on October 18th with the overall crime rate showing no consistent trend throughout the month¹.

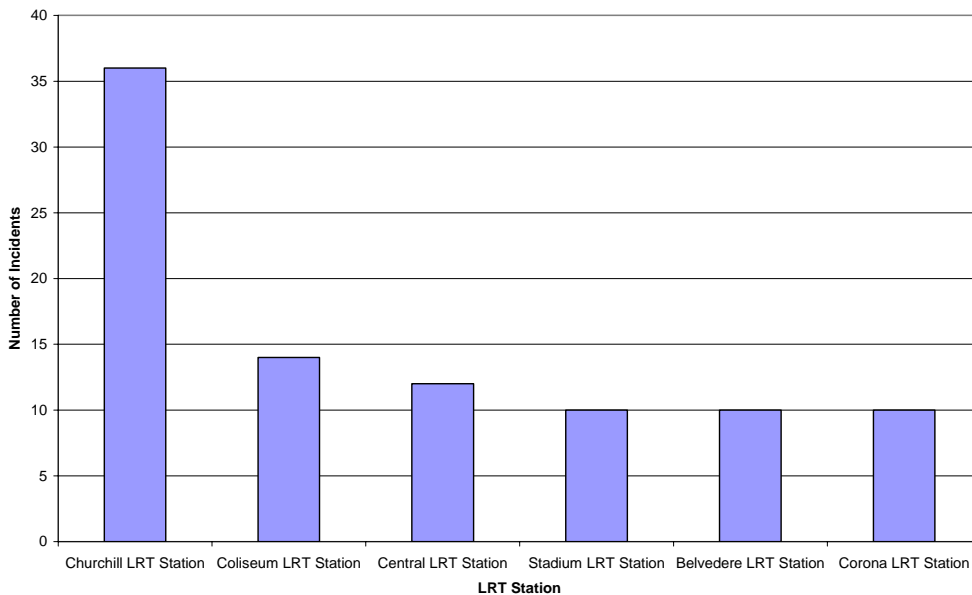


¹ The z-score method (Chebyshev theorem) was used to detect any outlier data within the October Monthly Trend. No single day showed an incident count that was unusually large or small relative to the other values in the data set.

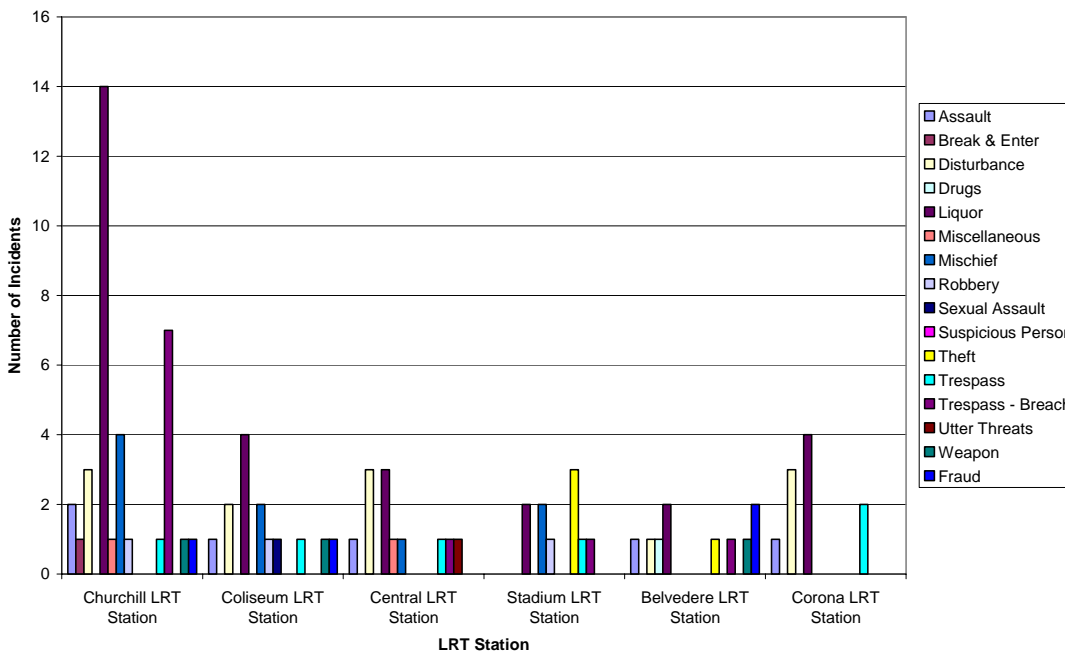
Crimes Occurring at LRT Stations

The following chart shows Churchill, Coliseum and Central LRT Stations as the most active during the month of October. The second chart shows the types of crimes predominately occurring at the most active LRT stations. It is of note that there were a high number of liquor incidents at Churchill LRT Station for this month which is most likely precipitated by the cold weather bringing vagrants into downtown stations.

Incidents Occurring at LRT Stations: October 2006



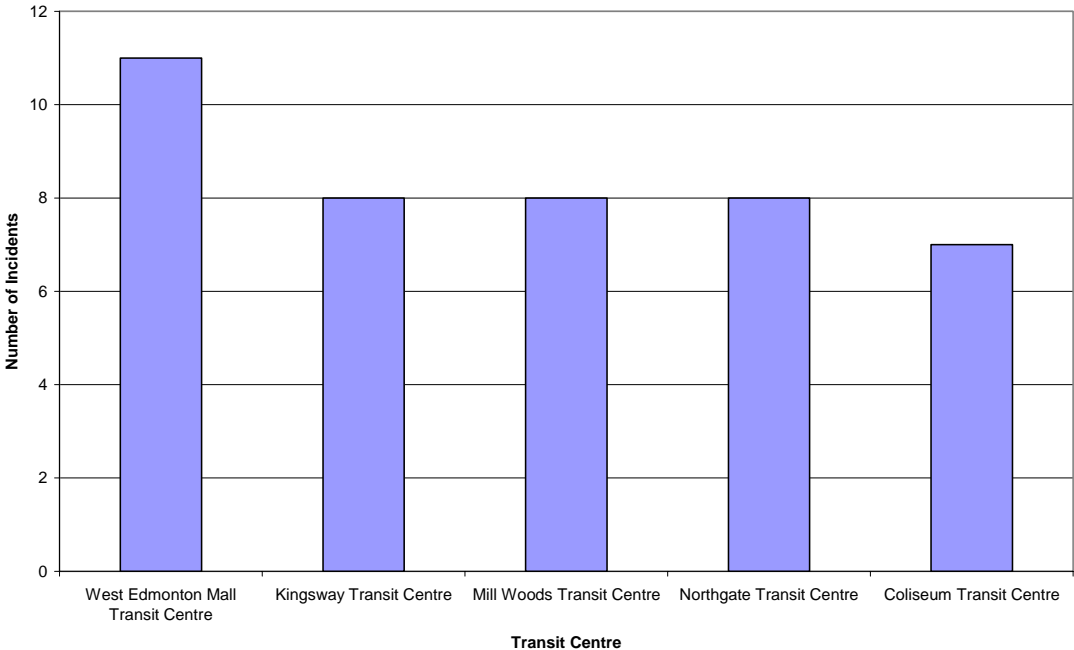
Types of Incidents Occurring at LRT Stations: October 2006



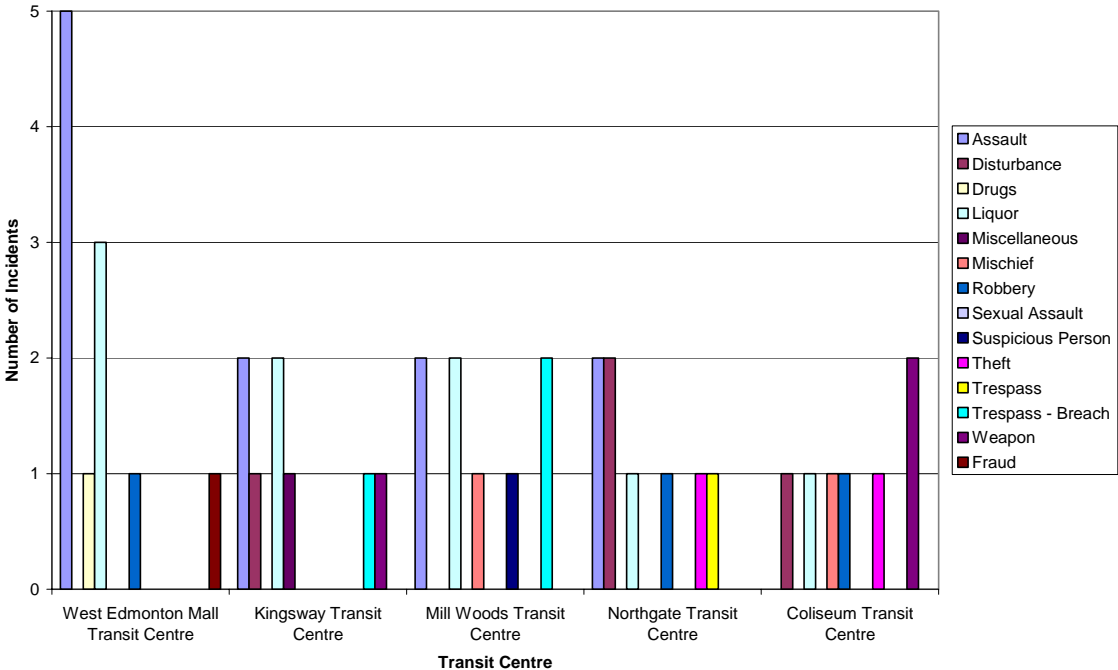
Crimes Occurring at Transit Centers

The following chart show WEM, Kingsway, Mill Woods and Northgate Transit Centers as the most active. The second chart shows the types of crimes predominately occurring at the most active Transit Centers.

Incidents Occurring at Transit Centres: October 2006

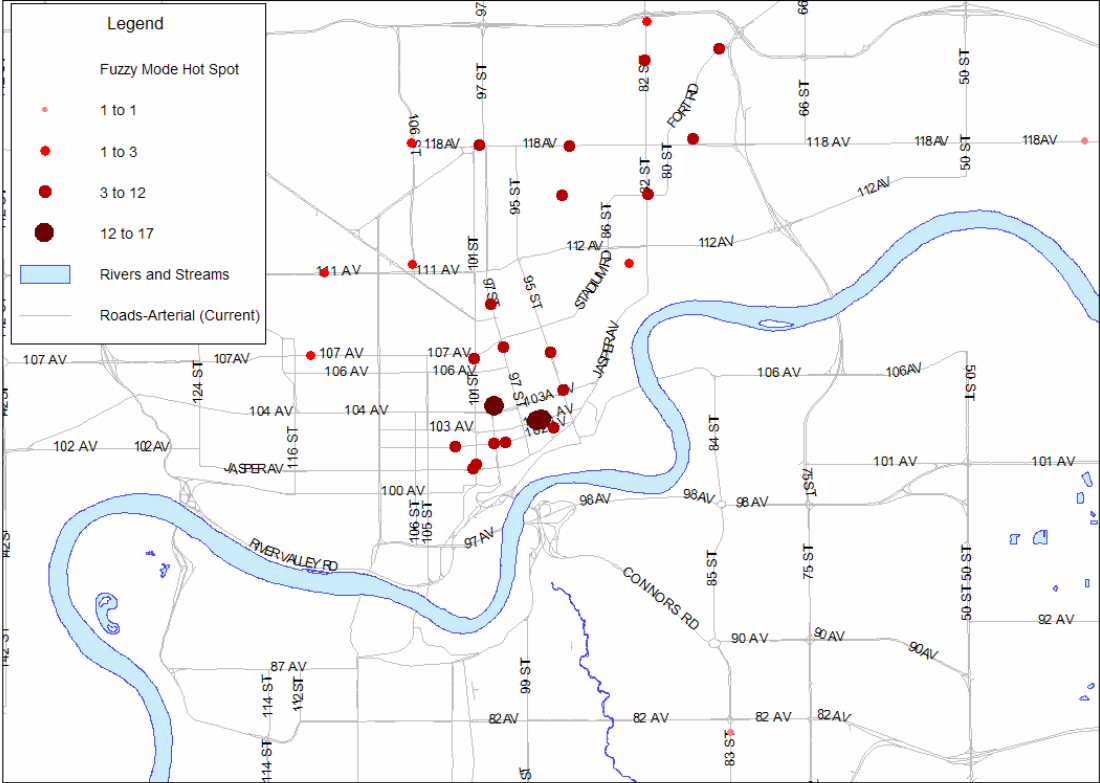


Types of Incidents Occurring at Transit Centres: October 2006



Crimes Occurring at BusLinks Locations

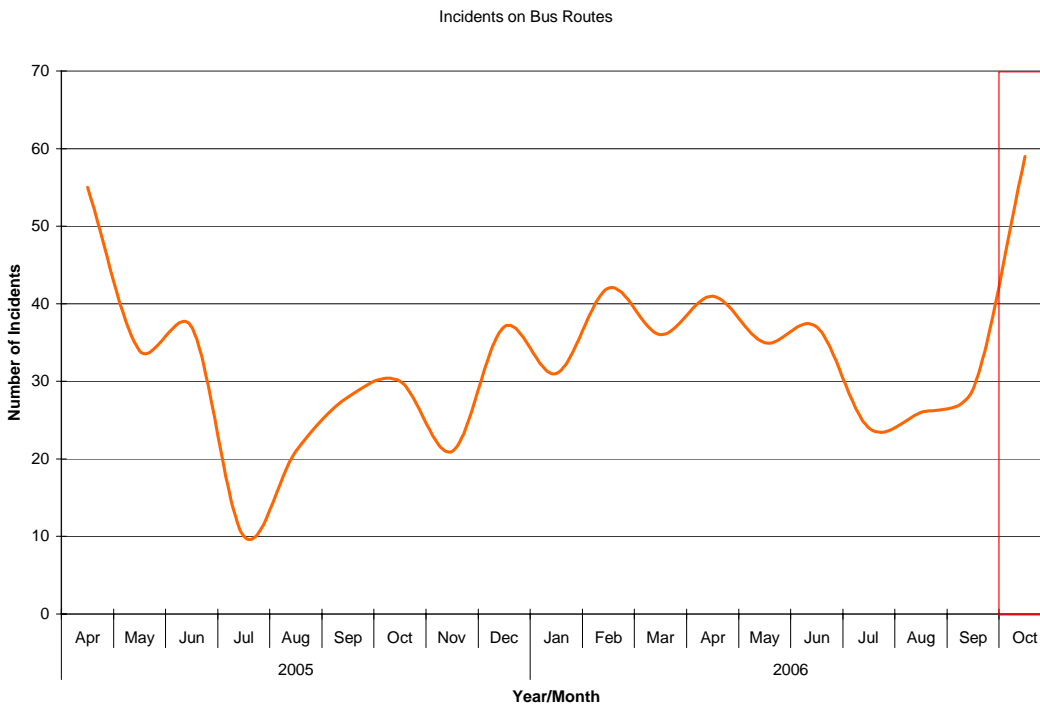
Crimes occurring at BusLinks showed a high number of incidents (50) but in a manner that no single BusLink location had more than 2 incidents (BusLinks 1346, 1247, 1868 and 1707). As the number of incidents was insufficient to create a reliable K-means clustering hot spot map, a Fuzzy Mode (F-Mode) technique² was used to pin-point areas of high activity as shown in the map below. The downtown area on 102A Avenue between 96 Street and 97 Street is the hot spot for crime related incidents at BusLinks during the month of October.



² "CrimeStat includes a second point location hot spot routine called the Fuzzy Mode. This allows the user to define small search radius around each location to include events that occur around or near that location. For example, a user can put a 50 yard or 100 meter search radius and the routine will calculate the number of incidents that occur at each location and within a 50 yard or 100 meter radius." Ned Levine (2004). CrimeStat: A Spatial Statistics Program for the Analysis of Crime Incident Locations (v 3.0). Ned Levine & Associates, Houston, TX, and the National Institute of Justice, Washington, DC. May.

Crimes Occurring on Bus Routes

October statistics show that incidents on bus routes are higher than the previous year as shown in the chart below.



The top four incident bus routes (2.6% of all bus routes) accounted for 25% of all incidents on bus routes this month. Bus Routes 8 and 70 showed a moderate number with 5 and 4 incidents respectively.

ROUTE	Crime Type	Total
8	Disturbance	1
	Liquor	1
	Trespass - Breach	1
	Fraud	2
8 Total		5
70	Suspicious Person	1
	Fraud	3
70 Total		4
10	Assault	2
	Mischief	1
10 Total		3
12	Disturbance	1
	Liquor	1
	Robbery	1
12 Total		3
Grand Total		15

October Fare Evasion Statistics

The following fare evasion rates were calculated in the same manner used by the auditor in the OCA report³. The percentage of fare evasion is calculated by taking the number of fare evaders and dividing it by the total number of people checked.

The average fare evasion rate for October 2006 was **6.42%** on the LRT system.

A few notes of the above reported Fare Evasion Rate:

1. The high Fare Evasion rate during the month of October can be explained in part by the fact that officers are actively targeting fare evasion “hot spots” and making the most of deployed resources.
2. At this point the fare evasion statistics only include data taken from checks on the LRT system.

³ ETS - Fare Evasion Review dated October 5, 2005. Office of the City Auditor.